College of Nursing

Tikrit University

Evaluates knowledge of workers in popular restaurantsthe role of hygiene and nutrition in the spread of intestinal diseases in Tikrit district

Graduated research submitted

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{وَقُلْ رَبِّ زِدْنِي عِلْمًا}

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Abstract

The background: There are many reasons why restaurant cleanliness is necessary in restaurants. It is not only related to food service providers, but it extends to all elements within the food chain.

Objectives: The objectives of the current study are to evaluate the knowledge of workers In popular restaurants about the role of hygiene and nutrition In the spread of Intestinal diseases in Tikrit district and to Identify the relationship between workers' knowledge of the role of hygiene and nutrition In the spread of Intestinal diseases and their social and demographic characteristics.

Methodology: A descriptive study was conducted in Tikrit district to evaluate the knowledge of workers In popular restaurants about the role of hygiene and nutrition In the spread of Intestinal diseases. For the period from December 29, 2023 to February 25, 2024, 100 samples were collected from the workers. The questionnaire paper consisted of two main parts (social and demographic characteristics and assessing the knowledge of workers In popular restaurants about the role of hygiene and nutrition). In the spread of Intestinal diseases). Data were collected through the use of a questionnaire approved In Arabic, and the use of a typical interview method for each worker. Descriptive statistics were used to analyze the data.

Results: The results of the study showed that the majority of participants had a moderate level of evaluation of the knowledge of workers in popular restaurants regarding the role of hygiene and nutrition in the spread of Intestinal diseases.

Conclusions: Acceptance of some popular restaurants for the level of knowledge of hygiene and nutrition regarding the spread of diseases in the city of Tikrit.

Recommendations: Improving training and education programs for restaurant workers on the Importance of personal hygiene and food safety, and promoting the application of hygiene and healthy nutrition principles in the practical environment.

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Introduction

Chapter One

Chapter one

Introduction

1.1. Introduction:

In the realm of public health, understanding the intricate interplay between Hygienepractices, nutritional standards, and the propagation of intestinal Diseases is of paramount importance. Within the context of popular Restaurants, where a diverse range of individuals congregate and consume Meals, the knowledge and adherence of workers to stringent hygiene Protocols and nutritional guidelines serve as critical determinants in Mitigating the spread of such diseases. This introduction sets the stage for A comprehensive exploration of the multifaceted factors influencing the Prevalence and transmission dynamics of intestinal diseases within Restaurant settings (Mbuya & Humphrey, 2016).

The significance of this inquiry lies in its potential to illuminate the Pivotal role played by restaurant workers in safeguarding public health. By Delving into their knowledge, attitudes, and practices regarding hygiene And nutrition, insights can be gleaned into the effectiveness of existing Protocols and the need for targeted interventions. Furthermore, elucidating The mechanisms through which intestinal diseases proliferate in such Environments can inform evidence-based strategies for prevention and Control (Bloomfield et al., 2016).

An exploration of the knowledge possessed by restaurant workers Regarding hygiene and nutrition encompasses a range of dimensions, from Understanding the principles of food safety to recognizing the importance Of balanced dietary choices. Their awareness of hygiene protocols, such as Temperature control measures and sanitation practices, directly influences

The integrity of the food served and, by extension, the health of patrons. Similarly, a comprehension of basic nutritional principles empowers Workers to make informed decisions regarding menu offerings and Accommodate dietary restrictions, thereby catering to the diverse needs of Clientele (J. Brown et al., 2013).

Propagation within restaurant settings can be attained. Moreover, such an Interdisciplinary perspective facilitates the development of comprehensive Interventions that address the root causes of outbreaks and foster a culture Of proactive risk management (Freeman et al., 2017).

In light of the growing emphasis on food safety and public health, There exists a pressing need to reevaluate existing frameworks for training And certification of restaurant workers. By integrating modules on hygiene And nutrition into existing curricula, vocational training programs can Equip aspiring professionals with the requisite competencies to navigate The complexities of modern food service environments. Furthermore, Ongoing professional development initiatives can ensure that established Workers remain abreast of emerging best practices and regulatory Requirements, thereby fostering a culture of continuous improvement and Adaptation (Wiertsema et al., 2021).

1.2.Importance of the study:

Understanding the level of knowledge and awareness among Restaurant workers regarding hygiene and nutrition is of paramount Importance due to the potential implications for the spread of intestinal Diseases. Restaurants serve as significant points of contact between food And consumers, making them potential sources of foodborne illnesses if

Proper hygiene and nutritional practices are not followed. Therefore, Investigating the knowledge base of restaurant workers in this context is Essential for identifying areas of improvement and implementing targeted Interventions to mitigate the risk of disease transmission (E. M. Brown et Al., 2013).

One of the key contributions of the study lies in its exploration of the Dual role of hygiene and nutrition in the spread of intestinal diseases. While hygiene practices primarily focus on preventing the transmission of Pathogens through proper sanitation and food handling techniques, Nutrition also plays a crucial role in supporting the immune system and Reducing susceptibility to infections. Therefore, assessing the knowledge Of restaurant workers in both domains provides a comprehensive Understanding of the factors influencing food safety and disease Transmission within these settings. Such insights can inform the Development of targeted interventions aimed at improving hygiene and Nutrition practices among restaurant staff (Ifeadike et al., 2014

Furthermore, the study's academic rigor and methodological Approach contribute to its importance in the field of public health and food Safety research. By employing robust methodologies such as surveys, Interviews, or observational studies, researchers can gather reliable data on The knowledge, attitudes, and behaviors of restaurant workers regarding Hygiene and nutrition. This empirical evidence serves as a foundation for Evidence-based policymaking and intervention strategies aimed at Improving food safety standards. Additionally, the study's focus on popular Restaurants enhances its relevance and applicability to real-world settings, Where the majority of consumers dine and interact with food service Establishments (Ehuwa et al., 2017

In conclusion, the study titled "The Knowledge of Workers in Popular Restaurants Evaluates the Role of Hygiene and Nutrition in the Spread of Intestinal Diseases" holds significant importance in the field of Public health and food safety. By examining the knowledge and practices

Of restaurant workers regarding hygiene and nutrition, the study offers Valuable insights into the factors influencing the spread of intestinal Diseases in popular dining establishments. The findings of the study have Implications for policymakers, public health officials, restaurant owners, Educators, and consumers alike, highlighting the importance of continuous Efforts to enhance food safety standards and protect public health (Abebe Et al., 2020).

1.3. Aim :

1.Assess the level of awareness and knowledge among workers in popular restaurants regarding the importance of hygiene in preventing the spread of intestinal diseases.

2. Determine the extent to which workers understand the impact of healthy nutrition in reducing the risk of intestinal diseases.

3. Analyze the pressure factors and challenges facing workers in popular restaurants in maintaining hygiene and nutritional standards.

4. Estimating the extent to which workers in popular restaurants adhere to preventive measures to combat intestinal diseases, such as good hand washing and storing food properly.

5. Explore the need for continuous training and education of workers on proper hygiene and nutritional practices to reduce the spread of intestinal diseases .

1.4.Objectives of the study:

1.Assess the extent to which restaurant workers understand the risks Associated with lack of hygiene and proper nutrition in the spread of Intestinal diseases.

2. Identify proper and improper hygiene and nutrition practices in Popular restaurants.

3. Analyze the factors that may affect the application of health Standards in restaurants, such as the necessary training and available Resources.

4. Provide recommendations to improve the knowledge and practices Of restaurant workers, including ongoing training and improvement Of hygiene and nutrition infrastructure.

5. Educating the community about the importance of hygiene and Proper nutrition in reducing the spread of intestinal diseases and the Role of restaurants in this.

1.5.Definition of terms:

1.Hygiene: Hygiene refers to the set of practices and behaviors aimed at Maintaining cleanliness and preventing the spread of disease-causing Microorganisms. It encompasses various aspects of personal and Environmental cleanliness, including handwashing, sanitation, food safety, And environmental hygiene. Good hygiene practices are essential for Reducing the risk of infections, particularly those transmitted through Direct contact, contaminated surfaces, or food and water sources.

2.Nutrition: Nutrition refers to the process by which the body obtains and Utilizes nutrients from food to sustain life and promote health. It involves The intake of essential nutrients such as carbohydrates, proteins, fats,

Vitamins, and minerals, which provide the energy and raw materials Necessary for bodily functions. Proper nutrition is vital for supporting Growth and development, maintaining optimal health, and preventing diet-Related diseases. It encompasses aspects such as dietary balance, nutrient Adequacy, and dietary diversity (Abdul-Mutalib et al., 2015).

3.Intestinal Diseases: Intestinal diseases, also known as gastrointestinal Diseases or digestive disorders, are conditions that affect the structure or Function of the gastrointestinal tract, which includes the stomach, Intestines, liver, pancreas, and other digestive organs. These diseases can Manifest with a variety of symptoms, such as abdominal pain, bloating, Diarrhea, constipation, nausea, vomiting, and rectal bleeding. Intestinal Diseases may result from various causes, including infections (e.g., viral, Bacterial, parasitic)(schmidlin et ak., 2013)

Literature Review

ChapterTwo

Chapter Two

Literature Review

In this chapter, published materials about are looked over. Such review has provided information, which is aiming to introduce a systematic understanding and concise outlook regarding the research topic.

2.1. Importance of Understanding the Role of Hygiene and Nutrition in preventing intestinal diseases:

Understanding the role of hygiene and nutrition in preventing
Intestinal diseases is paramount within the domain of public health and food safaty. Intestinal diseases, encompassing arange of conditions affecting the gastrointestinal tract, pose significant health risks to Individuals and communities worldwide. Hygiene practices, such as proper Handwashing, sanitation, and food handling, are fundamental in reducing The transmission of pathogens that cause intestinal infections. Similarly, Nutrition plays a crucial role in supporting the immune system and maintaining gut health, thereby influencing susceptibility to intestinal diseases. (Julian, 2016).

Hygiene practices serve as primary preventive measures against
Intestinal diseases by minimizing the spread of infectious agents. Effective Handwashing, for instance, helps remove pathogens from hands, reducing The risk of contamination during food preparation and consumption.
Likewise, maintaining clean and sanitary food preparation areas and Utensils mitigates the risk of cross-contamination, a common pathway for The transmission of intestinal pathogens. Therefore, understanding and Promoting proper hygiene practices are essential for preventing outbreaks

of intestinal diseases in various settings, including households, healthcare Facilities, and food service establishments (Cissé, 2019)

The interaction between hygiene and nutrition is particularly Significant in the context of preventing intestinal diseases. Proper nutrition Supports the body's ability to fight off infections, while good hygiene Practices help prevent the transmission of pathogens that cause intestinal Illnesses. For example, individuals with weakened immune systems due to Malnutrition or underlying health conditions may be more susceptible to Severe forms of intestinal diseases if exposed to contaminated food or Water. Therefore, interventions aimed at promoting food safety and Preventing intestinal diseases should address both hygiene and nutrition Factors comprehensively (Kheirandish et al., 2014).

In addition to individual-level factors, environmental and Socioeconomic determinants also influence the prevalence and Transmission of intestinal diseases. Poor sanitation infrastructure, Inadequate access to clean water, and overcrowded living conditions can Facilitate the spread of intestinal pathogens, particularly in low-resource Settings. Furthermore, disparities in access to nutritious foods and Healthcare services contribute to inequalities in disease burden, with Marginalized populations often bearing a disproportionate share of the Burden of intestinal diseases. Therefore, addressing systemic issues related To hygiene, nutrition, and socioeconomic factors is essential for achieving Equitable health outcomes.(Dixon, 2021).

In conclusion, understanding the interplay between hygiene, Nutrition, and intestinal diseases is essential for developing effective Strategies to prevent and control these illnesses. By promoting

properhygiene practices, ensuring access to nutritious foods, and addressing Underlying environmental and socioeconomic determinants, public health Authorities can reduce the burden of intestinal diseases and improve health Outcomes for populations globally. Moreover, fostering interdisciplinary Collaboration and adopting evidence-based approaches are critical for Advancing knowledge and innovation in the field of intestinal disease Prevention and control (Goulet, 2015).

2.2. Link Between Hygiene, Nutrition, and Intestinal Diseases :

The link between hygiene, nutrition, and intestinal diseases Constitutes a complex interplay of factors that significantly influence Public health outcomes. Hygiene practices, encompassing behaviors such As handwashing, sanitation, and food safety measures, play a crucial role In preventing the transmission of pathogens that cause intestinal diseases. Proper hygiene reduces the risk of contamination of food and water Sources with microbial agents, thereby minimizing the likelihood of Gastrointestinal infections. Additionally, hygiene practices in healthcare Settings are essential for preventing the spread of healthcare-associated Infections, including those affecting the gastrointestinal tract (TasnimetAl., 2017).

The relationship between hygiene, nutrition, and intestinal diseasesIs further influenced by socioeconomic and environmental factors. AccessTo clean water and sanitation facilities, for instance, is essential forMaintaining proper hygiene practices and preventing the transmission ofWaterborne pathogens implicated in intestinal diseases such as cholera andTyphoid fever. Similarly, socioeconomic disparities in access to nutritious Foods, healthcare services, and living conditions contribute to inequalities In disease burden, with marginalized populations often

experiencing Higher rates of intestinal diseases due to inadequate hygiene and nutrition

Resources (Jayaraman&Nyachoti, 2017).

Hygiene and nutrition interventions are integral components of Strategies aimed at preventing and controlling intestinal diseases at both Individual and population levels. Public health campaigns promoting Handwashing, safe food handling practices, and access to clean water and Sanitation facilities are effective in reducing the incidence of Gastrointestinal infections. Likewise, initiatives focused on improving Nutrition through education, food fortification programs, and access tonutritious foods can enhance immune function and reduce the risk of Intestinal diseases, particularly in vulnerable populations (Vitetta& Gobe,2013)

Understanding the link between hygiene, nutrition, and intestinal Diseases requires a multidisciplinary approach that incorporates insights From epidemiology, microbiology, nutrition science, and public health. Epidemiological studies provide valuable data on the prevalence, Distribution, and risk factors associated with intestinal diseases, allowing Researchers to identify patterns and trends and inform targeted Interventions. Microbiological research elucidates the mechanisms of Pathogen transmission and the impact of hygiene practices on microbial Contamination of food and water sources. Additionally, nutritional studies Investigate the role of dietary factors in gut health and immune function, Shedding light on the preventive potential of nutrition intervention.

(Stefano et al., 2018).

Research aimed at further elucidating the link between hygiene,

Nutrition, and intestinal diseases is essential for advancing knowledge and Informing evidence-based interventions. Longitudinal studies tracking the Impact of hygiene and nutrition interventions on disease outcomes can Provide valuable insights into effective strategies for preventing intestinal Diseases. Moreover, interdisciplinary research collaborations can facilitate The development of holistic approaches that address the complex interplay Of factors contributing to intestinal health and disease susceptibility. By Recognizing and addressing the link between hygiene, nutrition, and Intestinal diseases, policymakers, healthcare providers, and community Leaders can work together to improve public health outcomes and reduce The burden of gastrointestinal infections (Dhama et al., 2015).

2.3.Review of Studies on Hygiene Practices in Restaurants :

The review of studies on hygiene practices in restaurants provides Valuable insights into the effectiveness of food safety protocols and their Implications for preventing gastrointestinal infections. Numerous studies Have investigated various aspects of hygiene practices among restaurant Workers, ranging from handwashing compliance to sanitation procedures And food handling practices. These studies utilize diverse methodologies, Including observational assessments, surveys, and microbiological Sampling, to evaluate the implementation of hygiene standards in Restaurant settings and identify areas for improvement (Millward, 2017).

Research examining handwashing practices among restaurant Workers consistently highlights suboptimal compliance rates and gaps in Knowledge regarding proper hand hygiene techniques. Studies have found That factors such as time constraints, lack of access to handwashing Facilities, and inadequate training contribute to poor handwashing Adherence among food handlers. Moreover, observational assessments

Reveal discrepancies between self-reported handwashing behaviors and Actual practices, underscoring the need for ongoing monitoring and Education to reinforce the importance of hand hygiene in preventing Foodborne illnesses.(Mokomane et al., 2018)

Food handling practices are another key focus of research on Hygiene practices in restaurants, as improper food handling techniques can Lead to contamination and spoilage of food products. Studies have Examined various aspects of food handling, including temperature control, Thawing procedures, cross-contamination prevention, and storage Practices. Findings indicate that food handlers often lack awareness of Proper food safety protocols and may engage in risky behaviors, such asstoring raw and cooked foods together or failing to monitor food Temperatures adequately.(Eslami&Jalili, 2020).

The findings of studies on hygiene practices in restaurants have Important implications for public health and food safety policies. Identifying areas of non-compliance and risk factors for foodborne illness Transmission can inform the development of targeted interventions and Regulatory measures to improve hygiene standards in the food service Industry. Moreover, raising awareness among restaurant owners, managers, And workers about the importance of proper hygiene practices can help Foster a culture of food safety and reduce the incidence of gastrointestinal Infections (J. Brown et al., 2015).

Despite these challenges, studies have demonstrated the efficacy ofTargeted interventions in improving hygiene practices and reducing the riskOf foodborne illnesses in restaurant settings. Educational initiatives,

such As training programs, certification courses, and informational materials, Have been shown to enhance knowledge and awareness among restaurant Workers regarding proper hygiene practices. Furthermore, theimplementation of monitoring systems and quality assurance measures can Help reinforce compliance with food safety standards and maintain high

Levels of hygiene in restaurants (Sharif et al., 2015)

2.4. Relationship Between Nutrition and Immune function:

The relationship between nutrition and immune function is a

Complex and multifaceted interplay that influences the body's ability to Defend against pathogens and maintain optimal health. Nutrients obtained From the diet play essential roles in supporting various aspects of immune Function, including the production of immune cells and antibodies, the Regulation of inflammatory responses, and the maintenance of barrier Defenses in mucosal tissues. Adequate intake of key nutrients, such as Vitamins, minerals, and antioxidants, is critical for bolstering immune Defenses and reducing the risk of infections (Sonnenburg&Sonnenburg, 2019).

Vitamins and minerals are essential micronutrients that play integralRoles in immune function by supporting cellular processes and biochemicalPathways involved in immune responses. For example, vitamin C acts as An antioxidant and cofactor for enzymes involved in immune cell function, While vitamin D regulates immune cell proliferation and modulates Inflammatory responses. Similarly, minerals such as zinc, iron, and Selenium are necessary for the development and function of immune cells,Including T cells, B cells, and natural killer cells (Ruemmele, 2016).

Antioxidants are compounds found in fruits, vegetables, and other Plant-based foods that help neutralize harmful free radicals and reduce Oxidative stress in the body. Oxidative stress, resulting from an imbalance Between antioxidant defenses and reactive oxygen species, can impair Immune function and increase susceptibility to infections. Therefore,Consuming a diet rich in antioxidants, such as vitamins A, C, and E, as Well as phytochemicals like flavonoids and carotenoids, can help support Immune health and protect against diseases

Protein is another essential nutrient that plays a critical role in Immune function by providing the building blocks for immune cells and Antibodies. Adequate protein intake is necessary for maintaining the Structural integrity of immune tissues, such as the thymus and lymph Nodes, and for supporting the synthesis of antibodies that recognize and Neutralize pathogens. Additionally, amino acids, the building blocks of Proteins, serve as precursors for various signaling molecules involved inimmune cell communication and inflammatory responses (Mama &Alemu, 2015).

Malnutrition, characterized by deficiencies or imbalances in nutrient Intake, can have profound effects on immune function and increase the risk Of infections. For example, protein-energy malnutrition (PEM) Compromises immune cell function and antibody production, making Individuals more susceptible to infectious diseases. Similarly, Micronutrient deficiencies, such as vitamin A deficiency, can impair Immune responses and increase the severity of infections, particularly in Vulnerable populations such as children and pregnant women (Gwenzi, 2021)

Conversely, optimal nutrition supports immune function and Enhances the body's ability to mount effective immune responses against Pathogens. A balanced diet that provides adequate amounts of essential Nutrients, including vitamins, minerals, antioxidants, and protein, is Essential for maintaining immune health and reducing the risk of Infections. Furthermore, lifestyle factors such as regular physical activity, Adequate sleep, and stress management also play important roles in Supporting immune function and overall well-being (Karkey et al., 2013).

The relationship between nutrition and immune function has Important implications for public health, particularly in the context of Infectious diseases and immune-related disorders. Strategies aimed at Improving nutritional status, such as promoting dietary diversity, fortifying Foods with micronutrients, and implementing nutrition education Programs, can help enhance immune function and reduce the burden of Infectious diseases. Additionally, targeted interventions for vulnerable Populations, such as infants, children, pregnant women, and the elderly, Can help mitigate the adverse effects of malnutrition on immune health.(Gizaw et al., 2018).

In conclusion, the relationship between nutrition and immune Function is a critical determinant of overall health and susceptibility to Infections. Adequate intake of essential nutrients, including vitamins, Minerals, antioxidants, and protein, is essential for maintaining immune Defenses and supporting immune responses against pathogens. Conversely,malnutrition can compromise immune function and increase the risk of Infectious diseases. By promoting optimal nutrition and addressing Nutritional deficiencies, public health efforts can help enhance

immune Health and reduce the burden of infectious diseases in populations Worldwide.

2.5. Implications for Future Research and Practical Applications :

Implications for future research and practical applications in the fieldOf hygiene, nutrition, and the prevention of intestinal diseases areMultifaceted and hold significant importance for advancing public health Outcomes. One area ripe for exploration is the development of innovative Interventions aimed at improving hygiene practices in restaurant settings. Future research could focus on evaluating the effectiveness of educational Programs, technological solutions, and policy interventions in promoting adherence to food safety standards among restaurant workers.Additionally, studies investigating the impact of cultural and Socioeconomic factors on hygiene behaviors in diverse restaurant Environments can provide valuable insights for tailoring interventions to Specific populations (Duda-Chodak et al., 2020).

Nutrition interventions targeting immune function represent another Promising avenue for future research and practical applications. Investigating the efficacy of dietary interventions, such as supplementation With micronutrients or bioactive compounds, in enhancing immune Responses and reducing the incidence of intestinal diseases could have Significant public health implications. Moreover, research exploring therole of the gut microbiota in mediating the relationship between nutrition And immune function holds promise for developing personalized dietary Strategies to support immune health and prevent gastrointestinal infections. (Akullian et al., 2019)

Industry stakeholders, including restaurant owners, food producers, And retailers, can play a crucial role in implementing best practices and

Quality assurance measures to ensure food safety and nutritional integrity. Investments in infrastructure, training programs, and technology solutionsCan help enhance hygiene practices, traceability, and quality control Throughout the food supply chain. Furthermore, consumer education Initiatives aimed at raising awareness of the importance of hygiene, Nutrition, and food safety can empower individuals to make informed Choices and advocate for improvements in the food system (Owino et al., 2016).

Longitudinal studies tracking the implementation and impact ofInterventions over time can provide valuable insights into their Sustainability, scalability, and effectiveness in real-world settings. Moreover, comparative research studies examining the effectiveness of Different intervention approaches and their cost-effectiveness can inform Decision-making and resource allocation efforts. Furthermore, qualitative Research exploring the perspectives and experiences of stakeholders, Including restaurant workers, consumers, and policymakers, can shed light On barriers, facilitators, and unmet needs in the field of hygiene, nutrition, And intestinal diseases (Tomasello et al., 2016).

In conclusion, the implications for future research and practical Applications in the field of hygiene, nutrition, and the prevention of Intestinal diseases are vast and encompass a range of interdisciplinary Approaches. By fostering collaboration, innovation, and evidence-based Practice, stakeholders can work together to address the complex challenges Facing the food system and public health. Through targeted interventions,Policy initiatives, and industry best practices, efforts to improve hygiene,Nutrition, and intestinal health can contribute to reducing the burden of Gastrointestinal infections and promoting overall well-being in Communities worldwide (Leo & Campos, 2020).

Methodology

Chapter Three

Chapter Three

Methodology

This chapter demonstrates the study methodology, design, administrative arrangements, setting, and sample. As well, as study instrument; types, source, and methods of data collection, pilot study, and data analysis process.

3.1. Design of the Study:

A descriptive design is carried throughout the present for the period from November 26th

2023 to March5th, 2024 to evaluate the knowledge of workers in popular restaurants on the role of hygiene and nutrition in Tikrit district.

3.2. Setting of the study:

The study was conducted from iraq in genwral but the most sample conducted from tikrit .

3.3. The sample of the study:

The study sample was taken from iraq in general but the most of samples taken from tikrit.

3.4. Data collection:

Data were collected through a paper questionnaire, and the data collection time was two weeks from February 11 to February 25 .

3.5. The study instrument:

1. To achieve the goals and objectives of our study, a questionnaire form was created to evaluate the knowledge of workers in popular restaurants about the role of hygiene and nutrition in the spread of intestinal diseases.
2. Our questionnaire format is based on a review of relevant literature and previous studies

3. The questionnaire was designed in Arabic to be acceptable and understandable to all segments of society and was reviewed by supervisors and experts

4. The form consists of two parts as follows

Part One: Demographic Characteristics:

This part deals with personal data consisting of (age, gender, educational level, economic status, work experience)

Part Two: Evaluation of staff knowledge about hygiene and nutrition in the spread of enteric diseases:

It consists of (14) articles and is divided into seven areas: training, attitudes and beliefs, precautionary measures, cooperative work, and self-evaluation.

a. Knowledge about hygiene: Focuses on the importance of hygiene in preventing the spread of intestinal diseases

B. Knowledge about nutrition: It focuses on the importance of proper nutrition to reduce the spread of intestinal diseases

C. Awareness and training: Focuses on the importance of workers being aware and receiving special training on hygiene and safety

D. Attitudes and Beliefs: Focuses on raising awareness of the importance of hygiene and nutrition in restaurants because it positively affects the reputation of the restaurant

E- Precautionary measures: This concerns whether popular restaurants follow special precautionary measures to prevent the spread of intestinal diseases.

F. Collaborative work: It is concerned with encouraging cooperation among colleagues and applying health standards in the work environment

Y. Self-evaluation: It includes their ability to provide distinguished service to customers and ensure their satisfaction and comfort .

3.6. Data analysis:

Statistical analysis were conducted by ising percentage equation for all the question and the formala is as the following.

%=value /total value ×100%

Value: number of people who asswer the question.

Total value: number of the sample .

3.7. Pilot study :

A pilot study was taken from workers in popular restaurants via a paper questionnaire in the period from February 11 to February 25, and we collected 100 samples.

3.8. Objectives of the pilot study :

1.Determine whether the questionnaire is clear and understandable.

2.To determine the time we need to collect samples .

3.9. Results of the pilot study:

The questionnaire was clear and understandable and the data collection process was very smooth and easy .

Results of the Study

Chapter Four

Chapter Four

Results of the Study

This chapter presents the results of the study after the data have been managed and results are tabulated and organized with respect to the objectives of the study as follows:

Age		
20-25	*57*	*59.4%*
26-30	*18*	*18.8%*
31-40	*10*	*10.4%*
Gender		
Girl	*0*	*0%*
Boy	*100*	*100%*
Educational level		
Bachelor's	*50*	*50%*
Medium	*15*	*15%*
Primary	*15*	*15%*
Other than that	*20*	*20%*
Assess the economic situation		
Enough	*52*	*52%*
Not enough	*17*	*17%*
Fairly enough	*31*	*31%*

Table 1 : Socio demographic data of 100 respondents.

Our questionnaire includes eight parts: socio-demographic data, practical experience and knowledge about hygiene, knowledge about nutrition, awareness and training, attitudes and beliefs, precautionary measures, collaborative work and self-evaluation.Our sample is 100 respondents. Socio-demographic data are Age 25-20 (59%), 30-26 (18%), 31-40 (10%) Gender include males(100%) and females (0%). And other social demographic data present table1.

Do you think good hygiene in restaurants is important to prevent the spread of intestinal diseases?		
Yes	*84*	*84%*
No	*10*	*10%*
Maybe	*5*	*5%*
Do you think that proper nutrition in restaurants can contribute to reducing the spread of intestinal diseases?		
Yes	*72*	*72%*
No	*16*	*15%*
Maybe	*12*	*12%*

Table2:Knowledge about hygiene and nutrition

The answer to this question was yes, the result was (84%), the answer was no (10%), and the answer was maybe (5%).When asked: Do you think that proper nutrition in restaurants can contribute to reducing the spread of intestinal diseases? The percentages were as follows: yes, the percentage is 72%, the response percentage is no, 16%, and the response percentage is maybe 12% .

Awareness and training		
Yes	*42*	*42%*
No	*43*	*43%*
Maybe	*15*	*15%*

Table 3:Have you received special training about hygiene and safety?

The answer was yes (42%), the answer was no (43%), and the answer was maybe (15%) .

Yes	*43*	*43%*
No	*23*	*23%*
Maybe	*34*	*34%*

Table 4:Do workers receive the necessary training on hygiene and food safety when joining the job?

In the awareness and training part, a question was asked: Do workers receive the necessary training on hygiene and food safety when joining work? The answer was as follows: “Yes” (43%), “No” (23%), and “Maybe” (34%) .

Yes	*67*	*67.7%*
No	*10*	*10%*
Maybe	*22*	*22%*

Table5:Is there a need to provide periodic training courses to update employees' knowledge of health standards?

In the awareness and training part, a question was asked: Is there a need to provide periodic training courses to update workers' knowledge of health standards? The result of the answer is yes (67.7%), the result of the answer is no (10%), and the result of the answer maybe (22%).

Attitudes and beliefs		
Yes	*81*	*81%*
No	*8*	*8%*
Maybe	*11*	*11%*

Table6:Do you think that awareness of the importance of hygiene and nutrition in restaurants can positively affect the reputation of the restaurant and attract more customers?

The result of the answer to this question was in these percentages, as a result of the answer: yes (81%), as a result of the answer: no (8%), and as a result of the answer: maybe (11%).

Yes	*75*	*75%*
No	*8*	*8.3%*
Maybe	*17*	*17.7%*

Table7:Do you think that customers pay great attention to hygiene and nutritional standards when they choose to visit a restaurant?

The second question about attitudes and beliefs was: Do you think customers pay great attention to hygiene and nutritional standards when they choose to visit a restaurant? The answer was yes (75%), the answer was no (8.3%), and the answer was maybe (17.7%) .

Precautionary measures:		
Yes	*65*	*65%*
No	*10*	*10%*
Maybe	*25*	*25%*

Table 8:Do popular restaurants follow special precautionary measures to prevent the spread of intestinal diseases?

In the precautionary measures section, the answer to this question was yes (64%), the answer was no (10%), and the answer was maybe (25%).

Yes	*67*	*67.7%*
No	*4*	*4%*
Maybe	*28*	*28.4%*

Table9:Do popular restaurants ensure fresh and clean ingredients when preparing meals?

The result of the answer to this question was as follows: the result of the answer was yes (67.7%), the result of the answer was no (4%) and the result of the answer maybe (28.4%) .

Yes	*100*	*100%*

No	*0*	*0%*
Maybe	*0*	*0%*

Table10:Do you think that regulatory authorities are doing their part in assessing and monitoring hygiene and nutrition in restaurants?

The result of the answer to this question was: Yes (100%), the result of the answer was No (0%), and the result of the answer was Maybe (0%) **.**

Collaborative work		
Yes	*73.5*	*73.5%*
No	*1*	*1%*
Maybe	*25*	*25.5%*

Table 11:Is cooperation between colleagues in restaurants encouraged to ensure that health standards are followed?

The result of the answer to this question is as follows: the result of the answer is yes (73.5%), the result of the answer is no (1%), and the result of the answer maybe (25%) .

Yes	*79*	*79%*
No	*4*	*4%*
Maybe	*20*	*20%*

Table12:Do you feel that there is a culture of teamwork to maintain hygiene and nutrition in restaurants?

The result of the answer to this question is as follows: the result of the answer is yes (79%), the result of the answer is no (4%) and the result of the answer maybe (20%) .

Self evaluation		
Yes	*79*	*79%*
No		*0%*
Maybe	*20*	*20%*

Table 13:Do you feel confident in your knowledge and practical skills in applying health standards in the work environment?

The answer to this question is as follows: the result of the answer is yes (79%), the result of the answer is no (1%), and the result of the answer is maybe (20%) .

Yes	*86*	*86%*
No	*0*	*0%*
Maybe	*14*	*14%*

Table14:Do you think you can improve your own hygiene and nutrition practice?

The second question of the self-evaluation was: Do you think you can improve your own practice in the field of hygiene and nutrition? The answer was yes (86%), the answer was no (0%), and the answer was maybe (14%) .

Discussion of the Study Results

Chapter Five

The results of the study provide valuable insights into various aspects Related to hygiene, nutrition, awareness, and practices in popular Restaurants.

Beginning with the socio-demographic data, it's evident that the majority Of respondents fall within the age group of 20-25, comprising 59% of the Sample, followed by 26-30 and 31-40 age groups. Gender distribution Indicates a male-dominated workforce with 100% male respondents. Educational levels vary, with Bachelor's being the most common, followed By Medium and Primary education.

Regarding the importance of hygiene in restaurants, a significant portion Of respondents (84%) acknowledge its importance in preventing the Spread of intestinal diseases. Similarly, a majority (72%) recognize the Role of proper nutrition in reducing such spread.

However, there seems to be a gap in awareness and training, as only 41% Of respondents report receiving special training about hygiene and safety. Moreover, when asked if workers receive necessary training upon joining A job, responses are mixed, with 41% answering yes, indicating a Potential need for improvement in training practices within the industry.

Interestingly, while the majority (80%) believe that awareness of hygiene And nutrition positively affects a restaurant's reputation and customer Attraction, a smaller percentage (8%) do not share this belief. This Suggests varying attitudes and beliefs within the industry regarding the Importance of these factors.

In terms of precautionary measures, a significant portion (64%) affirm That popular restaurants do follow special measures to prevent the spread Of diseases. However, there's room for improvement, as only 67% Believe that popular restaurants ensure fresh and clean ingredients when Preparing meals.

The regulatory aspect seems satisfactory, with 100% of respondents Indicating confidence in regulatory authorities in assessing and monitoring Hygiene and nutrition in restaurants.

Collaborative work appears to be encouraged to maintain health standards, With 72% agreeing that cooperation between colleagues is promoted. However, there's a lesser consensus (74%) regarding the existence of a Culture of teamwork specifically for maintaining hygiene and nutrition Standards.

Regarding self-evaluation, a majority (78%) feel confident in their Knowledge and practical skills in applying health standards. However, There's still room for personal improvement, as indicated by 85% believing They can enhance their own hygiene and nutrition practices

Overall, while there are positive aspects reflected in the results, such as Awareness of hygiene and nutrition importance, there are also areas Identified for potential improvement, particularly in training practices, Collaboration, and ensuring stringent adherence to precautionary measures. These findings provide valuable insights for stakeholders in the restaurant Industry to enhance their practices and ultimately improve public health Outcomes.

Conclusion and Recommendations

Chapter Six

Chapter Six

Conclusion and Recommendations

This chapter presents conclusion as being derived from the early interpreted and discussed findings and recommendations which are stated based on such conclusion, as follows:

6.1. Conclusion:

1. Importance of Training and Awareness: The study underscores the Necessity for comprehensive training programs and heightened Awareness campaigns within the restaurant industry. With only a Portion of respondents reporting adequate training and awareness Regarding hygiene and nutrition, there's a clear opportunity for Improvement in educating restaurant staff and managers about best Practices.

2. Critical Role of Hygiene and Nutrition: The majority of Respondents recognize the pivotal role of hygiene and nutrition in Preventing the spread of intestinal diseases. This emphasizes the Need for strict adherence to hygiene protocols and the provision of Nutritious meals in restaurants to safeguard public health.

3. Collaboration and Teamwork: While there's some indication of Collaborative efforts among colleagues to uphold health standards, There's room for enhancement in fostering a culture of teamwork Specifically focused on maintaining hygiene and nutrition standards. Encouraging greater cooperation among restaurant staff could lead To more effective implementation of health protocols.

4.Regulatory Assurance: The high level of confidence expressed by

Respondents in regulatory authorities regarding the assessment and Monitoring of hygiene and nutrition standards is reassuring. This suggests that regulatory bodies are perceived as effective overseers
In ensuring compliance with health regulations within the restaurant Industry.

5. Personal and Professional Development: The study highlights the Importance of ongoing personal and professional development Among restaurant workers. While many respondents express Confidence in their current knowledge and skills, the Acknowledgment of room for personal improvement underscores the Value of continuous learning and skill enhancement to uphold health Standards effectively.

6.2. Recommendations:

1. Enhanced Training Programs: Implement comprehensive and Regular training programs for restaurant staff focused on hygiene, Food safety, and nutrition practices. These programs should cover Proper food handling, sanitation procedures, and the importance of Nutritious meal preparation to mitigate the risk of intestinal diseases.

2. Awareness Campaigns: Launch targeted awareness campaigns Aimed at both restaurant workers and patrons to promote the Significance of hygiene and nutrition in preventing the spread of Diseases. Utilize various communication channels such as posters, Digital signage, and social media platforms to disseminate Educational materials effectively.

3.Encourage Collaboration: Foster a culture of teamwork and Collaboration among restaurant staff by organizing team-building Activities and establishing clear communication channels. Encourage Mutual support and accountability in upholding health standards, Thereby creating a conducive environment for maintaining hygiene And nutrition protocols.

4. Regular Inspection and Monitoring: Strengthen regulatory Oversight by conducting regular inspections and monitoring of Restaurants to ensure compliance with hygiene and nutrition Standards. Implement robust enforcement measures for non-Compliance, including fines and penalties, to incentivize adherence To health regulations.

5. Continuous Professional Development: Provide opportunities for Continuous professional development for restaurant workers to Enhance their knowledge and skills in health standards and practices. Offer workshops, seminars, and online courses to enable staff to stay Updated on the latest developments and best practices in food safety And nutrition.

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١-البيانات الشخصية:

١.العمر

٢.جنس

بنت

ولد

٣.المستوى التعليمي

٤.تقيم الوضع الاقتصادي

كافي

غير كافي

كافي الى حد ما

٢-الخبر العملية:

٢.هل لديك خبرة سابقة في العمل في مجال المطاعم

- نعم
- لا

٣-المعرفة حول النظافة:

١.هل تعتقد أن النظافة الجيدة في المطاعم مهمة لمنع انتشار الأمراض المعوية؟

- نعم
- لا
- ربما

٤-المعرفة حول التغذية:

١.هل تعتقد أن التغذية السليمة في المطاعم يمكن أن تسهم في الحد من انتشار الأمراض المعوية؟

- نعم
- لا
- ربما

٥-التوعية والتدريب:

١.هل تلقيت تدريبًا خاصًا حول النظافة والسلامة؟

- نعم

- لا

٦- الاتجاهات والمعتقدات:

١.هل تعتقد أن الوعي بأهمية النظافة والتغذية في المطاعم يمكن أن يؤثر إيجابًا على سمعة المطعم وجذب المزيد من الزبائن؟

- نعم
- لا
- ربما

٢.هل تعتقد أن الزبائن يولون اهتمامًا كبيرًا لمعايير النظافة والتغذية عند اختيارهم لزيارة مطعم؟

- نعم
- لا
- ربما

٧-التوعية والتدريب:

١.هل يتلقى العاملين التدريب اللازم حول النظافة والسلامة الغذائية عند الانضمام إلى العمل؟

- نعم
- لا
- ربما

٢.هل هناك حاجة لتوفير دورات تدريبية دورية لتحديث معرفة العاملين بشأن المعايير الصحية؟

- نعم
- لا
- ربما

٨-الإجراءات الاحترازية:

١.هل تتبع المطاعم الشعبية إجراءات احترازية خاصة للوقاية من انتشار الأمراض المعوية؟

- نعم
- لا
- ربما

٢.هل تحرص المطاعم الشعبية على استخدام مكونات طازجة ونظيفة في تحضير الوجبات؟

- نعم
- لا
- ربما

٣.هل تعتقد أن الجهات التنظيمية تقوم بدورها في تقييم ومراقبة النظافة والتغذية في المطاعم الشعبية؟

- نعم

- لا
- ربما

٩-العمل التعاوني:

١.هل يتم تشجيع التعاون بين الزملاء في المطعم لضمان اتباع المعايير الصحية؟

- نعم
- لا
- ربما

٢.هل تشعر أن هناك ثقافة من العمل الجماعي للحفاظ على النظافة والتغذية في المطعم؟

- نعم
- لا
- ربما

١٠-التقييم الذاتي:

١.هل تشعر بالثقة في معرفتك ومهاراتك العلمية في تطبيق المعايير الصحية في بيئة العمل؟

- نعم
- لا
- ربما

٢.هل تعتقد أنه يمكنك تحسين ممارساتك الخاصة في مجال النظافة والتغذية؟

- نعم
- لا
- لااعلم

الخلاصة

الخلفية:هناك العديد من الأسباب التي تجعل نظافة المطعم أمرا ضروريا في المطاعم فالأمر لايتعلق فقط بالمقدمين الخدمات الطعام ولكن يمتد ذلك الي جميع العناصر الموجودة ضمن السلسلة الغذائية .

الأهداف:اهداف الدراسة الحالية هو تقييم معرفة العاملين في المطاعم الشعبية دور النظافة والتغذية في انتشار الأمراض المعوية في قضاء تكريت والتعرف على العلاقة بين معرفة العاملين دور النظافة والتغذية في انتشار الأمراض المعوية وخصائصهم الاجتماعية والديموغرافية.

المنهجية : أجريت الدراسة الوصفية في قضاء تكريت لتقييم معرفة العاملين في المطاعم الشعبية دور النظافة والتغذية في انتشار الأمراض المعوية.للفترة من ٢٩ديسمبر٢٠٢٣الى ٢٥فبراير٢٠٢٤ وتم جمع ١٠٠عينة من العاملين .حيث تكونت ورقة الاستبيان من جزأين رئيسيين (الخصائص الاجتماعية والديموغرافية وتقييم معرفة العاملين في المطاعم الشعبية دور النظافة

والتغذية في انتشار الأمراض المعوية).فجمعت البيانات من خلال استخدام الاستبيان المعتمد باللغة العربية ،واستخدام اسلوب المقابلة النموذجية لكل عامل.وتم استخدام الاحصاء الوصفي في تحليل البيانات .

النتائج:أظهرت نتائج الدراسة أن غالبية المشاركين لديهم مستوى معتدل من التقييم لمعرفة العاملين في المطاعم الشعبية فيما يتعلق بدور النظافة والتغذية في انتشار الأمراض المعوية .

الاستنتاجات:قبول بعضم المطاعم الشعبية للمستوى معرفة النظافة والتغذية بانتشار الأمراض في مدينة تكريت .

توصيات البحث:تحسين برامج التدريب والتثقيف للعاملين في المطاعم بشأن أهمية النظافة الشخصية والسلامة الغذائية، وتعزيز تطبيق مبادئ النظافة والتغذية الصحية في البيئة العملية.

Appendices

ت	اسم الخبير	اللقب العلمي	الشهادة والاختصاص	مكان العمل
1	ا.د. عاشور رفعت سرحت	أستاذ دكتور	بورد الاطفال	كلية تمريض جامعة تكريت
2	م.د. أحمد محمود يونس	مدرس دكتور	دكتوراه تمريض صحة مجتمع	كلية تمريض جامعة تكريت
3	أ.م. د. عمر صالح حسن	أستاذ مساعد دكتور	دكتوراه كيمياء حياتية	كلية تمريض جامعة تكريت
4	أ.م. د. سراب قحطان عبدالرحمن	أستاذ مساعد دكتور	بورد طب اسرة	كلية تمريض جامعة تكريت
5	م.د. ناريمان محمد احمد	مدرس دكتور	دكتوراه تمريض الاطفال	كلية تمريض جامعة تكريت
6	أ.م. د. سرى سعد عبدالعزيز	أستاذ مساعد دكتور	دكتوراه فسلجه	كلية تمريض جامعة تكريت
7	أ.م. د. ميثاق البياتي	أستاذ مساعد دكتور	دكتوراه تاريخ	كلية تمريض جامعة تكريت
8	أ.د. سلام شهاب أحمد	أستاذ دكتور	بورد الاطفال	كلية تمريض جامعة تكريت

جامعة تكريت

كلية التمريض

تقيم معرفة العاملين في المطاعم الشعبية دور النظافة والتغذية بانتشار الامراض المعوية في قضاء تكريت

رسالة تقدم بيه:

زينب حسن عباس

تبارك مؤيد عبد الستار

اريام مؤيد عويد

الى/كلية التمريض جامعة تكريت كجزء من متطلبات

نيل شهادة البكالوريوس في علوم التمريض

بأشراف:

الدكتور عمر صالح حسن

مساعد الدكتور نباثامر محمود

1445/A.H

A.D/2024

Epidemiology premenstrual syndrome and quality of life among female college students

Graduated research submitted.

By:

Aryam Sahir Fadhil

Dhama Riadh Awad

Rahma Nadhim Hussein

To:

College of Nursing

University of Tikrit

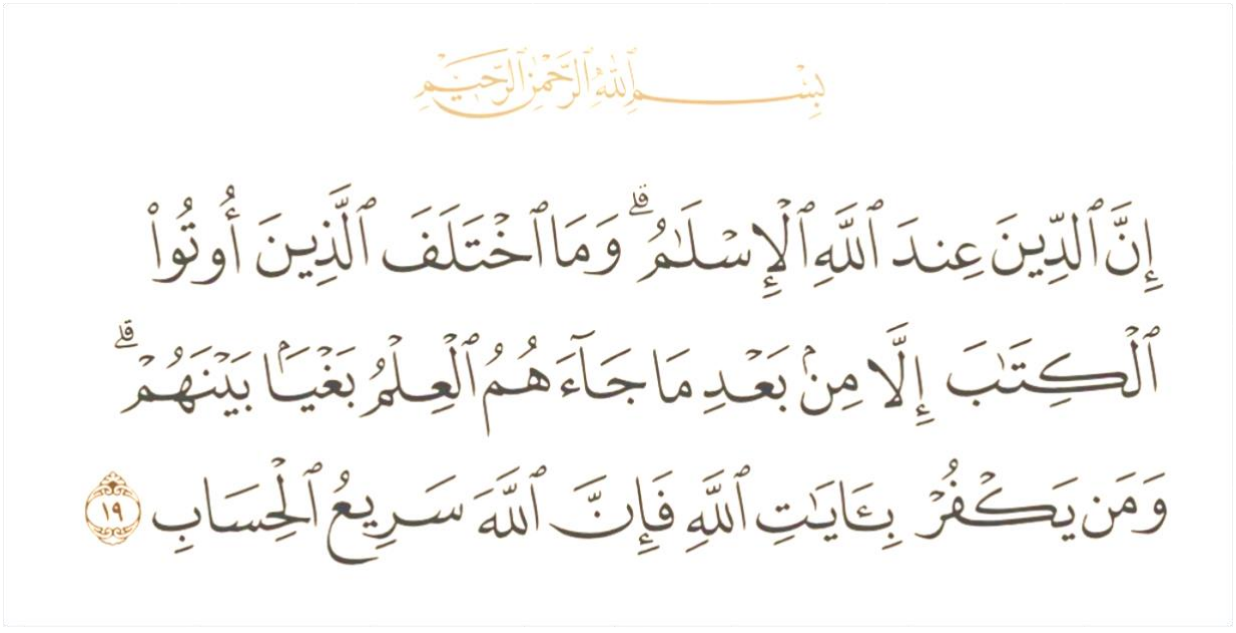
In Partial Fulfillment of the Requirement for

The Degree of bachelor's in nursing

Supervised by:

Assistant prof. Dr Sarab Kahtan Abedalrahan

March/2024 A.D **Shaaban/1445 A.H**



(١٩ آل عمران)
صدق الله العظيم

الإهداء

الحمد لله حباً و شكراً وامتنانا على البدء والختام .((وآخر دعواهم ان الحمد لله رب العالمين))

بعد تعب ومشقة دامت أربع سنوات في سبيل الحلم والعلم حملت في طياتها أمنيات الليالي . وأصبح عنانا اليوم للعين قرة . ها نحن اليوم نقف على عتبة تخرجنا نقطف اثمار تعبنا ونرفع القبعات بكل فخر . فاللهم لك الحمد قبل أن ترضى ولك الحمد إذا رضيت ولك الحمد ..... بعد الرضا . لأنك وفقتنا على إتمام هذا النجاح وتحقيق الحلم

إلى حبيب الأمة وشفيعها و قدوتنا النبي محمد صلى الله عليه وسلم

إلى من فداهم العين والروح الوالدين العزيزين

الى احبتنا وسندنا في الحياة الإخوة والأخوات

الى إخواننا التي لم تلدهم أمهاتنا أصدقائنا الغالين

والى مشرفة بحثنا الدكتورة (سراب قحطان) وكل

المعلمين والمدرسين والأساتذة والدكاترة الذين صادفناهم

في مسيرتنا الدراسية

والى كل من دعمنا وساعدنا في حياتنا -

Abstract

Background:

Premenstrual Syndrome (PMS) Is a condition that periodically occurs in women before the onset of menstruation. It encompasses a range of physical and psychological signs and symptoms, including mood swings, emotional irritability, abdominal pain, weight gain, and difficulties In concentration. Many women experience PMS to varying degrees, with hormonal balance and neurotransmitter interaction considered as factors influencing its occurrence. Common physical symptoms such as breast tenderness, constipation, and headaches may accompany psychological symptoms like mood fluctuations, anxiety, and fatigue. The impact of PMS can extend to various aspects of daily life, including work and social relationships. The management of symptoms varies among individuals, involving lifestyle advice, dietary changes, or medical treatments as options for symptom relief.

Objectives: the aim of this study is to evaluate the prevalence of PMS and Its risk factors Among
Female students of nursing college.

Methods:

This cross sectional study will do in Tikrit university from 1st of January 2024 to 1st of June 2024.

Results:

We observe that 91% of unmarried women have a normal menstrual cycle duration ranging from 4 to 6 days. Those experiencing dysmenorrhea describe it as moderate to severe pain, with the majority not using any medication to alleviate symptoms. They maintain a normal appetite, a healthy weight, and consume a diverse diet, although they exhibit a significant increase in lethargy during their

menstrual cycle. Additionally, they report a substantial rise in stress levels, with a moderate proportion experiencing anger and insomnia. Notably, they do not suffer from thyroid disorders, but a larger percentage experiences physical symptoms and pains despite not using contraceptive pills. This suggests that the majority of participating women in the survey are This suggests that the majority of participating women in the survey 70% suffer from premenstrual syndrome.

Recommended:

These tips aim to alleviate symptoms of premenstrual syndrome (PMS):

They encompass selecting nutritious meals and avoiding harmful foods, coupled with engaging in regular exercise to improve mood and reduce stress. Maintaining a consistent sleep routine and steering clear of screens before bedtime contribute to quality rest. Techniques like meditation are encouraged to soothe nerves. Positive motivation is fostered through setting and accomplishing small daily goals, while heat therapy aids in pain relief. Eliminating smoking and reducing caffeine and alcohol intake play a role in symptom improvement. In cases of persistent discomfort or significant impact, seeking advice from a medical professional is recommended for proper consultation and treatment. Professional is recommended for proper consultation and treatment.

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Chapter One
Introduction

Chapter One Introduction

1-1 Introduction

Premenstrual syndrome (PMS) is a set of symptom that occurs repeatedly in the luteal phase of the menstrual cycle Is marked by Chang of physical, psychology and behavior that may affect the relationship interpersonal [3-30]. PMS can occur several days to weeks before menstruation and subside after a menstrual period appears [7-22]. The Impact of PMS also disrupts family relationships, work, social activities and difficulty in concentrating [15-28]. More than 85% of women had been experienced physical and psychological discomfort that may affect the quality of life and daily productivity [16-27]. The prevalence of PMS as much as 99.5% of adolescents had at least one premenstrual symptom [12-15]. The cause of PMS is unknown with certainty, it is estimated influencing by biological, psychological, and social environments. Biological factors include hormonal imbalance, abnormal neurotransmitter response [11-26].

Symptom that is often complained by the teenagers is emotional symptoms such as irritability, depression, irritability, anxiety or tension, mood swings, while physical symptoms are breast tense, distended stomach, headache and fatigue [1-21]. In addition, PMS affects academic performance (60.1%), teenagers leave school at least one day (43.5%) and 22% fail in the exam [9, 11]. PMS also affects the efficiency and productivity, for instance homework (48.9%), social activities (19.45%), friends or family relationships (19.1%), and difficulty concentrating (60.4%) [10, 16]. Adolescents with PMS have lower learning achievement than those who did not have PMS. PMS also can affect the mental health and social life of an Individual. Women with PMS often fail to go to work or school, resulting in an impaired quality of life. This is due to factors just before menstruation pain and hectic atmosphere [12-15].

The aim of this study Is to evaluate the prevalence of PMS and Its risk factors among Female students of nursing college.

2-1 Methods

This cross sectional study will have done in Tikrit university from 1st of January 2024 to 1st of June 2024.

3-1 Exclusion criteria

Students with the history of:

1- Amenorrhea,

2- Use of oral contraceptive pills,

3- Pelvic inflammatory disease,

4- Endometriosis,

5- Metabolic disorders,

6- Thyroid disorders, and

Under any steroid therapy were excluded.

4-1 Inclusion criteria

All menstruating undergraduate female student.

Participation was purely voluntary and that participants possessed the right to refuse participation, to withdraw from the study.

5-1 Data Collection

Assessment of premenstrual syndrome.

The data collection tool used in this study was a self-administered PMS assessment tool.

The PMS data collection form had 4 sections. Section 1 was based on the demographic information of the participant. Section 2 consisted of questions to identify co-morbidities. The menstrual history of participants was obtained from Section 3 and those with Irregular menstrual cycles were excluded. Section 4 encompassed questions regarding the various somatic and psychological symptoms that the women face few days prior to menstruation which was prepared keeping in mind the criteria proposed by the American College of Obstetrics and Gynecology (ACOG) in diagnosis of Premenstrual syndrome. A question on impairment of daily activities was introduced in this section to assess the severity of PMS.

6-1 Statistical analysis

Data entry and data cleaning will have done. The data was analyzed using Spas soft wear package

Version 23. Data is represented as mean and standard deviation for quantitative variables and frequency & proportion for categorical variables.

Chapter Two

Review of literature

2-1 Etiology

The etiology of premenstrual syndrome Is uncertain. Since PMS symptoms occur simultaneously with the hormonal fluctuations of the menstrual cycle, hormonal disproportion like estrogen surplus and progesterone deficiency have been proposed. Symptoms are also associated with serotonin to link as a key etiological factor.

Estrogen comprises of three major hormones: estrone, estradiol, estriol, estradiol being the is the most potent. Estrogen levels that fluctuate during the luteal phase are what is responsible for women's mood changes. Clinical trials have shown that serotonin precursors significantly increase between days 7 to 11 and 17 to 19 of the menstrual cycle. This indicates that PMS is closely associated with mood disorders through estrogen-serotonin regulation.

According to the molecular biology studies, the decreased estrogen causes the hypothalamus to release norepinephrine, which triggers a decline in acetylcholine, dopamine, and serotonin that leads to insomnia, fatigue, depression, which are common symptoms of PMDD and PMS.[14]

A study from Egypt revealed the positive association between PMS and excess intake of sweet-tasting food items. It also showed that other factors, such as intake of junk food and coffee, were significantly associated with PMS. Thus, making it evident that lifestyle factors have a significant association with PMS and PMDD [37]. did a similar study among women university students for assessing the factors associated with PMS and revealed that dietary factors such as consumption of fast food, drinks containing sugar, deep-fried foods, and lifestyle factors such as less habitual exercise and poor sleep quality is significantly associated with PMS[14].

2-2 Common symptoms of PMS include

[2]

1. Swollen and/or tender breasts
2. Diarrhea or constipation
3. Bloating and weight gain related to fluid retention
4. Cramping
5. Anxiety
6. Irritability, mood swings, and angry outbursts
7. Crying spells
8. Feeling depressed
9. Appetite changes and/or food cravings
10. Trouble falling asleep (insomnia)
11. Headache
12. Backache
13. Less interest in sex (lower libido)

3-2 Epidemiology

The hormonal changes of the menstrual cycle can affect health and wellbeing in otherwise healthy women and in women with pre-existing medical and psychological conditions [38].

Effective treatment of severe menstrual migraine headaches with gonadotropin-releasing hormone agonist and “add-back” therapy) During the reproductive years, up to 80% to 90% of menstruating women experience symptoms (breast pain, bloating, acne, constipation) that forewarn them of Impending menstruation, so-called premenstrual molimina. Over 60% of women report swelling or bloating.

Continuous oral levonorgestrel/ethinyl estradiol for treating premenstrual dysphoric disorder Contraception (2012) although objective documentation of weight gain is lacking In.

4-2 Risk factors

Retrospective surveys from the United States show that PMS is more prevalent In white than African American women, similar to other psychiatric diseases that may be influenced by cultural differences.[13, 14] Risk does not differ among various premenopausal age groups.(Emotion recognition and mood along the menstrual cycle Open Access [39].

Dietary factors are shown to moderate the risk of PMS, although this may reflect the confounding influence of positive health habits in general. High intake of thiamine, riboflavin, non-heme iron, and possibly zinc protect Etiopathology

5-2 Causes PMS

Although the exact cause of PMS Isn't known, there seem to be many contributing factors, including.[20]

.Hormonal changes: The hormone levels of estrogen and progesterone change naturally during a menstrual cycle. As these levels fluctuate, signs and symptoms of PMS can appear and resolve.[29]

Chemical changes in the brain: The level of the neurotransmitter serotonin varies throughout the menstrual cycle. As its level decreases, mood-related symptoms like feeling depressed, fatigue, and sleep problems can increase.

How sensitive a woman Is to the hormonal and chemical changes occurring during her cycle is another factor. Some women are more sensitive to these changes and experience more severe PMS symptoms. This might explain why symptoms vary so much from woman to woman.2-4

Even though there might not be a consistent cause of PMS in all women, there is evidence that lifestyle and environmental factors can influence symptoms.

6-2 Relationship Between Symptom Severity and Hormone Changes in Women with Premenstrual Syndrome

The relationship between symptoms and plasma hormone levels was investigated during 2 consecutive cycles in 18 women with the premenstrual tension syndrome (PMS). The women were asked to provide daily symptom ratings using a previously described and tested rating scale, and blood samples were taken daily during the luteal phase and most of the follicular phase for plasma estradiol, progesterone, FSH, and LH measurements. The symptom scores during the premenstrual phase were compared within each woman and between cycles with higher luteal phase and cycles with lower luteal phase plasma estradiol, progesterone, FSH, and LH concentrations.The results indicated that higher adverse premenstrual scores occurred in cycles with high luteal phase plasma estradiol and progesterone concentrations. In particular, a high luteal phase plasma estradiol concentration was related to higher premenstrual scores for adverse symptoms and lower scores for positive mood symptoms. The women experienced more severe PMS in cycles with high luteal phase plasma estradiol and progesterone levels. The results contradict the hypothesis that progesterone deficiency plays a part in the etiology of PMS [23].

7-2 Psychological and changes in severe premenstrual syndrome.

This study investigated differences in nervous system activity and in psychological and behavioral variables between the “baseline” follicular and the premenstrual phases. Twenty women with severe premenstrual syndrome were compared with 20 non-sufferers (10 from each group in each cycle phase). The Patient groups had higher autonomic activity than controls in both phases. In the follicular phase, patients did not differ on other important variables, though most

measures were somewhat higher. Premenstrually, patients were higher on several negative moods and lower on cortical arousal. The patients' premenstrual distress appears to arise mainly from chronically high autonomic activity and a decline in cortical arousal, presumably interacting with other neurophysiological fluctuations of the cycle, rather than from any psychological characteristics. The direction of any causal relationship between autonomic and central activity and premenstrual symptoms is unknown

8-2 Lifestyle and Environmental Factors Contribute to PMS

1-Body Fat and BMI Can Factor into PMS

Maintaining a healthy weight Is important in helping prevent chronic conditions like high blood pressure, diabetes, and coronary heart disease. There might also be a relation between body mass index (BMI) and PMS. One study found that women with a BMI of 30 or higher were three times as likely to experience PMS symptoms [13]

About adult BMI. [33]

Although body fat and BMI are connected, it’s important to note that BMI Is not a direct measure of body fat. For example, athletes can have a high BMI due to increased muscle mass and not increased body fat. (About adult BMI. [33]

2- Air Pollution Can Increase PMS Symptoms

Air pollution adversely affects many aspects of life on earth, including a woman's reproductive health. Small particles of soot and traffic pollution (particulate matter) and acidic-gas air pollution can contribute to ovarian failure, endometriosis, and reduced fertility. Scientists are now making a connection between air pollution and PMS symptoms[34][32]

Recent research shows more women experience PMS symptoms in areas with higher concentrations of sulfur dioxide, nitric oxide, nitrogen oxides, nitrogen dioxide, and particulate matter in the air. These pollutants appear to affect the balance between progesterone and estrogen, which can trigger PMS symptoms. [34]

9-2 Differential Diagnosis

Several clinical entities can have a manifestation similar to premenstrual syndrome. They include psychiatric conditions like substance abuse disorders, affective disorder (e.g., depression, anxiety, dysthymia, panic), anemia, anorexia and bulimia, gynecological conditions like endometriosis, dysmenorrhea, medical conditions like hypothyroidism and others like oral contraceptive pill (OCP) use, or perimenopause. hence it Is essential to gather an effective history and perform a comprehensive physical examination and rule out these conditions Dickerson [35]

10-2 TREATMENT

1- Exercise Can Reduce PMS Symptoms

Exercise helps reduce the risk of chronic health conditions like diabetes, heart disease, and some types of cancer. But there Is another reason to add cardio to your schedule: for many women, regular aerobic exercise can reduce the severity of PMS symptoms like fatigue and depression. Physical activity: Why It matters [33]

Premenstrual syndrome (PMS). [19]

Aerobic activity is any activity that causes you to breathe harder than normal and your heart to beat faster than normal. Cardio activities to consider include: [17]

1. Brisk walking, jogging, and running
2. Cycling
3. Dancing
4. Swimming
5. Playing sports like basketball or soccer
6. Active forms of yoga like power yoga or Vinyasa
7. General house or yard work like pushing a lawn mower or vacuuming

Aim for at least 30 minutes of cardio activity most days of the week – not just when you're experiencing PMS symptoms. [19].

2- Diet Can Affect PMS Symptoms.

Choosing to eat healthy foods will benefit your overall health and might reduce some of your PMS symptoms. Consider adopting the following dietary guidelines during your menstrual cycle [2,19]

Eat smaller, more frequent meals. This helps ease bloating and keeps your blood sugar stable. Keeping your blood sugar stable can decrease PMS symptoms.

Eat more calcium-rich foods. Low calcium levels can make PMS symptoms worse, so add yogurt and leafy green vegetables, like kale and spinach, to your grocery list.

Add in complex carbohydrates. These reduce food cravings and mood related symptoms like irritability. Try fruits, vegetables, and whole grains, like brown rice, beans, and whole wheat pasta.

Limit your sugar and salt Intake. This helps reduce bloating and weight gain related to fluid retention.

Avoid caffeine and alcohol. These can make PMS symptoms worse.

Although you might not be able to completely resolve all your PMS symptoms, you can take steps to alleviate them using lifestyle strategies. Talk to your doctor if your symptoms are severe or get in the way of your everyday life. [20].

3- drugs

Selective serotonin reuptake Inhibitors — Selective serotonin reuptake Inhibitors (SSRIs) are a highly effective treatment for the symptoms of PMS and PMDD. The SSRIs include fluoxetine (Prozac and Sarafem), sertraline (Zoloft), citalopram (Celexa), and paroxetine (Paxil). Studies showed that SSRIs reduced the symptoms of PMDD significantly compared with placebo; between 60 and 75 percent of women with PMDD improve with an SSRI. It may not be necessary to take the medication every day. Taking the SSRI only during the second half of the menstrual cycle may be sufficient. [31]

Birth control pills — Some women with PMS or PMDD get relief from their symptoms when they take a birth control pill. However, some women find that the birth control pill can aggravate their PMS symptoms and, in that case, they should move to an alternative treatment.

Chapter Three
Methodology

Chapter Three Methodology

3-1 Methodology

This cross sectional study will have done in Tikrit university from 1 st of January 2024 to 1st of June 2024 .

3-2 Research methods

3-2-1 Administrative arrangement .

Before actually starting to disseminate the sample collection form, the form was presented to the experts, and permission was approved after invitations and corrections were applied. After seeking permission, the questionnaire was published electronically to the target group in Saladin Governorate / Tikrit City– College of Nursing .

3-2-2 study design

The descriptive study was randomly assigned during the current study, starting in December. Until March 2024 to find out the relationship between women's ideas about premenstrual syndrome and the lifestyle of nursing college students, the extent of its impact on women's health, and the harms resulting from It .

3-2-3 Study settings

This study was conducted in Saladin Governorate / Tikrit City - College of Nursing .

3-2-3 Sample of the study

Purposely samples were taken (100) females from Salah al-Din Governorate Tikrit from age groups ranging from)19-24(Samples were collected through an electronic questionnaire .

3-2-5 Validity of the instrument .

The validity of the questionnaire content is determined by a team of (10) experts from various relevant disciplines .

3-2-6 Reliability of the instrument .

The study tool consists of a questionnaire that was corrected by multiple experts. Related specialties 3.2.7

3-2-7 statistical analysis

The data was prepared, entered into the computer, and organized through Word .

Chapter Four
Results

Table 1: social state

marital status	frequency	percent
Single	91	91%
married	5	5%
separate	4	4%
total	100	100%

results show that 91% of the sample are single individuals, while 5% are married and 4% are separated.

Table 2: study stage

Stage	frequency	percent
First	22	22%
Second	21	21%
Third	13	13%
Forth	44	44%
Total	100	100%

The results show that 44% of the stages were in the fourth stage. There was an equal distribution between the first and second stages, each accounting for 22%. The third stage represented 13% of the sample.

Table 3 : age

Age group	frequency	Percent
19-20 years	24	24%
20-22 years	49	49%
22-24 years	26	26%
More than 24 years	1	1%
Total	100	100%

The results indicate that 49% of the sample fall within the age range of 20-22 years, while 26% are between 22-24 years old. Additionally, 24% belong to the 19-20 years age group. Only 1% of the sample is older than 24 years.

Table 4 : living

Living	Frequency	percent
I live with family	61	61%
i live in student dorm	39	39%
Total	100	100%

The results show that 61% of the individuals live with their families, while 39% reside in student dormitories. This totals 100% of the sample.

Table 5 : duration of menstrual cycle

Duration of menstrual cycle	Frequency	Percent
4 days	38	38%
6 days	61	61%
10 days	1	1%
Furthermore	0	0%
total	100	100%

The results indicate that 61% of individuals have a menstrual cycle lasting 6 days, while 38% have a cycle lasting 4 days. Only 1% reported a cycle duration of 10 days, and none reported a cycle duration of "Furthermore." This totals 100% of the sample.

Table 6 : dysmenorrhea

Dysmenorrhea	Frequency	Percent
without pain	4	4%
Mild pain	28	28%
Moderate pain	42	42%
Severe pain	26	26%
total	100	100%

The results show that 42% of individuals experience moderate pain during dysmenorrhea, while 28% report mild pain and 26% report severe pain. Only 4% of individuals reported experiencing dysmenorrhea without any pain. This totals 100% of the sample.

Table 7 : type of treatments during the syndrome

Type of treatments during the syndrome:	Frequency	Percent
nothing	57	57%
Drugs	29	29%
Hot compresses	9	9%
Herbal treatments	5	5%
total	100	100%

The results indicate that 57% of individuals do not use any treatment during the syndrome, while 29% use drugs, and 9% use hot compresses. Additionally, 5% utilize herbal treatments. This totals 100% of the sample.

Table 8 : the food

the food	Frequency	Percent
Healthy food	7	7%
Unhealthy food	9	9%
Diverse food	84	84%
Total	100	100%

The results show that 84% of individuals consume diverse food, while 9% consume unhealthy food and 7% consume healthy food. This totals 100% of the sample.

Table 9 :appetite

Appetite	Frequency	Percent
Natural	70	70%
Anorexia	20	20%
Gluttony	10	10%
Total	100	100%

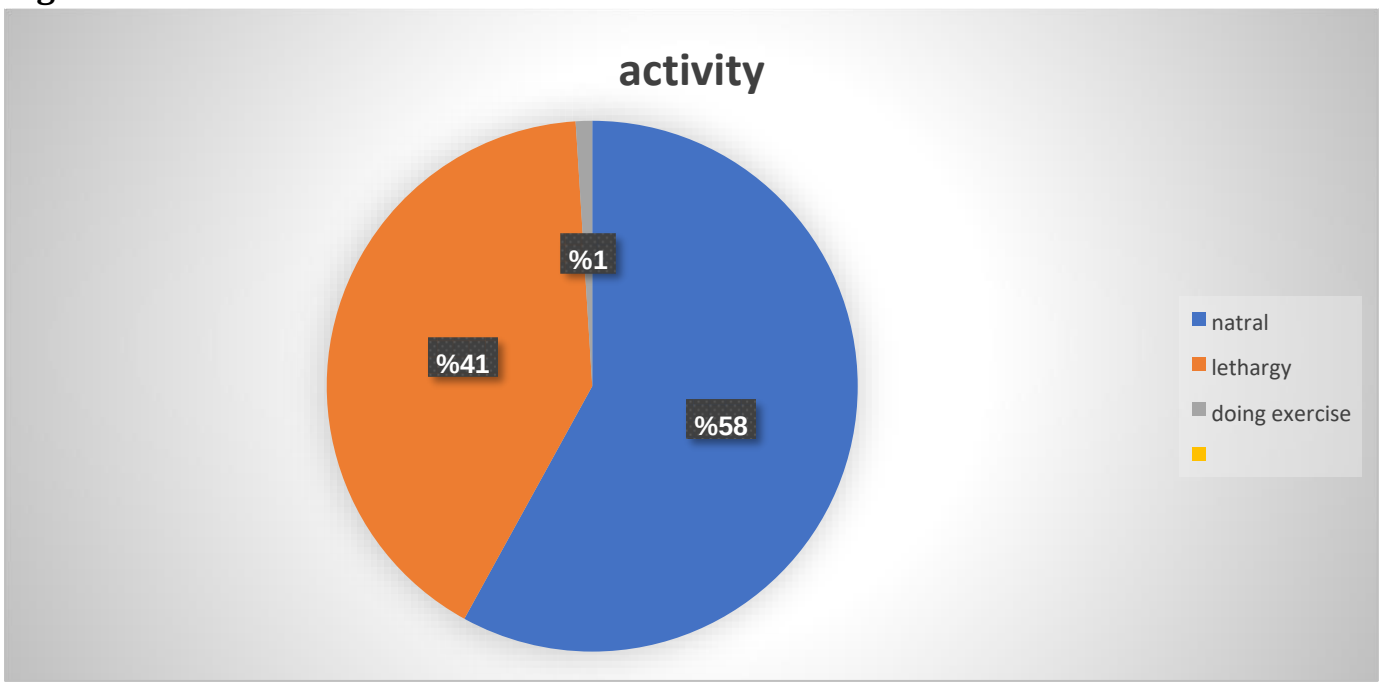
The results indicate that 70% of individuals have a natural appetite, while 20% experience anorexia and 10% experience gluttony. This totals 100% of the sample.

Table 10 : body weight

body weight	Frequency	Percent
Weight loss	21	21%
overweight	17	17%
natural	60	60%
obesity	1	1%
total	100	100%

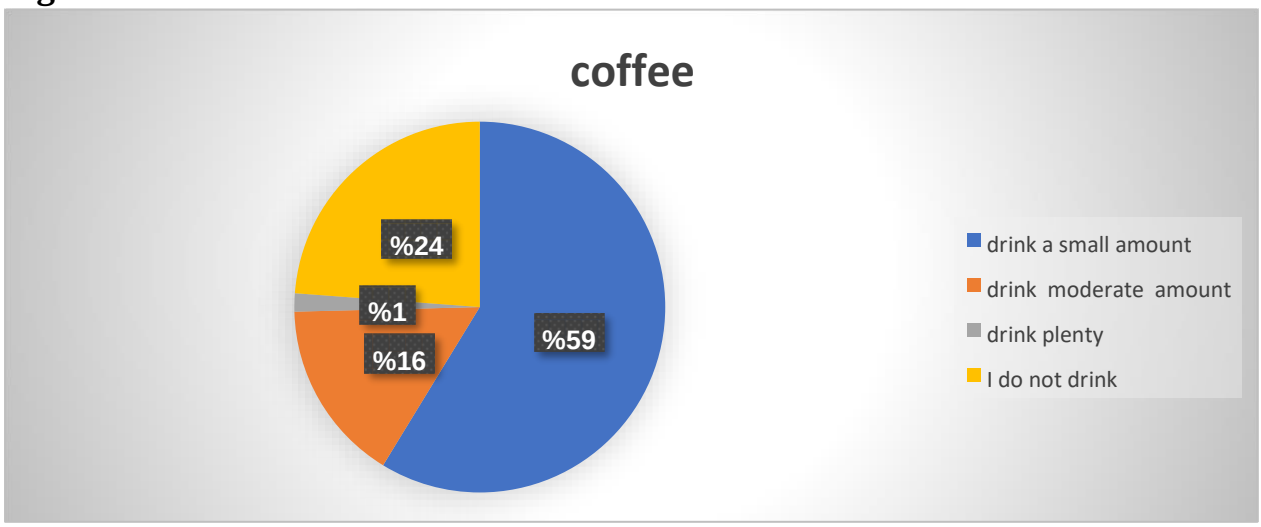
The results show that 60% of individuals have a natural body weight, while 21% experience weight loss and 17% are overweight. Additionally, 1% of individuals are classified as obese. This totals 100% of the sample.

Figure 1



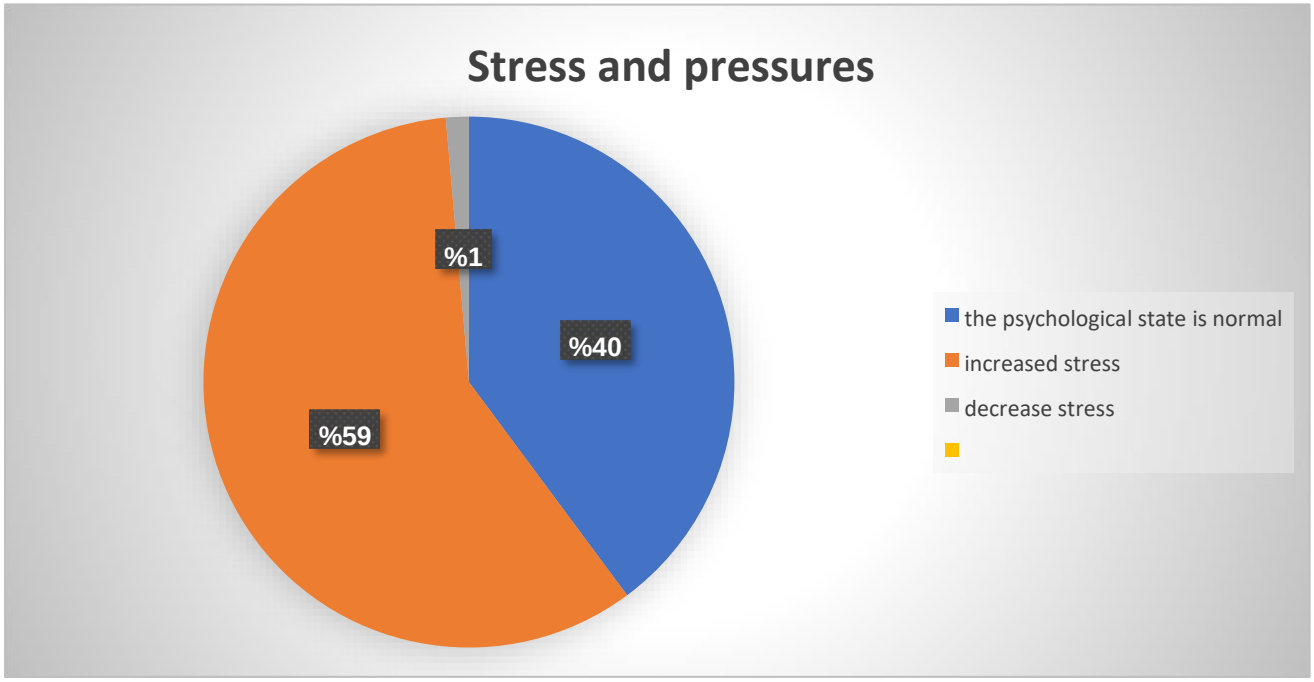
In this figure we can see that 58% of individuals experience lethargy, while 41% engage in natural activities. Additionally, only 1% of individuals reported doing exercise.

Figure 2



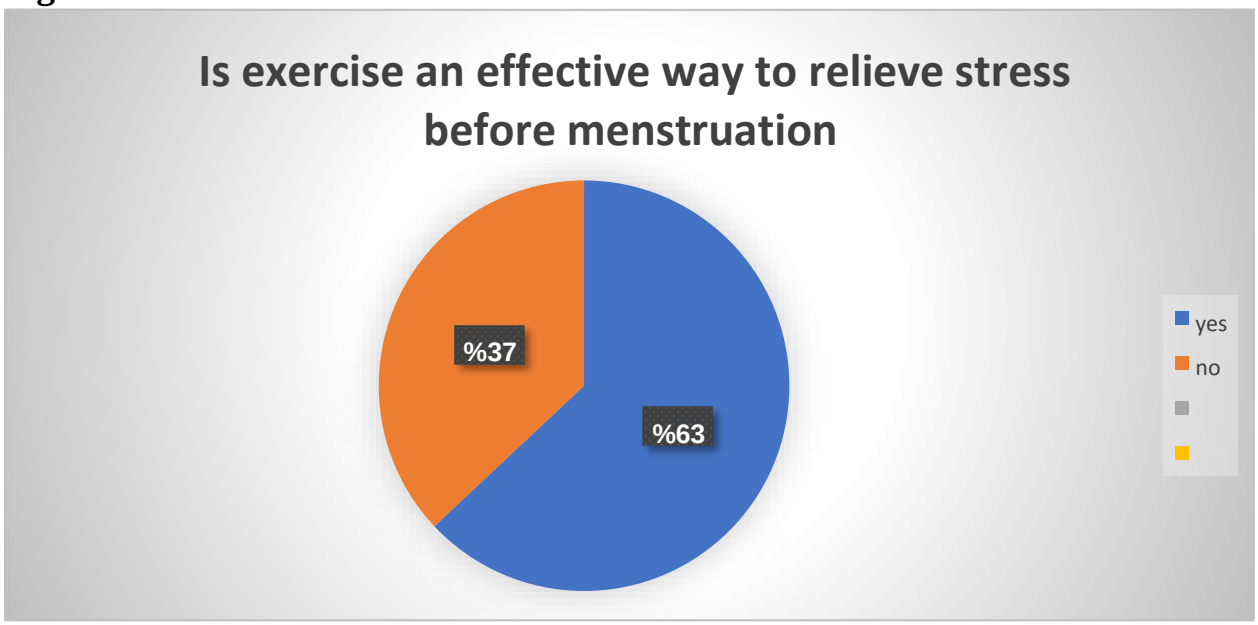
In this figure we can see that 24% of individuals do not drink coffee, while 59% consume a small amount, 16% drink moderate amounts, and 1% drink plenty

Figure 3



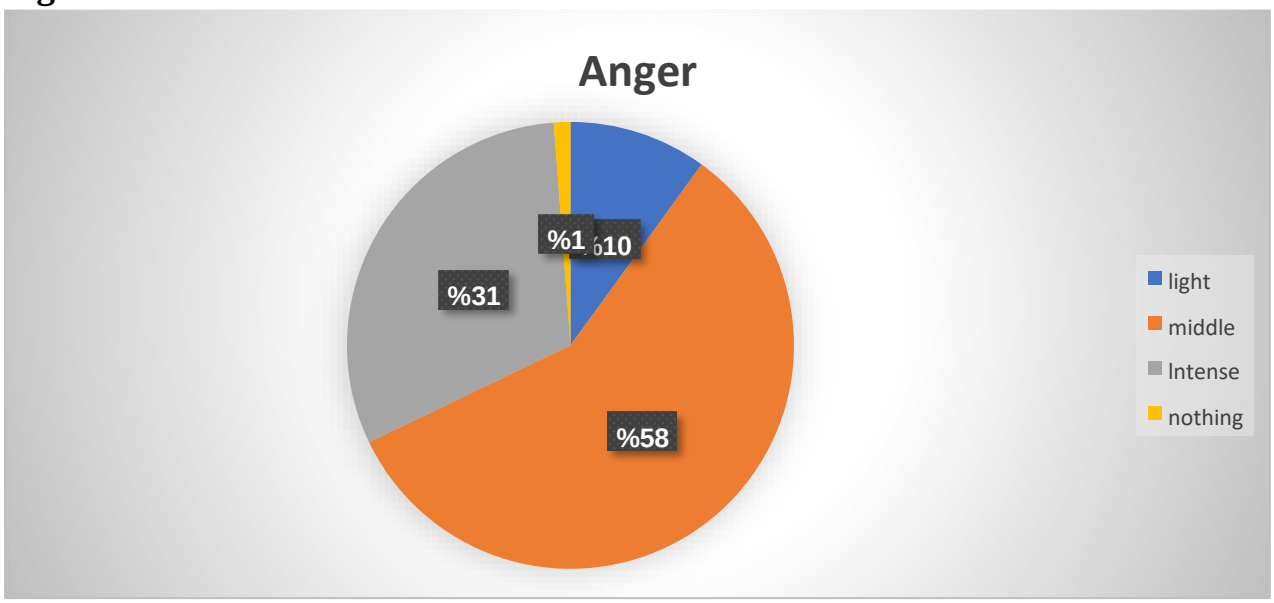
In this figure we can see that 59% of individuals' experience increased stress, while 40% report having a normal psychological state. Additionally, only 1% of individuals reported a decrease in tension.

Figure4



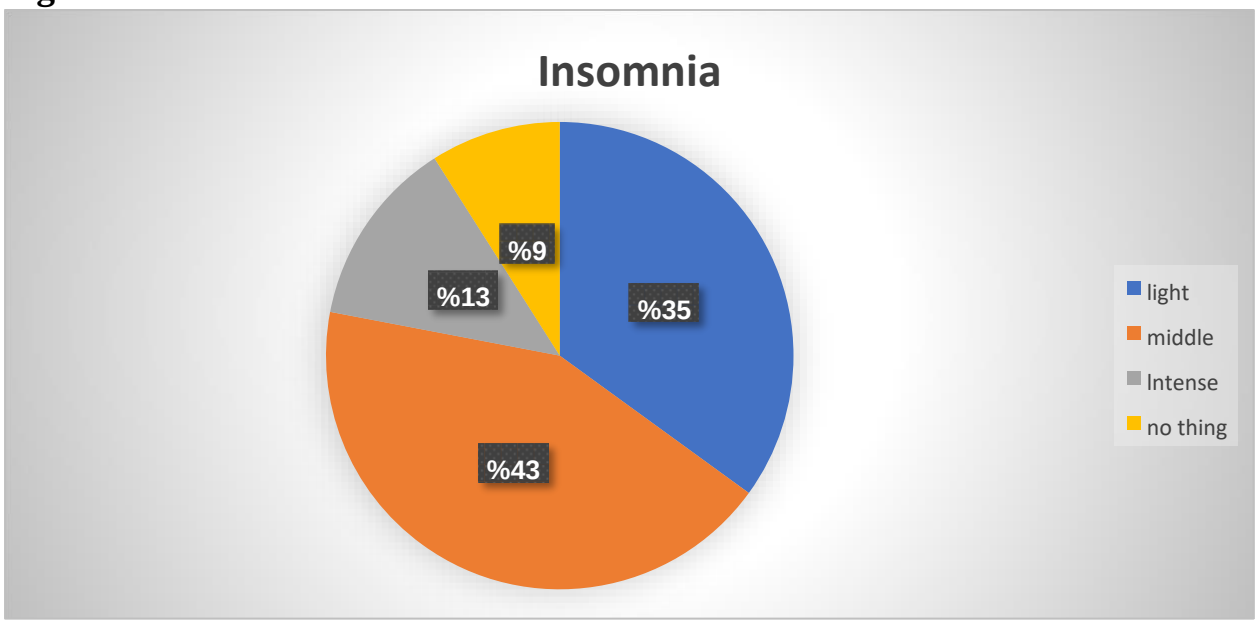
In this figure we can see that 63% of respondents believe that exercise is an effective way to relieve stress before menstruation, while 37% disagree.

Figure 5



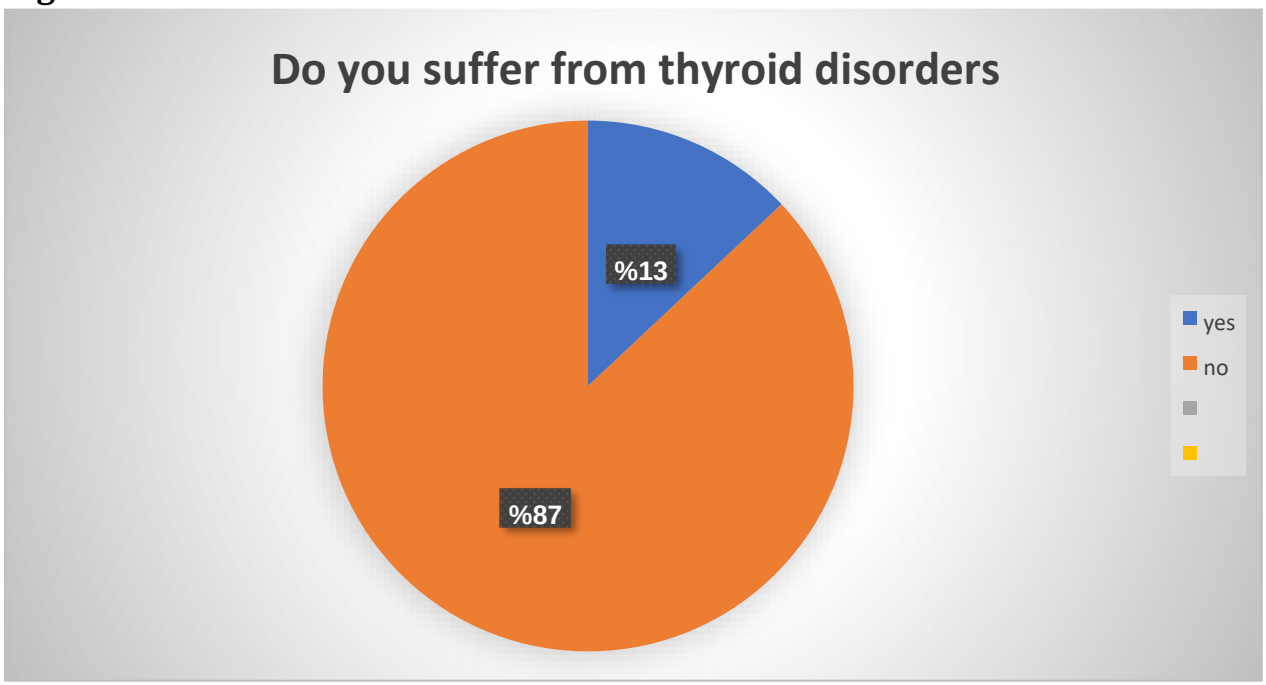
In this figure we can see that 58% of individuals' experience moderate anger, while 31% experience intense anger, and 10% experience light anger. Only 1% of individuals reported experiencing no anger.

Figure 6

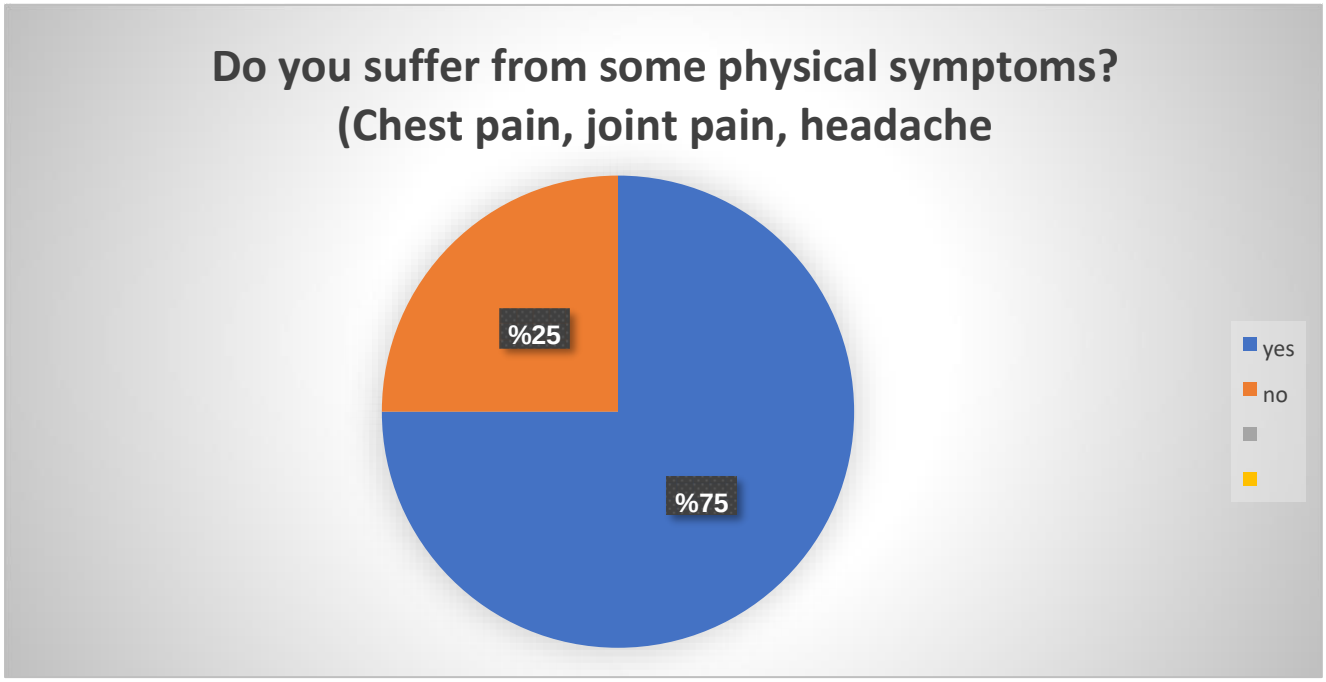


In this figure we can see that 43% of individuals' experience moderate insomnia, while 35% experience mild insomnia. Additionally, 13% experience intense insomnia, and 9% reported experiencing no insomnia.

Figure 7



In this figure we can see that 13% of respondents reported suffering from thyroid disorders, while 87% indicated they do not suffer from thyroid disorders. **Figure 8**



In this figure we can see that 75% of respondents reported suffering from physical symptoms such as chest pain, joint pain, or headache, while 25% indicated they do not experience these symptoms.

Figure 9

In this figure we can see 6.1% of respondents reported taking birth control pills, while 93.9% indicated they do not.

Chapter Five
Discussion

Discussion

When we compare our study with another study we found that The two studies provide valuable insights into premenstrual syndrome (PMS) among women, shedding light on its prevalence and associated factors. In our study, which included 100 women aged between 19 and 24, the percentage of those experiencing PMS rose to 70%. The severity was classified as mild (28%), moderate (42%), and severe (26%). The study also outlined the order of symptom prevalence.

In comparison, the second study, "Frequency, intensity, and impact of premenstrual syndrome in medical students" by Nusrat Nisar et al. (J Coll Physicians Surg Pak. 2008 Aug.), included a larger sample of participants (n=172) with an average age of 21.2 ± 1.9 years. It was verified that 51% of the girls met the diagnostic criteria for PMS according to the International Classification of Diseases ICD-10. Among them, 59.5% had mild PMS, 29.2% had moderate, and 11.2% had severe PMS. Additionally, 5.8% of the girls were diagnosed with Premenstrual Dysphoric Disorder (PMDD) according to DSMIV criteria. The symptoms included anger, irritability, anxiety, tiredness, difficulty concentrating, mood swings, and physical symptoms such as breast tenderness and overall body discomfort.

Both studies highlighted the impact of menstrual irregularities and a family history of premenstrual syndrome on its occurrence, with significant associations found in univariate and multivariate analyses. The second study, in particular,

emphasized a significant decrease in SF-36 scores in the Mental Component Summary (MCS) and Physical Component Summary (PCS) in the affected group, indicating a potential impact on overall well-being. While our study provided detailed information about symptom prevalence in a younger age group, the second study offered a broader perspective with a larger sample size, diagnostic criteria, and insights into PMDD and quality of life measurements. Combining the results from both studies could enhance our understanding of premenstrual syndrome and its various manifestations.

Chapter Six

Conclusions and Recommendations

Chapter Six Conclusions and Recommendations

6-1 Conclusion

1. Marital Status:

- The majority of participants are single (91%), with a small percentage being married (5%) and separated (4%).

2. Stage:

- Uneven distribution across stages, with a significant portion in the fourth stage (44%).

3. Age Group:

- The largest age group is 20-22 years old (49%).

4. Living Arrangement:

- Clear division in living arrangements between living in a separate section (61%) and living with family (39%).

5. Duration of Menstrual Cycle:

- The majority undergo a 6-day menstrual cycle (61%), while 38% have a 4-day cycle.

6. Dysmenorrhea (Menstrual Pain):

- A significant percentage experiences moderate to severe pain during menstruation (70%).

7. Type of Treatments during the Syndrome:

- A large proportion does not use any treatment during the menstrual syndrome (57%).

8. Food Preferences:

- The majority prefers diverse food (84%).

9. Appetite:

- Most participants report a natural appetite (70%).

10. Body Weight:

- A significant percentage feels an increase in weight (60%).

11. Activity:

- Natural activity for individuals is 41%, while 48% experience lethargy, and 1% engage in exercise.

12. Coffee Consumption:

-Majority of people (59%) drink a small amount of coffee , while a smaller portion (16%) drink moderate amounts . only (1%) drink plenty , and another (16%) do not coffee at all.

13. Stress and Pressures:

- 59% feel an increase in stress, 40% maintain a normal psychological state, and 1% feel a decrease in tension.

14. Exercise :

- The majority opinion (63%), exercise is deemed an effective way to relieve stress before menstruation .

15. Emotional States:

- Anger distribution is moderate, with 31% feeling intense anger.
- 43% suffer from insomnia.

16. Health Conditions:

- 13% suffer from thyroid disorders, and 75% experience some physical symptoms.

17. Birth Control Pills:

- 6.1% take birth control pills, while the vast majority does not (93.9%). These points provide a deeper understanding of participants' experiences and guide future research.

Chapter Six Conclusions and Recommendations

6-1 Recommendation

1. Healthy Eating: Choose meals rich in vitamins and minerals, and avoid foods high in sugar and caffeine.
2. Exercise: Engage in regular physical activity, as exercise helps improve mood and reduce stress.
3. Adequate Sleep: Maintain regular sleep hours and avoid exposure to screens and blue light before bedtime.
4. Stress Relief Techniques: Use relaxation techniques such as meditation or deep breathing to alleviate stress and anxiety.
5. Set Daily Goals: Renew positive energy by setting small goals and achieving them daily.
6. Heat Therapy: Applying hot packs to the abdomen can help alleviate pain and tension.
7. Avoid Chemical Inputs: Quit smoking, reduce caffeine and alcohol intake, as they can negatively impact symptoms.
8. Consult a Doctor: If symptoms persist or significantly affect your life, consult a doctor for appropriate advice and treatment.

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Appendix

قائمة اسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	مكان العمل
1	أ.د أمين سلمان بدوي	أستاذ دكتور	دكتوراه	جامعة تكريت\كلية التمريض
2	م.د هدى ضامن عبدالجبار	مدرس دكتور	دكتوراه	جامعة تكريت\كلية التمريض
3	أ.م.د ميثاق بيات الضيفي	أستاذ مساعد دكتور	دكتوراه	جامعة تكريت\كلية التمريض
4	م.د احمد محمود يونس	مدرس دكتور	دكتوراه	جامعة تكريت\كلية التمريض
5	أ.د عاشور رفعت سرحات	أستاذ دكتور	دكتوراه	جامعة تكريت\كلية التمريض
6	م.م ناريمان محمد احمد	مدرس مساعد	ماجستير	جامعة تكريت\كلية التمريض

Epidemiology premenstrual syndrome and quality of life among female college student

وبائيات متلازمة ما قبل الحيض بين الطالبات الجامعيات

Supervisor

Assistant proff. Dr Sarab Kahtan Abedalrahan

Students

رحمة ناظم حسين

ضمى رياض عواد

اريام ساهر فاضل

Epidemiology premenstrual syndrome and quality of life among female college student

وجودة الحياة بين طالبات الجامعة

وبائيات متلازمة ما قبل الحيض بين الطالبات الجامعيات

مقدمة من الطلبة :-

١- رحمة ناظم حسين ٢- ضمى رياض عواد ٣- اريام ساهر فاضل

باشراف :

Supervisor

Assistant proff. Dr Sarab Kahtan Abedalrahan

أ.م. د. سراب قحطان عبد الرحمن

Students

رحمة ناظم حسين

ضمى رياض عواد

اريام ساهر فاضل

استبيان

وبائيات متلازمة ما قبل الحيض ونمط الحياة لدى طالبات الجامعة

* تشير إلى أن السؤال مطلوب

الهدف من الاستبيان: تقييم مدى انتشار متلازمة ما قبل الحيض وعوامل الخطر المرتبطة بها بين طالبات كلية التمريض

1. **الحالة الاجتماعية***

حدد دائرة واحدة فقط.

- عزباء ○
- متزوجة ○
- منفصلة ○

2. **المرحلة :***

حدد دائرة واحدة فقط.

- اولى ○
- ثانية ○
- ثالثة ○
- رابعة ○

3. **الفئة العمرية:***

حدد دائرة واحدة فقط.

- سنة 19_20 ○
- سنة 20_22 ○
- سنة 22_24 ○
- اكثر من 24 سنة ○

Epidemiology premenstrual syndrome and quality of life among female college student

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وبائيات متلازمة ما قبل الحيض ونمط الحياة لدى طالبات الجامعات

1- الحالة الاجتماعية

عزباء متزوجة

منفصلة

2- المرحلة:

اولى

ثانية

ثالثة

رابعة

3- الفئة العمرية:

19 _20 سنة

20 _22 سنة

22 _24 سنة

أكثر من 24سنة

4- السكن:

اعيش مع الأسرة

اعيش في قسم

5- مدة الدورة الشهرية:

4 ايام

6 ايام

10 ايام

أكثر من ذلك

6- عسر الطمث

بدون ألم

ألم خفيف

ألم متوسط

الم شديد

7- نوع العلاجات اثناء المتلازمة:

لا شيء

ادوية

كمادات ساخنة

العلاجات بالأعشاب

8- الطعام:

طعام صحي

طعام غير صحي

طعام متنوع

9- الشهية

طبيعي

فقدان الشهية

شراه

10- وزن الجسم:

نقصان الوزن

زيادة الوزن

طبيعي

سمنة

11- النشاط:

طبيعي

خمول

ممارسة التمارين الرياضي ة

12- القهوة:

اشرب بكمية قليلة

اشرب بكمية متوسطة

اشرب بكمية كبيرة

لا اشرب

13- التوتر والضغوطات:

الحالة النفسية طبيعية

زيادة التو تر

نقصان التوتر

14- هل تعتبر التمارين الرياضية وسيلة فعآلة لتخفيف التوتر قبل الحيض؟

نعم

لا

15- الغضب

خفيف

متوسط

شديد

لا يوجد

16- الأرق

خفيف متوسط

شديد

لا يوجد

17-هل تعانين من اضطرابات الغدة الدرقية؟ نعم

لا

18- هل تعانين من بعض الاعراض الجسدية

) الم الصدر، الم المفاصل،

الصداع(نعم لا

19- هل تتناولين حبوب منع الحمل؟

نعم لا

الخلاصة

الخلفية:

متلازمة ما قبل الحيض (PMS)هي حالة تحدث دورياً في النساء قبل بداية الحيض. تشمل مجموعة من العلامات والأعراض الفيزيائية والنفسية، بما في ذلك التقلبات المزاجية، التهيج العاطفي، الم البطن، زيادة الوزن، وصعوبات التركيز. تعاني العديد من النساء من متلازمة ما قبل الحيض بدرجات متفاوتة، ويعُتبر التوازن الهرموني وتفاعل الناقلات العصبية عوامل تؤثر على حدوثه. يمكن أن تصاحب الأعراض النفسية مثل التقلبات المزاجية، والقلق، والتعب الأعراض الجسدية الشائعة مثل حساسية الثدي، والإمساك، والصداع قد تصاحبها أيضًا.

الأثر الناتج عن متلازمة ما قبل الحيض يمكن أن يمتد إلى جوانب مختلفة من الحياة اليومية، بما في ذلك العمل والعلاقات الاجتماعية. إدارة الأعراض تتنوع بين الأفراد وتشمل النصائح نمط الحياة، وتغييرات في النظام الغذائي، أو العلاجات الطبية كخيارات لتخفيف الأعراض.

الأهداف:

هدف هذه الدراسة هو تقييم انتشار متلازمة ما قبل الحيض وعوامل الخطر المرتبطة بها بين طالبات كلية التمريض.

الطريقة:

ستجُرى هذه الدراسة المستعرضة في جامعة تكريت من 1 يناير 2024 إلى 1 يونيو 2024.

النتائج:

نجد أن 91٪ من النساء غير المتزوجات لديهن دورة حيضية طبيعية تتراوح مدتها بين 4 و6 أيام. اللاتي يعانين من ألم الحيض يصفنه على أنه ألم معتدل إلى شديد، مع ذكر ان الغالبية لا يستخدمن أي أدوية لتخفيف الأعراض. ويحافظن على شهية طبيعية ووزن صحي ويتناولن نظامًا غذائيًا متنوعًا، على الرغم من أنهن يظهرن زيادة كبيرة في الخمول خلال فترة الحيض. بالإضافة إلى ذلك، يبلغن عن ارتفاع كبير في مستويات التوتر، مع نسبة معتدلة تعاني من الغضب والأرق. يلاحظ أنهن لا يعانين من اضطرابات الغدة الدرقية، ولكن نسبة أكبر تعاني من الأعراض الجسدية والآلام على الرغم من عدم استخدامهن لحبوب منع الحمل. هذا يشير إلى أن غالبية النساء المشاركات في الاستبيان اي 70% من المشاركات، يعانين من متلازمة ما قبل الحي ض.

التوصيات:

تهدف هذه النصائح إلى تخفيف أعراض متلازمة ما قبل الحي ض:

تشمل اختيار وجبات غذائية صحية وتجنب الأطعمة الضارة، جنبًا إلى جنب مع ممارسة التمارين الرياضية بانتظام لتحسين المزاج وتقليل التوتر. الحفاظ على نمط نوم منتظم وتجنب الشاشات قبل النوم يسهم في نوم جيد. تشجع تقنيات الاسترخاء مثل التأمل على تهدئة الأعصاب. يتم تعزيز التحفيز الإيجابي من خلال وضع وتحقيق أهداف يومية صغيرة، في حين يساعد العلاج بالحرارة في تخفيف الألم. الإقلاع عن التدخين وتقليل تناول الكافيين والكحول يلعبان دورًا في تحسين الأعراض. في حالة استمرار الاعراض أو التأثير الكبير، يوُصى بالتشاور مع محترف طبي لاستشارة وعلاج صحيحان.

وبائيات متلازمة ما قبل الحيض وجودة الحياة بين طالبات الجامعة

تم اعداد البحث

بواسطة

اريام ساهر فاضل

ضمى رياض عواد

رحمة ناظم حسين

الى:

كلية التمريض

جامعة تكريت

لإكمال متطلبات الحصول على درجة البكالوريوس في التمريض

بإشراف

أ.م.د سراب قحطان عبدالرحمن

شعبان / 1445 هـ

آذار/2024 مـــ

University of Tikrit

College of Nursing

The relationship between socioeconomic status and physical development of pre-school children attending nurseries

Graduated research submitted

By:

Muna Shakir Awad

Fatima Sabah Salem

Hiba Abd Al Sattar Jasm

To

University of Tikrit / College of Nursing

For

Partial Fulfillment of the Requirements for the

Bachelor Degree in Nursing Sciences

Supervised by:

Assist. prof. Sura Saad Abdulaziz Al-Ali

Ass. Lec. Nabaa Thamer Mahmoud Al-Azzawi

March / 2024 A.D

Sha'ban / 1445 A.H

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

الْمَالُ وَالْبَنُونَ زِينَةُ الْحَيَاةِ الدُّنْيَا ۖ وَالْبَاقِيَاتُ الصَّالِحَاتُ خَيْرٌ عِندَ رَبِّكَ ثَوَابًا وَخَيْرٌ أَمَلًا ﴿٤٦﴾

صدق الله العظيم

{الكهف: 46}

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We would like to extend our heartfelt gratitude and appreciation to the Dean and faculty members of the College of Nursing at the University of Tikrit for their invaluable support and guidance throughout the completion of this research.

To the Dean of the College of Nursing, thank you for your visionary leadership and unwavering commitment to academic excellence. Your guidance has been instrumental in shaping the direction of our academic pursuits.

We are deeply grateful to the esteemed faculty members of the College of Nursing for their expertise, encouragement, and mentorship. Their dedication to teaching and research has inspired us to strive for excellence and has enriched my learning experience.

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In conclusion, we would like to express our sincere appreciation to the entire academic community at the College of Nursing for fostering a supportive and conducive learning environment. Your contributions have been invaluable to our academic and professional development.

Dedication

O Allah, the night does not become pleasant except by your gratitude, and the day does not become enjoyable except by your

Obedience, and moment do not become delightful except by your remembrance, and the hereafter does not become sweet except by your forgiveness, and paradise does not become enjoyable except by your sight.

To the one who conveyed the message and fulfilled the trust … and advised the nation … to the prophet of mercy and light of the worlds, our master Muhammad, peace be upon him.

To our beloved families: We want to express our deep gratitude to our families for their support and encouragement throughout our university studies. The journey to graduation was filled with challenges and difficulties, and if it weren't for your constant support and encouragement, we wouldn't have been able to achieve this accomplishment. So, thank you for every moment you spend supporting us to reach success.

To our deer teachers: We thank everyone who contributed to guiding and advising us during our years of study. Without your knowledge and valuable guidance, we wouldn't have been able to achieve this accomplishment. You have learned a lot from you that we cannot adequately appreciate. So, thank you for your efforts your diligence in providing support and assistance at all time.

To our deer friends: you have been companions and partners on the journey during the university years, and without your support and encouragement, we wouldn't Have been able to overcome the challenges and difficulties. thank you for every moment you spend with us.

Abstract

Background: The background addresses the current research problem and its significance, focusing on economic and social factors that may impact children's growth in this context. It connects the research topic to its objectives to clarify the reasons and motivations behind the study.

Objectives: The study aims to provide a comprehensive analysis of collected data to understand the relationship between economic status and physical development of children. This includes exploring nutrition patterns, lifestyle patterns, social interaction, and family economic status, and providing recommendations for improvement.

Methodology: A descriptive cross-sectional study was conducted using an attendance questionnaire to assess the relationship between economic status and physical development of children. Data were collected from a sample of 100 participants and statistically analyzed using proportions to summarize and analyze the results in detail.

Results: The results revealed balanced distributions of demographic characteristics, nutrition patterns, lifestyle patterns, social interaction, and economic status. Nutrition analyses indicate that the majority of children have diverse meals, while social analyses show variation in interaction patterns. Economic analysis revealed differences in perceptions regarding the impact of economic status on children's growth.

Recommendations: Recommendations include promoting nutritional education, encouraging balanced technology use, enhancing family support services, addressing economic disparities, and facilitating community participation. These recommendations aim to improve the health and social environment for children and support their comprehensive development.

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Chapter One
Introduction

1.1. Introduction

The physical development of pre-school children is a multifaceted process influenced by various factors, among which socioeconomic status (SES) stands as a significant determinant. Socioeconomic status encompasses a spectrum of economic and social indicators reflecting an individual or family's position within society. Within the context of early childhood development, SES plays a crucial role in shaping children's physical growth and well-being. This introduction aims to delve into the intricate relationship between socioeconomic status and the physical development of pre-school children attending nurseries (Letourneau, 2013).

The interplay between socioeconomic status and physical development requires a comprehensive exploration of the mechanisms through which SES exerts its influence. Socioeconomic status influences access to resources such as nutrition, healthcare, and safe environments, all of which are pivotal for optimal physical development during the formative years. Moreover, SES can impact parental attitudes, behaviors, and stress levels, which in turn, influence the caregiving practices and environmental stimulation children receive, ultimately shaping their physical development trajectories (Pace, 2017).

The significance of socioeconomic status in early childhood physical development has garnered attention from researchers, policymakers, and practitioners alike. Studies have consistently demonstrated a gradient effect wherein children from higher socioeconomic backgrounds tend to exhibit better physical health outcomes compared to their peers from lower socioeconomic strata. However, the mechanisms underlying this relationship are complex and multifaceted, encompassing biological, environmental, and psychosocial

pathways that intertwine to influence children's physical development trajectories (Kivimäki, 2020).

Nursery attendance serves as a critical context for examining the relationship between socioeconomic status and physical development during the early years. Nurseries represent an environment where children from diverse socioeconomic backgrounds converge, providing a unique setting for observing the impact of SES on physical development within a controlled context. Additionally, nurseries play a pivotal role in providing opportunities for early interventions aimed at mitigating socioeconomic disparities in physical development outcomes among pre-school children (Hoff, 2019).

Exploring the relationship between socioeconomic status and physical development necessitates a nuanced examination of the various dimensions of SES and their differential impacts on children's physical well-being. SES encompasses not only economic indicators such as income and wealth but also educational attainment, occupational status, and access to social support networks. Each of these dimensions contributes uniquely to children's physical development through pathways involving material resources, parental knowledge and behaviors, psychosocial stressors, and environmental influences (Bornstein, 2014).

The impact of socioeconomic status on physical development extends beyond the individual level to encompass broader societal and structural factors. Socioeconomic inequalities in access to healthcare, nutritious food, safe housing, and recreational facilities perpetuate disparities in physical development

outcomes among pre-school children. Moreover, systemic factors such as neighborhood segregation, institutional discrimination, and policy disparities contribute to the unequal distribution of resources and opportunities, further exacerbating socioeconomic gradients in physical development (Hackman, 2015)

Addressing socioeconomic disparities in physical development requires a multifaceted approach that addresses both individual-level factors and broader structural determinants. Early interventions aimed at promoting equitable access to resources and opportunities play a crucial role in mitigating the adverse effects of socioeconomic disadvantage on children's physical development. Furthermore, fostering supportive environments within nurseries and communities can enhance the resilience of pre-school children facing socioeconomic adversity, promoting positive physical development outcomes (Lawson, 2018).

The relationship between socioeconomic status and physical development of pre-school children attending nurseries is complex and multifaceted, encompassing various biological, environmental, and psychosocial pathways. Understanding these mechanisms is essential for developing targeted interventions aimed at promoting equitable physical development outcomes among all children, regardless of their socioeconomic background. By addressing socioeconomic disparities and fostering supportive environments within nurseries and communities, we can work towards ensuring that all pre-school children have the opportunity to thrive physically and reach their full developmental potential (Neville, 2013).

1.2. Importance of the study

This study investigates the intricate relationship between socioeconomic status (SES) and the physical development of pre-school children in the specific context of nursery attendance. By focusing on this population subset, the study provides valuable insights into how SES influences physical development outcomes during the critical early years, shedding light on potential avenues for intervention and policy formulation (Farah, 2017).

One of the primary reasons for the importance of this study lies in its contribution to advancing our understanding of the social determinants of health and well-being among pre-school children. SES has long been recognized as a key determinant of health outcomes across the lifespan, and examining its impact on physical development during the early years is crucial for identifying vulnerable populations and designing targeted interventions (Brito, 2014).

The study addresses a gap in the existing literature by specifically examining the role of nursery attendance in mediating the relationship between SES and physical development. Nurseries serve as important early childhood education and care settings, and understanding how SES influences physical development within this context is essential for informing policies and practices aimed at promoting equitable outcomes for all children (Bhurosy, 2014).

By elucidating the relationship between SES and physical development, the study contributes to the broader discourse on health equity and social justice. Socioeconomic disparities in physical development outcomes can perpetuate existing inequalities and hinder children's long-term health and well-being. Therefore, identifying and addressing these disparities is crucial for promoting

health equity and ensuring that all children have the opportunity to reach their full potential(Ritchie, 2013).

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The findings of this study have practical implications for early childhood education and care policies and practices. By recognizing the impact of SES on physical development outcomes among pre-school children attending nurseries, policymakers and practitioners can implement targeted interventions to support vulnerable populations and promote positive developmental trajectories (Ritchie, 2013).

The study's focus on pre-school children attending nurseries highlights the importance of early interventions in addressing socioeconomic disparities in physical development. The early years represent a critical period of rapid growth and development, and interventions implemented during this time can have long-lasting effects on children's health and well-being (Duncan, 2014).

The study also contributes methodologically by employing rigorous research design and analysis techniques to investigate the relationship between SES and physical development. By utilizing robust methodologies, the study enhances the validity and reliability of its findings, thereby strengthening the evidence base for future research and policy decisions in this area (Duncan, 2014).

The study's findings may have implications for broader public health initiatives aimed at promoting healthy lifestyles and reducing health inequalities. By identifying the role of SES in shaping physical development outcomes among

pre-school children, policymakers and public health practitioners can tailor interventions to address the specific needs of vulnerable populations and reduce disparities in health outcomes(Reiss, 2013).

The study's focus on nurseries as a setting for early childhood development research highlights the importance of early education and care in promoting children's physical well-being. Nurseries play a crucial role in providing a supportive environment for children's growth and development, and understanding the factors that influence physical development within this context is essential for enhancing the quality of early childhood education and care programs (Reiss, 2013).

The study titled "The relationship between socioeconomic status and physical development of pre-school children attending nurseries" holds significant importance for advancing our understanding of the social determinants of health and well-being among pre-school children. By shedding light on the complex relationship between SES and physical development within the context of nursery attendance, the study provides valuable insights for informing policies and practices aimed at promoting health equity and supporting the optimal development of all children (Broman, 2017).

1.3. Objectives of the study

Objectives of study:

1. Examining the impact of socioeconomic status on the development of children's physical growth: Analyzing how living and economic conditions can affect the physical development and general health of children at this stage.

2. Evaluating the impact of the social environment on children's social interaction: Studying how social factors can play a role in developing social skills and social interaction of children in nurseries.

3. Examining the impact of economic support on learning achievement at pre-school age: Analyzing how the economic support a child receives can affect his or her readiness for the next educational stage.

4. Identifying the role of nurseries in promoting the comprehensive development of children: Examining how nurseries play a role in providing an educational environment that promotes the comprehensive development of children.

1.4. Definition of terms

1. **Socioeconomic Status (SES):** Socioeconomic status refers to an individual's or family's social and economic position within society, often determined by factors such as income, education level, occupation, and access to resources. SES is a multidimensional concept that encompasses both material resources and social prestige, influencing an individual's opportunities, lifestyle, and well-being (Collins, 2016).

2. **Physical Development:** Physical development refers to the process through which an individual's body grows, matures, and acquires motor

skills and physical abilities. It encompasses changes in size, shape, strength, coordination, and sensory abilities, occurring from infancy through adulthood. Physical development is influenced by genetic factors, environmental factors, and experiences, and plays a crucial role in overall health and functioning (Chen, 2013).

3. **Pre-school Children:** Pre-school children, also referred to as preschoolers or toddlers, are young children typically between the ages of three and five years old who are not yet enrolled in formal schooling but may attend early childhood education programs such as nursery schools or pre-kindergarten programs. This stage of development is characterized by rapid growth and development across multiple domains, including cognitive, social, emotional, and physical development (Tucker-Drob, 2016).

4. **Nurseries:** Nurseries, also known as daycare centers, childcare centers, or early childhood education centers, are facilities that provide care, supervision, and early education for young children, typically from infancy through preschool age. Nurseries may offer full-day or part-day programs and often include activities designed to promote children's cognitive, social, emotional, and physical development. They may be operated by public or private organizations and may adhere to specific educational philosophies or curricula (Schultz, 2018).

Chapter Two

Literature Review

2.1. Overview: The relationship between socioeconomic status and physical development of pre-school children attending nurseries

The relationship between socioeconomic status (SES) and the physical development of pre-school children attending nurseries is a topic of considerable significance within the field of early childhood development. SES encompasses various economic and social indicators that reflect an individual's or family's position within society, including income, education level, occupation, and access to resources. Understanding how SES influences physical development outcomes among pre-school children attending nurseries is essential for identifying potential disparities and designing targeted interventions to promote equitable developmental trajectories (Tippett, 2014).

Physical development during the pre-school years is a complex process involving rapid growth, maturation of motor skills, and acquisition of physical abilities. This developmental period lays the foundation for future health and well-being, making it crucial to examine the factors that may influence physical development outcomes, including socioeconomic factors. Pre-school children attending nurseries represent a diverse population with varying levels of socioeconomic advantage or disadvantage, making nurseries an ideal setting for studying the relationship between SES and physical development (Souto, 2019).

Theoretical frameworks suggest that SES influences physical development through multiple pathways, including access to resources such as nutritious food, healthcare, and safe environments, as well as psychosocial factors such as parental stress and parenting practices. Socioeconomic disparities in these factors may contribute to differences in physical development outcomes among pre-school

children attending nurseries, highlighting the need for empirical research to explore these relationships in depth (Merkel, 2013).

Empirical studies examining the relationship between SES and physical development among pre-school children have yielded mixed findings, with some studies reporting significant associations between SES and physical development outcomes, while others find limited or inconsistent effects. These discrepancies may be attributed to methodological differences, variations in sample characteristics, or the complexity of the relationships under investigation. Therefore, a comprehensive review of the literature is necessary to synthesize existing evidence and identify key patterns or trends (Merkel, 2013).

The role of nurseries in mediating the relationship between SES and physical development warrants closer examination. Nurseries provide a structured environment where pre-school children receive care, education, and opportunities for social interaction. The quality of care and resources available in nurseries may vary depending on socioeconomic factors, potentially influencing physical development outcomes among children from different socioeconomic backgrounds(Schoenaker, 2014).

Addressing socioeconomic disparities in physical development outcomes among pre-school children attending nurseries requires a multifaceted approach that considers both individual-level factors and broader structural determinants. Early interventions aimed at promoting equitable access to resources and opportunities, as well as fostering supportive environments within nurseries, are

essential for mitigating the adverse effects of socioeconomic disadvantage on physical development (Schoenaker, 2014).

In addition to individual-level factors, broader societal and structural factors, such as neighborhood segregation, institutional discrimination, and policy disparities, contribute to socioeconomic gradients in physical development outcomes. These systemic factors perpetuate inequalities in access to resources and opportunities, further underscoring the need for comprehensive interventions aimed at addressing socioeconomic disparities in physical development among pre-school children attending nurseries(Greenfield, 2019).

By examining the relationship between SES and physical development in the context of nursery attendance, this review aims to contribute to a deeper understanding of the social determinants of health and well-being in early childhood. By identifying the mechanisms through which SES influences physical development outcomes among pre-school children attending nurseries, this research can inform the development of targeted interventions and policies aimed at promoting equitable developmental trajectories for all children, regardless of their socioeconomic background (Greenfield, 2019).

2.2. Socioeconomic Status and Physical Development

The relationship between socioeconomic status (SES) and physical development is a topic of significant interest within the fields of developmental psychology, public health, and social sciences. Socioeconomic status refers to an individual's or family's position within the socioeconomic hierarchy, typically measured by indicators such as income, education, and occupation. Physical

development encompasses the biological processes of growth, maturation, and acquisition of motor skills, which are essential for overall health and well-being across the lifespan. Understanding the interplay between SES and physical development is critical for addressing health disparities and promoting equitable opportunities for individuals of all socioeconomic backgrounds (Leech, 2014).

The influence of socioeconomic status on physical development is evident across various stages of the lifespan, but it is particularly salient during early childhood. The early years represent a period of rapid growth and development, during which environmental influences, including socioeconomic factors, can have profound and lasting effects on physical health outcomes. Research has consistently demonstrated socioeconomic gradients in physical development, with children from higher SES backgrounds often exhibiting better health and developmental outcomes compared to their peers from lower SES backgrounds (Sterdt, 2014).

Several theoretical frameworks have been proposed to explain the mechanisms through which socioeconomic status influences physical development. The social determinants of health framework posit that SES shapes health outcomes through its influence on access to resources such as healthcare, nutrition, and safe housing. Socioeconomic disparities in these resources can contribute to differences in physical development outcomes among individuals of different socioeconomic backgrounds. Additionally, psychosocial theories emphasize the role of stress, parenting practices, and environmental stimuli in mediating the relationship between SES and physical development(Graf, 2014).

Empirical research examining the relationship between socioeconomic status and physical development has yielded mixed findings, reflecting the complexity of the underlying mechanisms and the diversity of populations studied. While some studies have reported strong associations between SES and

physical development outcomes, others have found weaker or inconsistent effects. These discrepancies may be attributed to methodological differences, variations in sample characteristics, and the multitude of factors that can influence physical development (Graf, 2014).

The role of early childhood environments, such as homes, schools, and childcare settings, in shaping the relationship between SES and physical development is of particular interest. Early childhood education and care settings, including nurseries and preschools, provide opportunities for structured play, physical activity, and social interaction, which are integral to physical development. However, disparities in access to high-quality early childhood education and care programs may exacerbate socioeconomic gradients in physical development outcomes among young children (Love, 2019).

Addressing socioeconomic disparities in physical development requires a multifaceted approach that addresses both individual-level and structural determinants of health. Interventions aimed at promoting equitable access to healthcare, nutrition, and early childhood education can help mitigate the adverse effects of socioeconomic disadvantage on physical development outcomes. Additionally, policies aimed at reducing socioeconomic inequalities, such as income support programs and affordable housing initiatives, can have positive downstream effects on physical health and development (Di Cesare, 2013).

Understanding the mechanisms through which socioeconomic status influences physical development can inform the development of targeted interventions and policies aimed at promoting optimal health and well-being for all individuals, regardless of their socioeconomic background. By identifying modifiable factors that contribute to socioeconomic gradients in physical development, researchers and policymakers can work towards creating

environments that support healthy growth and development for children across the socioeconomic spectrum (Hamadani, 2020).

2.3. Physical Development in Pre-school Children

Physical development in pre-school children is a complex and dynamic process characterized by rapid growth, maturation of motor skills, and the acquisition of physical abilities. The pre-school years, typically spanning from ages three to five, represent a critical period of development during which children experience significant changes in their physical capabilities and capacities. Understanding the intricacies of physical development in pre-school children is essential for promoting optimal health, well-being, and overall developmental outcomes during this formative stage of life (Newton, 2017).

The physical development of pre-school children encompasses multiple domains, including gross motor skills, fine motor skills, sensory perception, and physical fitness. Gross motor skills involve the coordination and control of large muscle groups and are essential for activities such as running, jumping, and climbing. Fine motor skills, on the other hand, involve the coordination and control of smaller muscle groups and are crucial for tasks such as drawing, writing, and manipulating objects. Sensory perception refers to the ability to perceive and interpret sensory information from the environment, including touch, taste, smell, sight, and hearing. Physical fitness encompasses overall health-related components such as cardiovascular endurance, muscular strength, flexibility, and body composition (Fernald, 2013).

Factors influencing physical development in pre-school children are multifaceted and encompass a combination of genetic, biological, environmental, and experiential influences. Genetic factors contribute to individual differences in physical characteristics and predispositions, while biological processes such as growth hormone secretion and brain development play crucial roles in shaping physical development trajectories. Environmental factors, including nutrition, access to safe and stimulating play environments, and opportunities for physical activity, also significantly impact physical development outcomes in pre-school children (Yang, 2013).

The pre-school years are characterized by notable milestones and achievements in physical development. During this period, children typically experience rapid growth in height and weight, accompanied by improvements in strength, coordination, and balance. Milestones such as standing, walking, running, jumping, and climbing stairs are indicative of the progressive development of gross motor skills, while activities such as drawing, cutting, and buttoning clothes demonstrate the refinement of fine motor skills. Furthermore, pre-school children exhibit increasing independence and autonomy in their physical abilities, as they gain confidence in exploring and interacting with their surroundings (Herrenkohl, 2013).

Physical development in pre-school children is closely intertwined with other domains of development, including cognitive, social, and emotional development. Physical activities such as play, exploration, and movement provide opportunities for children to learn about their bodies, develop problem-solving skills, and regulate their emotions. Moreover, physical play fosters social

interaction, cooperation, and communication skills, as children engage in collaborative activities and negotiate rules and roles with peers(Narayan, 2019).

Early childhood education and care settings, such as nurseries and preschools, play a crucial role in promoting physical development in pre-school children. These environments provide structured opportunities for physical activity, outdoor play, and gross motor skill development, as well as access to resources such as age-appropriate toys, equipment, and materials. Furthermore, early childhood educators and caregivers play an essential role in facilitating and supporting children's physical development through age-appropriate activities, instruction, and encouragement (Narayan, 2019).

Promoting optimal physical development in pre-school children requires a holistic approach that addresses the diverse needs and abilities of individual children. Strategies for promoting physical development may include providing ample opportunities for active play and movement, ensuring access to nutritious meals and snacks, creating safe and stimulating play environments, and fostering positive caregiver-child interactions. Additionally, collaboration between parents, educators, healthcare providers, and community stakeholders is essential for supporting children's physical development across various settings and contexts (Inchley, 2016).

Understanding the complexities of physical development in pre-school children has significant implications for research, policy, and practice in the fields of early childhood development, education, and public health. By examining the factors that influence physical development trajectories during the pre-school

years, researchers can identify modifiable determinants and inform the development of evidence-based interventions and programs aimed at promoting optimal physical health and well-being in young children. Moreover, policymakers and practitioners can use this knowledge to advocate for policies and practices that prioritize the physical needs and rights of pre-school children within early childhood education and care systems(Inchley, 2016).

2.4. Role of Nurseries in Physical Development

The role of nurseries in physical development is a topic of growing interest within the fields of early childhood education, developmental psychology, and public health. Nurseries, also known as childcare centers or early childhood education centers, play a crucial role in providing care, supervision, and educational opportunities for young children during the pre-school years. In addition to cognitive and socio-emotional development, nurseries also serve as important settings for promoting physical development in young children. Understanding the specific role of nurseries in physical development is essential for designing effective early childhood education and care programs and promoting optimal health outcomes for children (Verdine, 2014).

Nurseries provide structured environments where pre-school children have access to a wide range of age-appropriate toys, equipment, and materials that facilitate physical activity and gross motor skill development. Through activities such as outdoor play, climbing structures, ball games, and manipulative play, children have opportunities to engage in active play and movement, which are essential for developing strength, coordination, balance, and agility. Moreover, the social nature of nursery environments promotes peer interaction, cooperation,

and communication, further enhancing children's physical development (Rauber, 2015).

Promoting gross motor skills and physical fitness, nurseries also play a role in fostering the development of fine motor skills and hand-eye coordination in young children. Activities such as drawing, painting, cutting, and building with blocks provide opportunities for children to practice and refine their fine motor skills, which are essential for tasks such as writing, drawing, and manipulating objects. Furthermore, sensory-rich environments in nurseries, including sensory tables, sand and water play areas, and tactile materials, stimulate children's senses and promote sensory perception and exploration (Romeo, 2018).

The quality of care and educational experiences provided in nurseries can significantly influence children's physical development outcomes. High-quality nurseries offer environments that are safe, supportive, and stimulating, with ample opportunities for both structured and unstructured physical activity. Trained and knowledgeable educators and caregivers play an essential role in facilitating children's physical development through intentional planning, supervision, and guidance. Moreover, partnerships with families and collaboration with community stakeholders can enhance the effectiveness of nursery-based interventions aimed at promoting physical development in young children (Grandner, 2016).

Nurseries also serve as important settings for promoting health and wellness behaviors among young children. Through activities such as mealtime routines, hygiene practices, and health education initiatives, nurseries can instill

healthy habits and behaviors that promote physical well-being. Furthermore, nurseries can serve as hubs for community health promotion initiatives, providing access to resources such as nutrition education, healthcare services, and parent education programs that support children's physical development and overall health(Grandner, 2016).

The role of nurseries in promoting physical development extends beyond the individual child to encompass broader societal and public health implications. Research has shown that early childhood education and care programs, including nurseries, can serve as protective factors against adverse health outcomes and socioeconomic disparities in physical development. By providing access to high-quality early childhood education and care services, nurseries can help mitigate the effects of socioeconomic disadvantage on children's physical health outcomes and promote health equity (Kirk, 2016).

Disparities in access to high-quality nursery care persist, with children from low-income and marginalized communities often facing barriers to accessing quality early childhood education and care programs. Addressing these disparities requires a multi-pronged approach that includes policies aimed at increasing access to affordable, high-quality nursery care for all children, as well as targeted interventions that address the unique needs of vulnerable populations. Moreover, ongoing research and evaluation are needed to identify effective strategies for promoting physical development in nurseries and addressing disparities in access and outcomes (Elgar, 2015).

Nurseries play a crucial role in promoting physical development in pre-school children by providing environments that support active play, gross and fine motor skill development, and healthy habits. High-quality nurseries offer safe,

supportive, and stimulating environments where children can engage in age-appropriate activities that promote physical health and well-being. By understanding and leveraging the role of nurseries in physical development, policymakers, educators, and practitioners can work together to ensure that all children have access to the resources and opportunities they need to thrive physically during the critical early years of development (Elgar, 2015).

2.5. Gaps in the Literature and Future Directions

Despite significant research efforts to explore the relationship between socioeconomic status (SES) and physical development in pre-school children attending nurseries, several gaps persist in the existing literature. One notable gap is the limited focus on examining the mechanisms through which SES influences physical development outcomes in this specific population. While studies have identified associations between SES and physical development, there remains a need for research that elucidates the underlying pathways and mediators involved in this relationship (Wade Jr, 2016).

Another gap in the literature relates to the lack of longitudinal studies that follow pre-school children attending nurseries over an extended period. Longitudinal research designs are essential for capturing the dynamic nature of physical development and tracking changes in SES and other relevant factors over time. By employing longitudinal approaches, researchers can better understand how SES trajectories influence physical development trajectories and identify critical periods of vulnerability or resilience(Johnson, 2016).

There is a need for research that examines the role of contextual factors, such as neighborhood characteristics and community resources, in shaping the relationship between SES and physical development in pre-school children attending nurseries. While studies have focused primarily on individual-level SES indicators, contextual factors may also play a significant role in influencing physical development outcomes. Future research should consider the complex interplay between individual and contextual factors in shaping children's physical development trajectories (Johnson, 2016).

Methodological limitations represent another gap in the literature that warrants attention. Many studies rely on cross-sectional designs, which provide snapshots of associations between SES and physical development at a single point in time. While cross-sectional studies are valuable for generating hypotheses, they are limited in their ability to establish causality or capture developmental trajectories. Future research should employ longitudinal or experimental designs to address these methodological limitations and provide stronger evidence for causal relationships (Sweet, 2013).

The majority of existing research on SES and physical development in pre-school children attending nurseries has focused on high-income countries, neglecting low- and middle-income settings where disparities in access to resources and opportunities may be more pronounced. This represents a critical gap in the literature, as socioeconomic inequalities in physical development outcomes may vary across different cultural, socioeconomic, and geographical contexts. Future research should strive for greater diversity and inclusivity in study samples to ensure the generalizability of findings (Sweet, 2013).

There is a need for research that examines potential moderators and moderators of the relationship between SES and physical development outcomes in pre-school children attending nurseries. Factors such as parental involvement, childcare quality, and access to community resources may moderate or mediate the effects of SES on physical development. Investigating these factors can provide valuable insights into the conditions under which socioeconomic disparities in physical development are most pronounced and identify potential points of intervention(Martins-Júnior, 2013).

The role of policy and environmental interventions in mitigating socioeconomic disparities in physical development represents another area for future research. While early childhood education and care programs such as nurseries can play a crucial role in promoting physical development, access to high-quality programs may be limited for children from disadvantaged backgrounds. Future research should examine the impact of policy initiatives aimed at increasing access to affordable, high-quality nursery care and reducing socioeconomic disparities in physical development outcomes (Martins-Júnior, 2013).

There is a need for research that explores the long-term implications of socioeconomic disparities in physical development during the pre-school years. While early childhood is a critical period for physical development, the effects of socioeconomic disadvantage may extend into later childhood, adolescence, and adulthood. Longitudinal studies that follow children over an extended period can shed light on the enduring effects of SES on physical health, well-being, and socioeconomic outcomes across the lifespan (Finkelhor, 2015).

There is a dearth of research on interventions aimed at promoting physical development in pre-school children attending nurseries, particularly those from disadvantaged backgrounds. While early childhood education and care programs offer opportunities for structured physical activity and gross motor skill development, interventions that specifically target socioeconomic disparities in physical development outcomes are relatively scarce. Future research should evaluate the effectiveness of interventions such as targeted physical activity programs, nutrition interventions, and parent education initiatives in addressing socioeconomic disparities in physical development (Noble, 2015)

Interdisciplinary collaboration represents a promising direction for future research on SES and physical development in pre-school children attending nurseries. By bringing together researchers from diverse fields, including developmental psychology, public health, education, sociology, and economics, interdisciplinary research can offer comprehensive insights into the complex interplay between socioeconomic factors and physical development outcomes. Collaborative efforts can lead to innovative research designs, methodologies, and interventions that address the multifaceted nature of socioeconomic disparities in physical development (Sameroff, 2016).

Chapter Three
Methodology

3.1. Design of study

A cross-sectional descriptive study was conducted using an attendance questionnaire to estimate the relationship between the socioeconomic status and physical growth of pre-school children attending nurseries, starting from February 9th to February 28, 2024.

3.2. Setting of the study

The behavior was on the public in Iraq, specifically Salah al-Din Governorate, in the Shirqat district.

3.3. The sample of the study

A probability sample of 100 respondents were selected.

3.4. Data collection

Data was collected through an in-person questionnaire. 100 participants were selected and willingly agreed to answer the questions. Everyone was aware of the purpose of the research and its confidentiality by informing him. The survey began on February 9 and ended on February 28.

3.5. The study instrument

A 20-question questionnaire was designed, consisting of two sections of multiple choice questions (Appendix 1):

Section 1: Socio-demographic data includes age, gender, height, weight, self-assessment of economic status, family type, parental education, and child's family placement.

Section 2: Characteristics of nutritional status, sleep pattern, social and cultural status.

3.6. Statistical data analysis

The data was analyzed statistically using percentages for all questions. The formula is as follows: %n\N * 100 n: The number of people who answered the question. N: number of samples.

Chapter Four

Results of the study

The results chapter aims to provide an overview and analysis of the data collected in the study.

Section 1: Distribution of the Socio-demographic Characteristics

This section helps understand the patterns and trends emerging within the studied sample, offering a comprehensive insight into the sample's characteristics and study context. Gender, age, height, weight, arrangement of children in the family, residence location, type of family, parents' education, parents' employment, and self-assessment of economic status will be discussed. These results will be analyzed to comprehend the social, economic, and cultural dynamics of the studied sample, aiding in painting a clear and comprehensive picture of the overall situation of the children and their families within the studied environment**.**

Table (1) Distribution of the Socio-demographic Characteristics for (100) preschool children

Variables		**N=100**	
		Frequent	%
Gender	Male	54	54%
	Female	46	46%
Age	4yr.	**37**	**37%**
	5yr.	**38**	**38%**
	6yr.	**25**	**25%**
Height	85_89cm	**22**	**22%**
	90_94cm	**20**	**20%**
	95_99cm	**15**	**15%**
	100_104cm	**12**	**12%**
	105_109cm	**13**	**13%**
	110_114cm	**10**	**10%**
	115__120cm	**8**	**8%**

Weight	10-14		**17**	**17%**
	15-19		**27**	**27%**
	20-24		**43**	**43%**
	25-30		**13**	**13%**
Arrangement of the children in the family	The First		**34**	**34%**
	The Middle		**52**	**52%**
	The Last		**14**	**14%**
Where is the residence	Urban		**71**	**71%**
	Rural		**29**	**29%**
Type of family	Nuclear		92	92%
	Extended family		4	4%
	Single family		4	4%
Parents education	Father	Primary school graduated& less	11	11%
		Intermediate school	14	14%
		Secondary school graduated	20	20%
		Institute and college graduate	55	55%
	Mother	Primary school graduated& less	32	32%
		Intermediate school	18	18%
		Secondary school graduated	10%	10%
		Institute and college graduate	40	40%
Parents work	Both parents work		31	31%
	One parent works		60	60%
	Both don't work		9	9%
Self-assessment of economic status	Sufficient		22	22%
	Sufficient to some extent		71	71%
	Insufficient		7	7%

Based on the provided data:

1. Gender and Age:

- There is a balanced distribution between genders with a slightly higher percentage of males (54%) compared to females (46%). Ages are distributed among the age groups of 4 years (37%), 5 years (38%), and 6 years (25%).

2. Height and Weight:

- The distribution of height and weight gives an idea of the diversity in sizes among the children. For example, a significant proportion of children (43%) fall

within the weight range of 20-24 kg, and a similar proportion of children (22%) fall within the height range of 85-89 cm.

3. Arrangement of Children in the Family:

- The distribution indicates that middle children are the most common (52%) compared to first-born (34%) and last-born children (14%).

4**. Residence Location**:

- It shows that the majority of children live in urban areas (71%) while the rest reside in rural areas (29%).

5. Type of Family:

- Nuclear families are the most common at 92%, while extended families and single-parent families each represent 4%.

6. Parents' Education:

- The various proportions of parents' education levels indicate the educational status within the families, with college and institute graduates being the most common.

7. Parents' Employment:

The majority of parents are employed, with 31% of families having both parents working, while 60% rely on the income of one working parent. Additionally, 9% of families have neither parent working.

8. Self-assessment of Economic Status:

- The self-assessment of economic status indicates that the majority of families perceive their economic situation as moderately sufficient, although a small percentage feels it is insufficient.

Section 2: Characteristics of nutritional status, sleep pattern, social and cultural status.

In this section, we delve into the characteristics of nutritional status, sleep patterns, and social and cultural status among children. By examining these factors, we aim to gain a comprehensive understanding of the various aspects that contribute to children's overall health and well-being. This exploration will provide valuable insights into how nutrition, sleep habits, and social and cultural factors intersect and impact children's development and quality of life.

Nutritional status:

Table (2) Characteristics of Nutritional status for (100) preschool children

Variables		N=100	
		Frequent	%
How many main meals does a child eat daily?	(3) main meals	62	62%
	more than (3) meals	28	28%
	less than (3) meals	10	10%
Do the meals the child eats contain a variety of nutrients, such as meat, vegetables, milk, fiber, and fruits?	Yes, there is diversity	70	70%
	No, diversity is rarely low	24	24%
	Rarely	6	6%
Does the child eat fast food and sweets?	Yes, many a times	40	40%
	sometimes	50	50%
	No, he does not prefer it	10	10%
Does he drink enough fluids (soft drinks, stimulants, tea and coffee)?	Yes, frequently	15	15%
	Sometimes	35	35%
	Rarely	50	50%

1. Number of Main Meals:

- 62% of children consume three main meals daily, which is recommended for adequate nutrition.

- 28% of children eat more than three meals, potentially indicating frequent snacking or irregular eating patterns.

- 10% of children eat less than three main meals, which could lead to nutritional deficiencies.

2. Variety of Nutrients in Meals:

- 70% of children's meals contain a variety of nutrients such as meat, vegetables, milk, fiber, and fruits, suggesting a balanced diet.

- 24% of children have meals with low nutrient diversity, highlighting the need for dietary improvements.

- 6% of children rarely have diverse meals, indicating limited access to nutritious foods.

3. Consumption of Fast Food and Sweets:

- 40% of children frequently consume fast food and sweets, which may contribute to poor dietary quality and health issues.

- 50% of children sometimes consume these foods, indicating occasional indulgence or exposure to unhealthy choices.

- 10% of children do not prefer fast food and sweets, which is positive for their overall dietary health.

4. Fluid Intake:

- 15% of children frequently drink fluids like soft drinks, stimulants, tea, and coffee, which may have negative health implications.

- 35% of children sometimes consume these fluids, suggesting moderate intake levels.

- 50% of children rarely drink such fluids, which is beneficial for their hydration and overall health.

Understanding these results can guide efforts to promote healthier eating habits and improve the nutritional status of children, ultimately supporting their growth and development.

Lifestyle Patterns:

Table (3) Characteristics of Lifestyle Patterns for (100) preschool children

Variables		N=100	
		Frequent	%
How many hours does a child sleep at night?	Less than (8) hours	71	71%
	between (10_8) hours	16	16%
	More than (10) hours	13	13%
Does the use of modern technology such as (mobile phone, television) affect the child's nutrition and growth pattern?	Yes, it greatly affects	61	61%
	Sometimes	30	30%
	It does not affect	9	9%

1. Number of Hours Slept at Night:

- 71% of children sleep less than 8 hours at night, which may affect their overall health and growth.

- 16% of children sleep between 8 and 10 hours, which is a suitable range for a child's health and well-being.

- 13% of children sleep more than 10 hours, indicating a healthy sleep pattern.

2. Impact of Modern Technology Usage:

- 61% of children believe that the use of modern technology such as mobile phones and television greatly affects their nutrition and growth, potentially replacing physical activities and quality sleep with screen time.

- 30% perceive the impact to be occasional, reflecting the variability in children's experiences with technology and its effects on their lifestyle.

- 9% do not believe that the use of modern technology affects the child's nutrition and growth, which may indicate different experiences or limited impact of technology in some cases.

Understanding these results can help develop strategies to promote healthy lifestyle patterns for children, including promoting good sleep and managing technology usage appropriately.

social and cultural status:

Table (4) Characteristics of social and cultural status for (100) preschool children.

Variables		**N=100**	
		Frequent	%
How does the child interact with others in nursery or in social groups?	Interacts socially and participates regularly	52	52%
	Sometimes it interacts and sometimes it remains separate	41	41%
	It is preferable to stay away and not interact	7	7%
Does the child participate in sports activities and social and cultural events?	Yes, he participates	43	43%
	He participates sometimes	33	33%
	No, never participate	24	24%
Does the child have enough time with parents during the week?	Yes, there is enough time	68	68%
	Sometimes	26	26%
	No, lack of allotted time	6	6%

1. Interactions in Nursery or Social Groups:

- 52% of children interact socially and participate regularly in nursery or social groups. This indicates an active engagement with peers and suggests positive social skills development.

- 41% of children sometimes interact with others while occasionally preferring to remain separate. This variability in interaction levels may be influenced by factors such as personality traits or situational comfort.

- 7% of children prefer to stay away and not interact, which could indicate shyness or discomfort in social settings.

2. Participation in Sports Activities and Events:

- 43% of children actively participate in sports activities and social or cultural events. This suggests an interest in physical and social activities, which can contribute to overall well-being.

- 33% of children participate in these activities sometimes, indicating variability in engagement levels.

- 24% of children never participate, which may reflect a lack of interest or opportunity for involvement in such activities.

3. Time with Parents:

- 68% of children have enough time with parents during the week. This suggests a supportive family environment with ample opportunities for parental involvement and bonding.

- 26% of children sometimes have time with parents, indicating potential scheduling conflicts or other factors limiting parental interaction.

- 6% of children lack allotted time with parents, highlighting a potential need for prioritizing family time and balancing schedules.

Understanding these results can inform efforts to promote positive social interactions, encourage participation in various activities, and ensure adequate family time for children's holistic development and well-being.

Economic Status and Physical Growth:

Table (5) Economic Status and Physical Growth.

do you think there is a difference in weight and physical growth between children who belong to families with low economic status and families with good economic status?	Frequent	%
Yes I think	68	68%
No, I don't think so	20	20%
maybe	18	18%

- 68% Yes, I think: The majority believe there's a difference in weight and physical growth between children from low-economic and good-economic families.

- 20% No, I don't think so: A minority don't see a correlation between economic status and physical growth.

- 18% maybe: Some are unsure if there's a difference.

This results highlights varying perceptions on the impact of economic status on physical growth, indicating the need for further research in this area.

Chapter Five

Discussion of the study results

The provided data offers a comprehensive insight into various aspects of child development and well-being, encompassing factors such as demographics, family dynamics, lifestyle choices, and socio-economic status. Let's delve into the implications of these findings.

Firstly, the distribution of gender, age, height, and weight provides a snapshot of the diversity among the surveyed children. It's noteworthy that there's an almost equal distribution between genders, with slightly more males than females. Age distribution indicates a predominant representation of children aged 5 and 6, with fewer in the 4-year-old category, suggesting that the sample is skewed towards slightly older children. The distribution of height and weight reflects a range of measurements, which is typical for children of this age range and highlights the diversity in physical development.

The arrangement of children within the family structure reveals that a significant portion are middle children, followed by the first-born and then the last-born. This distribution could be reflective of various family planning strategies or cultural norms.

Residential distribution shows a higher concentration of children living in urban areas compared to rural areas, which could imply differences in access to resources, environmental factors, and lifestyle opportunities between the two settings.

The predominance of nuclear families indicates the prevalent family structure within the surveyed population, although the presence of extended and single-family households suggests some degree of diversity in familial setups.

Educational attainment of parents sheds light on the educational background within households, with a higher percentage of fathers being institute and college graduates compared to mothers. This may influence factors such as parental involvement in education, career aspirations for their children, and access to resources.

Parental employment status indicates that a majority of households have at least one working parent, which could impact various aspects of child-rearing, including time availability, financial resources, and parental stress levels.

Self-assessment of economic status reflects a considerable proportion of families perceiving their economic status as sufficient to some extent, with a smaller percentage indicating insufficiency. Economic status can significantly influence access to nutritious food, healthcare, educational opportunities, and overall quality of life for children.

Meal patterns and dietary diversity are crucial for children's health and development. The data suggests that while a majority of children consume three main meals daily and have a diverse diet, a significant portion also consume fast food and sweets, indicating potential areas for improvement in dietary habits.

Sleep duration is another important factor impacting children's health and cognitive function, with a majority sleeping less than the recommended 8 hours per night.

The influence of modern technology on children's nutrition and growth patterns underscores the need for balanced screen time and awareness of its potential impact on lifestyle choices.

Social interaction, participation in sports and cultural activities, and quality time spent with parents contribute to holistic child development, highlighting the importance of fostering well-rounded experiences beyond academic achievements.

Finally, the question regarding differences in weight and physical growth between children from different economic backgrounds prompts considerations of disparities in access to resources, healthcare, and opportunities for physical activity and nutritional education.

In conclusion, the data provides a multifaceted understanding of the various factors influencing child development and underscores the importance of holistic approaches to support their well-being, taking into account socio-economic factors, family dynamics, lifestyle choices, and access to resources.

Chapter Six

Conclusion and recommendations

Chapter Six Conclusion and recommendations

6.1. Conclusion

1. **Socio-economic Status Impacts Child Well-being:** The data suggests that socio-economic status significantly influences various aspects of child development, including dietary habits, access to resources, parental involvement, and opportunities for social and extracurricular activities.

2. **Diverse Dietary Habits but Room for Improvement:** While a majority of children consume a diverse diet with three main meals daily, the prevalence of fast food and sweets consumption indicates potential areas for improvement in dietary habits and nutrition education.

3. **Screen Time and Technology Influence Lifestyle Choices:** The widespread use of modern technology among children highlights its potential impact on nutrition and growth patterns, emphasizing the importance of balanced screen time and awareness of its effects on overall well-being.

4. **Family Dynamics and Parental Involvement Matter:** Family structure, parental education, and employment status play pivotal roles in shaping children's experiences, indicating the significance of supportive family environments and active parental involvement in promoting holistic child development.

5. **Disparities Exist in Access to Resources and Opportunities:** Discrepancies in parental education, economic status, and residential location underscore existing disparities in access to resources, healthcare, and opportunities for social and extracurricular activities, necessitating targeted interventions to address inequities and promote equitable outcomes for all children.

6.2. Recommendations

1. **Promote Nutrition Education:** Implement comprehensive nutrition education programs targeting both children and parents to raise awareness about healthy dietary habits, the importance of diverse food choices, and the detrimental effects of excessive consumption of fast food and sweets.

2. **Encourage Balanced Technology Use:** Advocate for guidelines and initiatives promoting balanced screen time among children, along with educational campaigns for parents on managing and monitoring their children's technology usage to mitigate potential negative impacts on nutrition and growth patterns.

3. **Enhance Family Support Services:** Provide accessible support services for families, including parenting workshops, counseling, and resources to strengthen family dynamics, improve parental involvement, and foster supportive home environments conducive to holistic child development.

4. **Address Socio-Economic Disparities:** Implement targeted interventions to address socio-economic disparities, such as providing financial assistance, access to affordable healthcare, and educational resources for families in low-income communities, to ensure equitable opportunities and outcomes for all children.

5. **Facilitate Community Engagement and Resources:** Develop community-based initiatives and partnerships to expand access to extracurricular activities, sports programs, cultural events, and social support networks for children, particularly in underserved areas, to promote social interaction, physical activity, and overall well-being.

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Appendices

questionnaire

The relationship between socioeconomic status and physical development of pre-school children attending nurseries.

Socio Demographic Characteristics:

1. Age ☐ 4yrs. ☐ 5yrs. ☐ 6yrs.

2. Gender

Boy ☐ Girl ☐

3. Height? ☐ cm

4. Weight? ☐ kg

5. Arrangement of the child in the family?

First ☐

Middle ☐

Last ☐

6. Where is the residence Rural ☐ Urban ☐

7. Type of family

a) Nuclear ☐

b) Extended family ☐

c)Single family ☐

8. Parental education

-father a) Primary school graduated & less ☐

b) Intermediate school ☐

c) Secondary school graduated ☐

d) Institute and college graduated ☐

-mother a) Primary school graduated & less ☐

b) Intermediate school ☐

c) Secondary school graduated ☐

d) Institute and college graduated ☐

9. Parents' work

a)Both parents work ☐

b)one parent works ☐

c)Both don't work ☐

10. Self-assessment of economic status

a) Sufficient ☐

b) Sufficient to some extend ☐

c) Insufficient ☐

Nutritional status

1. How many main meals does a child eat daily?

a) (3) main meals ☐

b) more than (3) meals ☐

c) less than (3) meals ☐

2. Do the meals the child eats contain a variety of nutrients, such as meat,

vegetables, milk, fiber, and fruits?

(a) Yes, there is diversity ☐

(b) No, diversity is low ☐

(c) Rarely ☐

3. Does the child eat fast food and sweets?

a) Yes, many a times ☐

(b) sometimes ☐

(c) No, he does not prefer it ☐

4. Does he drink enough fluids (soft drinks, stimulants, tea and coffee)?

(a)Yes, frequently ☐

(b)Sometimes ☐

(c)Rarely ☐

Sleep pattern

1. How many hours does a child sleep at night?

(a) Less than (8) hours ☐

(b)between (10_8) hours ☐

(c)More than (10) hours ☐

2. Does the use of modern technology such as (mobile phone, television) affect the child's nutrition and growth pattern?

(a) Yes, it greatly affects ☐

(b) Sometimes ☐

(c) It does not affect ☐

Social behavior and adaptation

1. How does the child interact with others in nursery or in social groups?

(a) Interacts socially and participates regularly ☐

(b) Sometimes it interacts and sometimes it remains separate ☐

(c) It is preferable to stay away and not interact ☐

2. Does the child participate in sports activities and social and cultural events?

(a) Yes, he participates ☐

(b) He participates sometimes ☐

(c) No, never participate ☐

3. Does the child have enough time with parents during the week?

(a) Yes, there is enough time ☐

(b) Sometimes ☐

(c) No, lack of allotted time ☐

Do you think there is a difference in weight and physical growth between children who belong to families with low economic status and families with good economic status?

(a)Yes I think ☐

(b)No, I don't think so ☐

(c) maybe ☐

Appendices

Table (6) List of experts to arbitrate the survey questionnaire

قائمة الخبراء لتحكيم استمارة الاستبانة

ت	اسم الخبير	اللقب العلمي	الشهادة والاختصاص	مكان العمل
1	ا.د. عاشور رفعت سرحت	أستاذ دكتور	بورد الاطفال	كلية تمريض جامعة تكريت
2	م.د. أحمد محمود يونس	مدرس دكتور	دكتوراه تمريض صحة مجتمع	كلية تمريض جامعة تكريت
3	أ.م. د. عمر صالح حسن	أستاذ مساعد دكتور	دكتوراه كيمياء حياتية	كلية تمريض جامعة تكريت
4	أ.م. د. سراب قحطان عبدالرحمن	أستاذ مساعد دكتور	بورد طب اسرة	كلية تمريض جامعة تكريت
5	م.د. ناريمان محمد احمد	مدرس دكتور	دكتوراه تمريض الاطفال	كلية تمريض جامعة تكريت
6	أ.د. سلام شهاب أحمد	أستاذ دكتور	بورد الاطفال	كلية تمريض جامعة تكريت
7	أ.م. د. ميثاق البياتي	أستاذ مساعد دكتور	دكتوراه تاريخ	كلية تمريض جامعة تكريت

العلاقة بين الحالة الاجتماعية الاقتصادية والنمو الجسماني للأطفال في سن ما قبل المدرسة والمترددين على دور الحضانة

الجنس

ذكر انثى

العمر

6 سنوات 4 سنوات 3 سنوات

طول الطفل **سم**

وزن الطفل **كغم**

ترتيب الطفل في العائلة

اول اوسط اخير

مكان السكن مدينة ريف

نوع العائلة

نووية الاسرة ممتدة عائلة بأحد الوالدين

تعليم الوالدين

الاب خريج ابتدائي خريج متوسط

خريج اعدادي خريج بكالوريوس

الام خريج ابتدائي خريج متوسط

خريج اعدادي خريج بكالوريوس

عمل الوالدين

أ) كلا الوالدين يعمل

ب) أحد الوالدين يعمل

ج) كلاهما لا يعمل

التقييم الذاتي للوضع الاقتصادي

أ) كافية

ب) كافية الى حد ما

ج) غير كافية

الحالة التغذية

ما عدد الوجبات الرئيسية التي يتناولها الطفل يومياً؟

أ) (3) وجبات رئيسية

ب) أكثر من (3) وجبات

ج) أقل من (3) وجبات

هل تحتوي الوجبات التي يتناولها الطفل على مجموعة متنوعة من العناصر الغذائية، مثل اللحوم الخضار والحليب والألياف والفواكه؟

(أ) نعم، هناك تنوع

(ب) لا، نادراً ما يكون التنوع منخفضاً

(ج) نادرا

هل يتناول الطفل الوجبات السريعة والحلويات؟

أ) نعم، كثير أ

(ب) أحياناً

(ج) لا، لا يفضل ذلك

هل يشرب كمية كافية من السوائل (المشروبات الغازية والمنشطات والشاي والقهوة)؟

(أ) نعم، في كثير من الأحيان

(ب) أحياناً

(ج) نادرا

نمط النوم

كم ساعة ينام الطفل ليلاً؟

(أ) أقل من (8) ساعات

(ب) ما بين (10_8) ساعات

(ج) أكثر من (10) ساعات

هل يؤثر استخدام التكنولوجيا الحديثة مثل (الهاتف المحمول، التلفاز) على نمط تغذية الطفل ونموه

(أ) نعم يؤثر بشكل كبير

(ب) أحياناً

(ج) لا يؤثر

السلوك الاجتماعي والتكيف

كيف يتفاعل الطفل مع الآخرين في الحضانة أو في الفئات الاجتماعية؟

(أ) يتفاعل اجتماعيا ويشارك بانتظام

(ب) تتفاعل أحيانًا، وتبقى منفصلة أحيانًا

(ج) يفضل الابتعاد وعدم التفاعل

هل يشارك الطفل في الأنشطة الرياضية والمناسبات الاجتماعية والثقافية؟

(أ) نعم يشارك

(ب) يشارك أحياناً

(ج) لا، لا تشارك أبدًا

هل يحظى الطفل بوقت كافي مع والديه خلال الأسبوع؟

(أ) نعم، هناك ما يكفي من الوقت

(ب) أحياناً

(ج) لا، ضيق الوقت المخصص

الحالة الاقتصادية

هل تعتقدين أن هناك اختلاف في الوزن والنمو الجسدي بين الأطفال الذين ينتمون إلى أسر ذات وضع اقتصادي منخفض وأسر ذات وضع جيد

(أ) نعم أعتقد

(ب) لا، لا أعتقد ذلك

(ج) ربما

الخلاصة

الخلفية:

تتناول الخلفية البحث المشكلة الحالية وأهمية دراستها، مع التركيز على العوامل الاقتصادية والاجتماعية التي قد تؤثر في نمو الأطفال في هذا السياق. كما تربط موضوع البحث بأهدافه لتوضيح الأسباب والدوافع وراء الدراسة.

الأهداف:

تهدف الدراسة إلى تقديم تحليل شامل للبيانات المجمعة لفهم العلاقة بين الوضع الاقتصادي والتنمية الجسدية للأطفال. ويشمل ذلك استكشاف أنماط التغذية، وأنماط الحياة، والتفاعل الاجتماعي، ووضع الأسرة الاقتصادي وتقديم توصيات للتحسين.

المنهجية:

أُجريت دراسة وصفية عرضية باستخدام استبيان حضور لتقدير العلاقة بين الوضع الاقتصادي والتنمية الجسدية للأطفال. تم جمع البيانات من عينة تتألف من 100 مشارك وتم تحليلها إحصائيا باستخدام النسب لتلخيص وتحليل النتائج بشكل مفصل.

النتائج:

كشفت النتائج عن توزيعات متوازنة للخصائص الديموغرافية وأنماط التغذية وأنماط الحياة والتفاعل الاجتماعي والوضع الاقتصادي. تشير تحليلات التغذية إلى أن غالبية الأطفال يتناولون وجبات متنوعة، في حين تظهر تحليلات الاجتماع اختلافًا في أنماط التفاعل. كما كشف التحليل الاقتصادي عن اختلافات في التصورات بشأن تأثير الوضع الاقتصادي على نمو الأطفال.

التوصيات:

تتضمن التوصيات تعزيز التثقيف الغذائي، وتشجيع استخدام التكنولوجيا المتوازن، وتعزيز خدمات الدعم الأسري، ومعالجة التفاوتات الاقتصادية، وتسهيل المشاركة المجتمعية. تهدف هذه التوصيات إلى تحسين البيئة الصحية والاجتماعية للأطفال ودعم تنميتهم الشاملة

كلية التمريض

جامعة تكريت

العلاقة بين الحالة الاجتماعية الاقتصادية والنمو الجسماني للأطفال في سن ما قبل المدرسة المترددين على دور الروضات

بحث تخرج تقدم به كل من:

منى شاكر عواد

فاطمة صباح سالم

هبة عبد الستار جاسم

الى \ كلية التمريض جامعة تكريت كجزء من متطلبات نيل شهادة

البكالوريوس في علوم التمريض

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1445هـ\شعبان

2024م \اذار

Ministry of Higher Education and Scientific Research

Tikrit University

College of Nursing

Assessment of Mothers' Knowledge toward Diarrhea and its Prevention in Children under Five years in Tikrit City

A project submitted by

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To

The Council of the College of Nursing

Tikrit University

In Partial Fulfillment of the Requirements for Bachelors Degree of Nursing Science

Supervised By

Dr. Huda Dhamin Abdul-Jabbar

2024 A.D. **1445 A.H.**

بسم الله الرحمن الرحيم

﴿يَرْفَعِ ٱللَّهُ ٱلَّذِينَ ءَامَنُوا۟ مِنكُمْ وَٱلَّذِينَ أُوتُوا۟ ٱلْعِلْمَ دَرَجَٰتٍ﴾

سورة المجادلة (١١)

Dedications

This work is wholeheartedly dedicated to our beloved parents who have been our source of inspiration & encouragement over the years and gave us strength when we thought of giving up.

To our brothers, sisters, friends and all those who shared their words of advice and encouragement.

To everyone who helped us in accomplishing this work.

We dedicate this work.

Researchers

Acknowledgments

Before all, all praise is due to Allah, the lord of the worlds for helping us in accomplishing this work.

We would like to express our sincere thanks and deepest respect to our supervisor (**Dr. Huda Dhamin Abdul-Jabbar**) for her valuable guidance and instruction, generous and unlimited support throughout the period of the study.

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Finally, special thanks should be presented to our families and all friends for the encouragement and support.

Researchers

Abstract

Diarrhea is one of the major causes of infants and young children morbidity and mortality globally. Because mothers are the major healthcare providers, their awareness of diarrhea is important. To assess mothers' knowledge regarding diarrhea and its prevention in children under five years, a descriptive study was conducted in Tikrit city. The study was initiated from 5th February 2024 to 25th February 2024. The study sample included (100) mothers of children under five years who attended in the pediatric unit at Tikrit Teaching Hospital. In order to collect the study data, such questionnaire was constructed based on extensive review of literatures. It's composed of two parts, part one included (7) items that focused on the mothers' socio-demographic characteristics. Part two deals with the mothers' knowledge about diarrhea and its prevention and include (17) items. Content validity was determined by presenting the questionnaire to a panel of (6) experts. Reliability of the instrument was determined through internal consistency of the questionnaire that was assessed by calculating Cronbach's alpha (α =0.762) through test – retest on (25) samples within periods from 1st February 2024 to 4th February 2024. The study found that (64.0%) of mothers had low level of knowledge about diarrhea and its prevention and (16.0%) of them had moderate level of knowledge. The study concluded that most mothers had low level of knowledge about diarrhea and its prevention. The study recommended to Conducting educational program to promote mothers' knowledge regarding causes, prevention and management of diarrhea at home.

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Chapter One

Introduction

1.1. Introduction

Diarrhea is one of the major causes of infants and young children morbidity and mortality globally. It's characterized by passing of more than three watery stools per day which is accompanied by loss of body fluids and electrolytes leading to dehydration and death if not treated (Oruikor & Durotoye, 2023).

Based on data from the world health Organization (WHO), there are almost 1.7 billion cases of diarrhea occurring in the world each year. Diarrhea is the second leading cause of children mortality (Panjaitan, 2021). Global mortality estimate from diarrhea and its complications range from 1.5 to 5.1 million deaths per year for children under the age of five. Eight out of ten of these deaths occur in the first two years of life (Agbolade, et al., 2015). Studies in Iraq showed that diarrhea prevalence was much higher in children aged 6-23 Months. It's responsible for about one out four deaths among infants under 1 year old and it is number one killer among children in 1995. Diarrhea incidence in under 5 years old children was nearly 15 episodes per child per year in 1996 and the case fatality rate from diarrhea was about 1.7% (Abedalrahman, 2012).

Diarrhea can be classified as acute and chronic. Acute diarrhea is an illness condition of unexpected onset, which generally continues for 3 – 7 days but may last up to 10 – 14 days. Continuing the liquid stool for more than 14 days is considered a chronic (Abdulla, et al., 2021).

Frequent or poor diarrhea can lead to poor nutritional status, and repeated episodes of diarrhea can also have children susceptible to other infection. Furthermore, malnutrition can increase the severity, duration, and frequency bouts of diarrhea. Diarrhea leads to death through dehydration (Agbolade, et al., 2015). Which is an abnormal condition in which the body cells are deprived of an adequate amount of water (Elhusein & Fadlalmola, 2020).

Toddlers' lives are still very dependent on parents, especially on mothers, so that health problems in toddlers are also the responsibility of parents, which cannot be underestimated (Panjaitan, 2021). Managing diarrhea at home is quite common among mothers but their level of knowledge is poor (Elhusein & Fadlalmola, 2020). Mothers' lack of awareness, bad habits and pessimism, as well as their misguided attitude to its care and prevention contribute to high degree of dehydration and eventually mortality. Because mothers are the major healthcare providers, their awareness of causes of diarrhea is important. In another words, it's critical to recognize and identify particular symptoms or signs in order to get medical help as soon as possible (Alkhawarah, et al., 2022).

1.2. Importance of the study

Diarrhea is a common and potentially life-threatening condition among children under five years old. The study helps identify the level of knowledge mothers have about diarrhea and its prevention, such as proper hygiene practices, exclusive breastfeeding and adequate flood and food intake. Improving mothers' knowledge in these areas can significantly decrease the incidence and severity of diarrhea in children.

The study allows for identification of gaps in mothers' knowledge which can be addressed through education and awareness campaigns. By understanding their level of understanding and awareness, strategies can be developed to enhance their knowledge about diarrhea prevention. This can lead to better management and prevention of the disease at the household level. When mother have accurate knowledge about diarrhea prevention, they become empowered to take appropriate actions to protect their children's health. They are better equipped to recognize the signs and symptoms of diarrhea, seek medical help when needed, and implement preventive measures to reduce the risk of diarrhea in their children.

By educating mothers about diarrhea prevention, the study can have a broader impact on the community. Mothers can share their knowledge with other caregivers, family members and friends, leading to a collective effort in reducing diarrhea prevalence among children. This can contribute to a healthier community with reduced healthcare burdens and improved overall child well-being.

1.3. Statement of the problem:

"Assessment of Mothers' Knowledge toward Diarrhea and its Prevention in Children under 5 years in Tikrit City"

1.4. Objectives of the study:

- To assess level of mothers' knowledge toward diarrhea and its prevention in children under 5 years in Tikrit city.
- To find out the relationship between mothers' knowledge toward diarrhea and its prevention in children under 5 years and sociodemographic characteristics.

1.5. Definition of the terms:

1.5.1. Assessment

1.5.1.a. Theoretical definition:

The action or an instance of making a judgment about something or the act of assessing something (Merriam-Webster, n.d.).

1.5.1.b. Operational definition:

Is a systematic process of documenting and analyzing data to measure the mothers' knowledge about diarrhea and its prevention in children under 5 years.

1.5.2. Knowledge

1.5.2.a. Theoretical definition:

The fact or condition of being aware of something or the range of one's information or understanding (Merriam-Webster, n.d.).

1.5.2.b. Operational definition:

Information the mothers have regarding diarrhea and its prevention in children under 5 years in Tikrit city.

1.5.3. Diarrhea

1.5.3.a. Theoretical definition:

Diarrhea is the passage of unusually loose or watery stools, usually at least three times in a 24-hour period (WHO, 2005).

Chapter Two

Literature Review

2.1. Overview

Diarrhea is defined as the passage of 3 or more watery stools In 24 hours by World Health Organization. Billions episodes and million deaths occur in the first five years of the Child. More than three million children Under age of five die of diarrhea or diarrhea related causes Annually (Nanbur, et al., 2016). The morbidity Of childhood diarrhoea is about 3 episodes per child per year (Sharma, et al., 2020). Diarrhea can be predisposed by several causative agents including viruses, bacteria and parasites. Passage of loose watery stools in children under five years can be caused by Rotavirus. Other risk factors include poor personal hygiene, when food is prepared in unclean environment or stored in unhygienic conditions and use of unclean domestic water which may get contamination during storage or handling (Gathogo, 2021).

2.2. Causes of diarrhea

2.2.1. Causes of acute diarrhea

1. Infection and Parasitic Infestation

- Bacteria: Salmonella, Shigella, Campylobacter, Escherichia coli, Yersinia, Aeromonas, Clostridium difficile, Staphylococcus aureus.
- Viruses: Rotavirus, Norovirus, small and round viruses, adenovirus, pestivirus, Astrovirus, parvovirus
- Parasites: Giardia lamblia, Cryptosporidium, Isospora belli, Microsporidia, Strongyloides, Entamoeba histolytica

2. Associated Conditions: upper respiratory tract infections, urinary tract infections, otitis media
3. Dietary Causes

- Overfeeding

- Introduction of new foods
- Reinstituting milk too soon after diarrheal episode
- Osmotic diarrhea from excess sugar in formula or juice
- Excessive ingestion of sorbitol or fructose

4. Medications: Antibiotics, Laxatives
5. Toxic Causes: ingestion of heavy metals (arsenic, lead, mercury) or organic phosphates.
6. Functional Causes: Irritable bowel syndrome
7. Other Causes: Pseudomembranous enterocolitis.

2.2.2. Causes of chronic diarrhea

1. Malabsorptive Causes: Celiac disease, Pancreatic insufficiency (cystic fibrosis, chronic pancreatitis), Lactose intolerance.
2. Allergic Causes: Allergic gastroenteropathy, Eosinophilic gastroenteritis
3. Immunodeficiency: Acquired hypoglobulinemia, Severe combined immunodeficiency disease.
4. Inflammatory Bowel Disease: Ulcerative colitis, Crohn disease
5. Endocrine Causes: Hyperthyroidism, Congenital adrenal hyperplasia
6. Motility Disorders: Hirschsprung disease, Intestinal pseudoobstruction
7. Parasitic Infestations: Ascaris organisms, Giardia organisms (Hockenberry, et al., 2019)

2.3. Types of Diarrhea

Diarrheal disturbances involve the stomach and intestines (gastroeneritis), the small intestine (enteritis), the colon (colitis), or the colon and intestines (enterocolitis). Diarrhea is classified as acute or chronic.

1. **Acute diarrhea:** Is defined as a sudden increase in frequency and a change in consistency of stools, often caused by an infectious agent in the GI tract. Acute diarrhea is usually self-limited (14 days' duration) and subsides without specific treatment.
2. **Chronic diarrhea:** is an increase in stool frequency and increased water content with duration of more than 14 days (Hockenberry, et al., 2019).

2.4. Pathophysiology

Acute diarrhea in children is most commonly caused by viruses, but it may also be related to bacterial or parasitic enteropathogens. Viruses injure the absorptive surface of mature villous cells, resulting in decreased fluid absorption and disaccharidase deficiency. Bacteria produce intestinal injury by directly invading the mucosa, damaging the villous surface, or releasing toxins. Acute diarrhea may be bloody or nonbloody.

Diarrhea may also occur in relation to antibiotic use. Risk factors for acute diarrhea include recent ingestion of undercooked meats, foreign travel, day care attendance, and well water use. Though most cases of diarrhea in children are of acute origin, diarrhea may also occur chronically. Chronic diarrhea is diarrhea that lasts for more than 2 weeks. This type of diarrhea is not usually caused by serious illnesses (Kyle & Carman, 2013)

2.5. Clinical Manifestations of Diarrhea

Signs and symptoms associated with diarrhea may include: frequent, loose, watery stools, abdominal pain/cramps, fever, signs and symptoms of dehydration, blood in the stool and abdominal bloating (Nanbur, et al., 2016).

2.6. Complications of Diarrhea

1. Dehydration
- Voluminous losses of fluid in frequent, watery stools
2. Electrolyte Imbalance
- Losses of sodium, chloride, potassium, and, in some cases, bicarbonate
- Inadequate replacement of electrolytes when hypotonic or hypertonic solutions are used.
3. Metabolic Acidosis
- Increased absorption of short-chain fatty acids produced in the colon from boacterial fermentation of unabsorbed dietary carbohydrates.
- Accumulation of lactic acid from tissue hypoxia secondary to hypovolemia.
- Loss of bicarbonate in stools.
- Ketosis from fat metabolism when glycogen stores are depleted in untreated diarrheal dehydration or inadequate carbohydrate intake; may result in malnutrition (Hockenberry, Wilson, & Rodgers, 2019)

2.7. Assessment

2.7.1. Physical Examination

- Assess the child with diarrhea for signs of dehydration.
- Auscultate bowel sounds to assess for presence of hypoactive or hyperactive bowel sounds. Hypoactive bowel sounds may indicate obstruction or peritonitis. Hyperactive bowelsounds may indicate diarrhea/gastroenteritis.

- Tenderness in the lower quadrants may be related to gastroenteritis. Rebound tenderness or pain should not be found on palpation. If found, it could indicate appendicitis or peritonitis (Kyle & Carman, 2013).

2.7.2. Laboratory and Diagnostic Tests

- Stool culture: may indicate presence of bacteria.
- Stoolfor ova and parasites (O&P): may indicate the presence of parasites
- Stool viral panel or culture: to determine presence of rotavirus or other viruses
- Stool for occult blood: may be positive if inflammation or ulceration is present in the GI tract.
- Serum electrolytes.

2.8. Nursing Management

1. Monitor character, amount, and frequency of diarrhea.
2. Provide enteric isolation as required; instruct the parents in effective handwashing technique (children need to be taught this technique also).
3. Monitor skin integrity.
4. Monitor strict intake and output.
5. Monitor electrolyte levels.
6. Monitor for signs and symptoms of dehydration.
7. For mild to moderate dehydration, provide oral rehydration therapy with Pedialyte or a similar rehydration solution as prescribed; avoid carbonated beverages because they are gas-producing, and fluids that contain high amounts of sugar, such as apple juice.
8. For severe dehydration, maintain NPO (nothing by mouth) status to place the bowel at rest, and provide fluid and electrolyte replacement

by the intravenous (IV) route as prescribed; if potassium is prescribed for IV administration, ensure that the child has voided before administering and that the child has adequate renal function.

9. Reintroduce a normal diet when rehydration is achieved (Silvestri, et al., 2023).

2.9. Prevention of diarrhea

Diarrheal diseases among under 5-year children can be tackled in at both primary and secondary prevenion levels. The former about the improvement of sanitation and water quality but the latter is about early recognition of dehydration due to diarrhea and prompt oral rehydration using ORS (oral rehydration solution) or appropriate home available fluids.

Optimal infant & young child feeding practices could Prevent more than 10% of deaths from diarrhea. On the other hand, better hygiene practices, particularly hand washing with soap & the safe disposal of excreta can reduce the incidence of diarrhea by 35% (Workie, et al., 2018).

2.10. Role of Mothers in Prevention and Home Management of Diarrhea in Children

Mothers' knowledge and practices are important in managing children with minor illnesses (Abu-Baker, et al., 2012). Child health and survival can be influenced by social factors such as the mother's knowledge of managing and preventing diarrhoea. Less severe dehydration and most morbidity due to diarrhoea can be adequately treated at home. Improved mothers'/caregivers' knowledge on aetiology, prevention and management of diarrhoea will increase the capability of mothers/caregivers to recognise the danger signs of

diarrhoea in children under 5 years of age and reassure early and appropriate care-seeking behaviors (Bauleth, et al., 2022).

Maternal knowledge and perceptions related to hygiene, breast-feeding, sanitary food preparation, and appropriate management and weaning practices are important determinants in the occurrence of diarrhea in children. Lack of caregivers' knowledge and Awareness usually results in poor use of available information on preventing and managing childhood diarrhea in developing countries (Mekonnen, et al., 2018).

Chapter Three

Methodology

3.1. Overview

This chapter deals with the presentation of the design of the study, administrative arrangement, setting of the study, the sample of the study, data collection, the study instrument, validity of the study, pilot study, reliability, and statistical and data analysis.

3.2. Design of the study

A descriptive study was performed to achieve the early stated objectives. The study was carried out from 5th February to 25th February.

3.3. Administrative arrangement

Prior to the actual collection of data, formal approval was obtained from the College of Nursing – Tikrit University. Additional approval was obtained from Tikrit Teaching Hospital.

3.4. Setting of the study

The study was conducted upon the mothers who were coming to the pediatric unit at Tikrit Teaching Hospital.

3.5. The sample of the study

A purposive sample of (100) women is selected according to the following criteria:

- All mothers have children under five years of age.
- All mothers were from different levels of educations.

3.6. Data collection

The data were collected during the period from 5th February to 25th February. Both interview and questionnaire were used. Each interview took approximately (10) minutes. The data were collected between (9:00) a.m. to (12:00) p.m.

3.7. The study instrument

A questionnaire was designed and constructed by the researchers to measure the variable after an extensive review of literature. The questionnaire consists of three parts. (Appendix A)

Part I: this part is concerned with the demographic characteristics and includes (7) items. These items are age, level of education, occupation, income level, residence, number of children under 5 years and source of information about diarrhea.

Part II: this part deals with the mothers' knowledge about diarrhea and its prevention and includes (17) items. These items were scored (2) for correct answer and (1) for incorrect answer. (Appendix A)

3.8 Validity of the instrument

To make the instrument more valid, it has been presented to a panel of experts in different fields. They were (6) faculty members from the College of Nursing/ Tikrit University. They agreed that the questionnaire was appropriately and constructed except few recommendations were recommended by them and the researchers carried them out. (Appendix B)

3.9 Pilot study

A pilot study was conducted on a purposive sample of (25) mothers who were selected from pediatric unit at Tikrit Teaching Hospital. The pilot study was conducted within periods from 1st February to 4th February.

3.9.1 The objectives of pilot study

- To determine whether the items of the questionnaire are clear and understandable.
- To estimate the time required for data collection for each sample.
- To determine reliability and validity of the instrument.

3.9.2 The results of pilot study

- The items of the questionnaire are clear and understandable.
- The time required for each interview took about 10 minutes.
- The study instrument was valid and reliable.

3.10 Reliability

Test & retest reliability was determined through a computation Cronbach's alpha for the scales. Coefficients for the (25) samples were (0.762) for the mothers' knowledge about diarrhea and its prevention.

These coefficients indicated that the scales were adequately reliable (accepted) measures for the variables underlying the present study.

Each questionnaire took (10) minutes to be completed and the items were made relative to the content and the structure of the questionnaire as a result of the pilot study.

3.11 Statistical data analysis

The statistical data analysis method approaches listed below were used to evaluate the study's findings using the Statistical Package for Social Sciences (SPSS) Version (26):

3.11.1. Descriptive Data Analysis approach:

a- Frequencies and Percentages.

b- Through the pilot study's reliability coefficient for estimating inter examiners and intra examiner.

c- The questionnaire's reliability was measured by Alpha Cronbach (α) (internal consistency)

3.11.2. Inferential Data Analysis approach:

This have been used to accept or refuse statistical hypotheses. Which contained the following:

A- Chi-Square test for determining the independency distribution of observed frequencies and determining the type of relationship between study variables.

B- The cutoff point:
The Mothers' knowledge about diarrhea and mothers' knowledge about prevention of diarrhea were scored with (2) for correct answer, (1) for incorrect answer. The cutoff point was (1.5). The Cutoff point was calculated according to the following formula:
Cutoff point = (2+1) \ 2= 1.5 thereby the level of knowledge is classified as follow:

1. Low level = 1- 1.49
2. Moderate level = 1.50 – 1. 79
3. High level = 1.80– 2

Chapter Four

Results of the Study

4.1. Overview

The results of the current study were analyzed through the application of statistical procedures, which were manipulated and interpreted. Those results were organized as follows:

Table (4-1): Distribution of the study sample according to their socio-demographic characteristics:

Variables	Groups	Freq.	%
Age	18 – 25 years	46	46.0
	26 – 33 years	36	36.0
	34 – 43 years	18	18.0
	Total	100	100.0
Educational level	Illiterate	0	0.0
	Primary	46	46.0
	Intermediate	12	12.0
	secondary	24	24.0
	College	18	18.0
	Postgraduate studies	0	0.0
	Total	100	100.0
Occupation status	Employee	12	12.0
	House wife	64	64.0
	Free job	6	6.0
	Student	18	18.0
	Total	100	100.0
Monthly income	Sufficient	37	37.0
	Barely sufficient	47	47.0
	Insufficient	16	16.0
	Total	100	100.0
Residence	Rural	52	52.0
	Urban	48	48.0
	Total	100	100.0
Number of children under 5 years old	One child	62	62.0
	Two children	30	30.0
	Three children	8	8.0
	Total	100	100.0

Source of information about diarrhea	Health care workers	38	38.0
	Internet	42	42.0
	Television	4	4.0
	Other ways	16	16.0
	Total	100	100.0

F =Frequency, %= **Percent**

Table (4-1) this table show that most mothers are less than 25 years old, as the study showed that (36.0%) of them were between 26-33 years old and (18.0%) of them were between 34-43 years old. The study's findings also showed that most of the mothers had a low educational level, as (46.0%) of them are primary school graduated. Most of the mothers worked as housewife, with a rate of (64.0%). The study showed that (47.0%) of the mothers were of low income so their answers about monthly income were "hardly enough". The mothers' place of residence was close to rural and urban, and the percentage was (52.0%) and (48.0%), respectively. The study indicated that (42.0%) of the mothers had the internet as the source of their information.

Table (4 – 2): Mean of score, standard deviation, and level of mothers' knowledge about diarrhea:

No.	Item	True		False		Assess		
		Freq.	%	Freq.	%	M.S	S.D	Level
1	Diarrhea is the frequent passage of soft stool (3 times or more)	58	58	42	42	1.58	.496	Moderate
2	Food diversity is one causes of diarrhea	40	40	60	60	1.40	.492	Low
3	Diarrhea is transmitted in children from one to another	26	26	74	74	1.26	.441	Low
4	Increased skin turgor is one of the signs associated with diarrhea	28	28	72	72	1.28	.451	Low
5	Children with food allergy are more prone to diarrhea	54	54	46	46	1.54	.501	Moderate
6	Dehydration is one of the complications of diarrhea	56	56	44	44	1.56	.499	Moderate
7	Diarrhea is considered a life-threatening disease to children	40	40	60	60	1.40	.492	Low

F =Frequency, %= **Percent, M.S=Mean of score , S.D=standard deviation, Assess.= level of assessment (1 – 1.49 low, 1.50 – 1.79 moderate, 1.80 – 2 high)**

Table (4 – 2) this table show that most of the mothers gave incorrect answers to items of knowledge about diarrhea. Most of them had low knowledge for majority of items.

Table (4 – 3): Mean of score, standard deviation, and level of mothers' knowledge about prevention of diarrhea:

No.	Item	True		False		Assess		
		Freq.	%	Freq.	%	M.S	S.D	Level
1	Avoiding contaminated food can prevent diarrhea	72	72	28	28	1.72	.451	Moderate
2	It's preferred to have the child feed 3-4 times daily to prevent diarrhea	44	44	56	56	1.44	.499	Low
3	To avoid diarrhea, it is preferable that the type of water used for daily needs be boiled and cooled water	52	52	48	48	1.52	.502	Moderate
4	Keeping the child away from wastewater can avoid diarrhea	32	32	68	68	1.32	.469	Low
5	Well-cooked foods should be avoided because they cause diarrhea	44	44	56	56	1.44	.499	Low
6	Washing hands with soap and water should only be done after eating	46	46	54	54	1.46	.501	Low
7	To protect the child from diarrhea, breastfeeding is preferred	58	58	42	42	1.58	.496	Moderate
8	To prevent the child from having diarrhea, he must eat foods prepared at home	34	34	66	66	1.34	.476	Low
9	Reducing breastfeeding is one of the habits that protects the child from diarrhea	62	62	38	38	1.62	.488	Moderate
10	Fatty foods should be avoided during diarrhea	38	38	62	62	1.38	.488	Low

F =Frequency, %= **Percent, M.S=Mean of score , S.D=standard deviation, Assess.= level of assessment (1 – 1.49 low, 1.50 – 1.79 moderate, 1.80 – 2 high)**

Table (4-3) this table show that most of the mothers gave incorrect answers to items of knowledge about diarrhea and prevention of it. Most of them had low knowledge for majority of items.

Table (4-4): Total mothers' knowledge regarding diarrhea and prevention of it in children under five years.

Knowledge	Level	Freq.	%
Mothers' knowledge about diarrhea and its prevention	Low	64	64.0
	Moderate	16	16.0
	High	20	20.0
	Total	100	100.0

F =Frequency, %= **Percent**

Table (4 – 4): This table show that (64.0%) of mothers had low level of knowledge about diarrhea and prevention, (16%) of them had Moderate level of knowledge and (20.0%) had high level of knowledge in same item.

Table (4 – 5): Association between mothers' knowledge of diarrhea and prevention of diarrhea and their sociodemographic characteristics

Mothers' knowledge / Socio-demographic characteristics	Mothers' knowledge about diarrhea	
	P. value	**Significant**
Age	0.107	Non-significant
Educational level	0.000	**Significant**
Occupation status	0.000	**Significant**
Monthly income	0.000	**Significant**
Residence	0.000	**Significant**
Number of children under 5 years	0.207	Non-significant
Information source about diarrhea	0.001	**Significant**

Table (4 – 5): this table showed that there was association between Mothers' knowledge about prevention of diarrhea with educational level, occupation, monthly income, residence and information sources about diarrhea.

Chapter Five

Discussion of the Results

5.1. Discussion of demographic characteristics

5.1.1. Age

Table (4-1) showed the prevalence of study sample according to their age. It appears that (46.0%) of mothers were between the ages of 18-25. This result disagrees with the study of Workie, et al., (2018) which showed that the most of the mothers were between the ages of 25-34 years.

5.1.2 Level of education

This study reveals that the majority of the study sample had educational level of primary school (46.0%). This study disagrees with the study done by Workie, et al., (2018) who reported that majority of mothers were illiterate (48.8%).

5.1.3. Occupation

The current study showed that the majority of mothers worked as a housewife (64.0%). Wahab, M. J., (2022) supports this Study. He found that the most of mothers worked as a house wife (68.0%).

5.1.4. Monthly income

This study showed the prevalence of mothers was more common in families with barely insufficient income. (47%). This finding comes along with the study done by Wahab, M. J., (2022) who reported that the most of mothers had barely insufficient income (44%).

5.1.5. Residence

The current study shows that the prevalence of mothers is more in rural areas (52.0%) than urban areas (48.0%). This study disagrees with Wahab, M. J., (2022) who found that the prevalence of mothers is more prevalent in urban areas.

5.1.6. Number of children under 5 years of age

This study reveals that the majority of mothers have only one child under 5 years (62.0%). It disagrees with Wahab, M. J., (2022) who found that majority of mothers have 2 children under 5 years (44.0%).

5.1.7. Information source

In terms of information source, it was discovered that (42.0%) of mothers got their information from internet. This disagrees with the study of Wahab, M. J., (2022) which showed that the majority of mothers got their information from health care workers.

5.2. Discussion of mothers' knowledge about diarrhea and its prevention

The current study has found that most of the mothers gave the false answers and the level of knowledge about diarrhea and prevention of it was low as shown in table (4 – 2) and table (4 – 3). This may be due to the low educational level of the participated mothers as (46.0%) of them are primary school graduated. This result agrees with the study of Wahab, M. J., (2022) which found that most mothers have low knowledge regarding diarrhea and its prevention.

5.3. Discussion of the association between mothers' knowledge and their socio-demographic characteristics

The findings of the current study have shown that there is significant association ($P < 0.05$) between mothers' knowledge about diarrhea and prevention of it and each of educational level, occupation, monthly income, residence and source of information. Wahab, M. J., (2022) supports this result, he found that there is

significant association between mothers' knowledge and each of educational level, monthly income and source of information.

Chapter Six
Conclusions and Recommendations

6.1. Conclusions

The results of the study can be concluded as follows:

1. Most of the mothers were between the ages of 18 and 25 years.
2. The majority of mothers were of low educational level
3. The majority of mothers worked as a housewife.
4. Most of the mothers have a moderate economic status.
5. Most of the mothers live in rural areas.
6. The majority of mothers have only one child under the age of 5 years.
7. Most mothers have low level of knowledge about diarrhea and its prevention.
8. There was an association between mothers' knowledge about diarrhea and its prevention and each of educational level, occupation, monthly income, residence and source of information.

6.2. Recommendations

1. Conducting educational program to promote mothers' knowledge regarding causes, prevention and management of diarrhea at home.
2. Conduct community workshops: Organize interactive sessions where healthcare professionals can educate mothers about diarrhea, its prevention, and practical tips for maintaining good hygiene practices.
3. Utilize popular social platforms to share educational content, raising awareness about diarrhea prevention through engaging visuals, videos, and informative posts.
4. Train community health workers to visit homes, providing personalized education on diarrhea prevention and distributing relevant materials directly to mothers.

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استبانة رقم (١)

المعلومات الديموغرافية

١ . العمر: ☐

٢ . المستوى التعليمي:

☐ لا تقرأ ولا تكتب ☐ خريجة ابتدائية

☐ خريجة متوسطة ☐ خريجة إعدادية

☐ خريجة كلية ☐ خريجة دراسات عليا

٣ . المهنة:

☐ موظفة ☐ ربة بيت ☐ أعمال حرة ☐ طالبة

٤ . الدخل الشهري:

☐ يكفي ☐ بالكاد يكفي ☐ لا يكفي

٥ . محل الإقامة:

☐ ريف ☐ مدينة

٦. عدد الأطفال بعمر اقل من ٥ سنوات: ☐

٧. مصادر المعلومات حول الإسهال:

☐ العاملين في الرعاية الصحية ☐ الإنترنت ☐ التلفاز ☐ غير ذلك

استبانة رقم (٢)

معرفة الأمهات حول الإسهال وطرق الوقاية

ت	معرفة الأمهات حول الإسهال	نعم	لا
١	يقصد بالإسهال هو تكرار خروج البراز الرخو (٣ مرات او اكثر)		
٢	يعتبر التنوع في الطعام احد أسباب الإسهال		
٣	ينتقل الإسهال في الأطفال من شخص لآخر		
٤	من العلامات والأعراض المرتبطة بالإسهال مرونة الجلد العالية		
٥	من الأطفال الأكثر عرضة للإصابة بالإسهال طفل لديه حساسية أغذية		
٦	من مضاعفات الإسهال الجفاف		
٧	يعتبر الاسهال من الامراض التي تهدد حياة الطفل		

ت	معرفة الأمهات حول طرق الوقاية من الاسهال	نعم	لا
١	يمكن الوقاية من الإسهال من خلال تجنب تناول بعض الأطعمة الملوثة		
٢	للوقاية من الإسهال يفضل إطعام الطفل في اليوم ٣ – ٤ مرات		
٣	لتجنب الإسهال يفضل أن يكون نوع المياه التي تستخدم للإحتياجات اليومية ماء مغلي ومبرد		
٤	تقريب الطفل عن مياه الصرف الصحي يمكن أن تجنب الإصابة بالإسهال		
٥	يجب تجنب الأطعمة المطبوخة جيدا لأنها تسبب الإسهال		
٦	لغسل اليدين أهمية قصوى للوقاية من الإسهال ويجب أن يكون غسل اليدين بالماء والصابون بعد الطعام فقط		
٧	الحليب المفضل للطفل لحمايته من الإسهال هو حليب الأم		
٨	لوقاية الطفل من الإسهال يجب تناول الأطعمة المعدة بالبيت		
٩	من العادات التي تقي الطفل من الإصابة بالإسهال التقليل من إرضاع الطفل		
١٠	يجب تجنب الأطعمة الدهنية اثناء فترة الاسهال		

الخبراء المحكمين لاستمارة الاستبيان

ت	اسم الخبير	اللقب العلمي	مكان العمل
١.	عبد الجبار جميل	أستاذ دكتور	كلية الطب/ جامعة تكريت
٢.	عاشور رفعت سرحت	أستاذ دكتور	كلية التمريض/جامعة تكريت
٣.	سرى سعد عبد العزيز	استاذ مساعد	كلية التمريض/جامعة تكريت
٤.	هدى ضامن عبدالجبار	مدرس	كلية التمريض/جامعة تكريت
٥.	ناريمان محمد احمد	مدرس مساعد	كلية التمريض/جامعة تكريت
٦.	احمد محمود يونس	مدرس مساعد	كلية التمريض/جامعة تكريت

الخلاصة

يعد الإسهال أحد الأسباب الرئيسية لمراضة ووفيات الرضع والأطفال الصغار على مستوى العالم. ونظرًا لأن الأمهات هن مقدمي الرعاية الصحية الرئيسيات، فإن وعيهن بالإسهال أمر مهم. لتقييم معرفة الأمهات فيما يتعلق بالإسهال والوقاية منه لدى الأطفال دون سن الخامسة، أجريت دراسة وصفية في مدينة تكريت. بدأت الدراسة في الفترة من ٥ فبراير ٢٠٢٤ إلى ٢٥ فبراير ٢٠٢٤. وشملت عينة الدراسة (١٠٠) أم لأطفال دون سن الخامسة الذين حضروا في وحدة طب الأطفال في مستشفى تكريت التعليمي. من أجل جمع بيانات الدراسة، تم بناء هذا الاستبيان على أساس مراجعة واسعة النطاق للأدبيات. وهي مكونة من جزأين، تضمن الجزء الأول (٧) فقرات ركزت على الخصائص الديموغرافية والاجتماعية للأمهات. ويتناول الجزء الثاني معرفة الأمهات عن الإسهال والوقاية منه ويشتمل على (١٧) فقرة. تم تحديد صدق المحتوى من خلال عرض الاستبيان على لجنة مكونة من (٦) خبراء. تم تحديد ثبات الأداة من خلال الاتساق الداخلي للاستبيان الذي تم تقييمه عن طريق حساب ألفا كرونباخ ($\alpha = 0.762$) من خلال اختبار - إعادة الاختبار على (٢٥) عينة خلال الفترات من ١ فبراير ٢٠٢٤ إلى ٤ فبراير ٢٠٢٤. وقد وجدت الدراسة أن (٦٤,٠%) من الأمهات لديهن مستوى منخفض من المعرفة حول الإسهال والوقاية منه و (١٦,٠٪) منهن لديهن مستوى متوسط من المعرفة. وخلصت الدراسة إلى أن معظم الأمهات لديهن مستوى منخفض من المعرفة حول الإسهال والوقاية منه. وأوصت الدراسة بإجراء برنامج تعليمي لتعزيز معرفة الأمهات بأسباب الإسهال والوقاية منه وعلاجه في المنزل.

بسم الله الرحمن الرحيم

﴿يَرْفَعِ ٱللَّهُ ٱلَّذِينَ ءَامَنُواْ مِنكُمْ وَٱلَّذِينَ أُوتُواْ ٱلْعِلْمَ دَرَجَٰتٍ﴾

سورة المجادلة (١١)

وزارة التعليم العالي والبحث العلمي
جامعة تكريت
كلية التمريض

تقييم معارف الأمهات فيما يتعلق بالإسهال والوقاية منه لدى الأطفال دون سن الخامسة في مدينة تكريت

مشروع بحث تقدم به:

ريم عجمي عبد
مريم كنعان إبراهيم
مها طالب ابراهيم

إلى

مجلس كلية التمريض – جامعة تكريت

وهو جزء من متطلبات نيل درجة البكالوريوس في علوم التمريض

بإشراف

م.د. هدى ضامن عبد الجبار

University of Tikrit
Collge of Nursing

clinical assessment symptomys and causes of Polysystic Ovarian Syndrome in women

Graduation Project in Nursing

By

Aleea Awad jread

Sara Adel kadoori

Somaya Khalied khresan

To

The Council of the College of Nursing – University of Tikrit

In Partial Fulfillment of the Requirements for the Degree of

Bachelorof Sciences in Nursing

Supervised by

Dr. Abdul Rahman Jihad Mansour

And

Sanaa Ghazi Mustafa

Assist. Lecturer

2024A.D **1446A.H**

بسم الله الرحمن الرحيم

﴿وَءَاتَىٰكُم مِّن كُلِّ مَا سَأَلْتُمُوهُ ۚ ﴿٣٤﴾﴾

[سورة إبراهيم: ٣٤].

إهداء

إلى من علَّمني كيف أقف بكل ثبات فوق الأرض (أبي المحترم)

إلى نبع المحبة والإيثار والكرم (أمي الموقَّرة)

وشكر وتقدير للأستاذة الغالية (سناء غازي)

ومشرف بحثنا الدكتور (عبد الرحمن جهاد)

إلى جميع من تلقَّيتُ منهم النصح والدعم

أهديكم خلاصة جُهدي العلمي

Abstract

Background: Polycystic ovary syndrome (PCOS) affects 5–20% of women of reproductive age worldwide. The condition is characterized by hyperandrogenism, ovulatory dysfunction and polycystic ovarian morphology (PCOM) — with excessive androgen production by the ovaries being a key feature of PCOS. Metabolic dysfunction characterized by insulin resistance and compensatory hyperinsulinemia is evident in the vast majority of affected individuals. PCOS increases the risk for type 2 diabetes mellitus, gestational diabetes and other pregnancy-related complications, venous thromboembolism, cerebrovascular and cardiovascular events and endometrial cancer.

Objective: To Estimate the commonest presentation of poly cystic ovary syndrome among women, to identify causes, and to find the relationship between the result study and selected variable.

Method and Material: descriptive cross – sectional study design was conducted on (90) women with uterine fibroid who attending hospitals in Tikrit city. To accomplish the objectives of the study, a structured interviewing questionnaire was used to collect information related to demographic information, obstetric and gynecological history, clinical presentation, and causes.

Results: the highest percentage of sample are women at age group31-38 years (42.6%), regarding marital status, the highest percentage is represented by married individuals (58.8%), and the vast majority of individuals do not smoke (93.3%). The most prevalent symptom among the participants is excess body hair, with 87.2% reporting no excess body hair. In terms of the acne, the majority of participants (70.0%) reported having.

Conclusions Recommendations: The study concluded that most of the study sample was complaining of acne, hair loss, and backache and the less

common is Asymptomatic**.** The study recommends the necessity to routine Ultrasound scanning in women of reproductive age early in order to manage them promptly so as to prevent the associated complication.
Keywords: poly cystic ovary syndrome, clinical presentation.

List of Contemts

CHAPTER ONE

INTRODUCTION

Chapter One

Introduction

1.1. Introduction:

Polycystic ovary syndrome is a heterogeneous endocrine disorder that affects about one in 15 women worldwide,and is the commonest female endocrinopathy and affects between 6% and 10% of premenopausal women(Abd El Gwad et al., 2020)

The major endocrine disruption is excessive androgen secretion or activity, and a large proportion of women also have abnormal insulin activity. Many body systems are affected in polycystic ovary syndrome, resulting in several health complications, including menstrual dysfunction, infertility, hirsutism, acne, obesity, and metabolic syndrome. Women with this disorder have an established increased risk of developing type 2 diabetes and a still debated increased risk of cardiovascular disease(Sowmya, 2019).

The diagnostic traits of polycystic ovary syndrome are hyperandrogenism, chronic anovulation, and polycystic ovaries, after exclusion of other conditions that cause these same features. A conclusive definition of the disorder and the importance of the three diagnostic criteria relative to each other remain controversial. The cause of polycystic ovary syndrome is unknown, but studies suggest a strong genetic component that is affected by gestational environment, lifestyle factors, or both (Escobar-Morreale, 2018).

The most widely accepted clinical definition of the polycystic ovary syndrome is the association of hyperandrogenism with chronic anovulation in women without specific underlying diseases of the adrenal or pituitary glands(Palomba et al., 2023)

Hyperandrogenism is characterized clinically by hirsutism, acne, and androgen-dependent alopecia and biochemically by elevated serum concentrations of androgens, particularly testosterone and androstenedione. Obesity is common but not universal(Zaib et al., 2023).

Typically, these features are associated with hypersecretion of luteinizing hormone and androgens but with normal or low serum concentrations of follicle-stimulating hormone.

Ironically, although the early descriptions of the syndrome were based on ovarian morphology, this has not been considered an essential requirement for the diagnosis. The recent application of modern, high-resolution diagnostic ultrasonography has again tipped the balance toward a more morphologically based diagnosis (Peña et al., 2020).

Nevertheless, there is remarkable concordance between the results of studies wherein diagnoses have been based on ultrasonographic criteria and the results of those in which the polycystic ovary syndrome has been defined on the basis of clinical and biochemical criteria (Pea et al., 2024)

1.2. Significance of the study

Polycystic ovary syndrome is a worldwide problem with significant adverse consequences on women in reproductive age, with PCOS they are more likely to develop certain serious health problems. These include type 2 diabetes, high blood pressure, problems with the heart and blood vessels, and uterine cancer and often have problems with their ability to get pregnant(fertility) (Louwers & Laven, 2020)

Through this study, we can say the PCOS is a major problem that affect women especially in reproductive age and the ovaries might not work the way they should.

So, this study was conducted to identifying the common clinical presentation and causes of polycystic ovarian syndrome.

1.3. Research Problem

What is the clinical Presentation and Causes of Polycystic Ovarian Syndrome in Women?

1.4. Specific Objectives of the Study:

1.To Describe Demographical characteristics of study participants.

2.To Estimate the commonest clinical presentation of polycystic ovarian syndrome among women.

3.To identify the causes of polycystic ovarian syndrome among women.

4. To find the relationship between the result study and selected demographic variable.

1.5 Definition of the Terms:

- **Clinical presentation**

  A. **Theoretical definition:** The constellation of physical signs or symptoms associated with a particular morbid process, the interpretation of which leads to a specific diagnosis (Edzie et al., 2023).

  B. **Operational definition:** is the mode by which a patient present to a physician and represents the clinical problem a physician is expected to manage.

- **Polycystic ovarian syndrome**

A. Theoretical definition: is a problem with hormones that happens during the reproductive years (Bellver et al., 2018)

B. Operational definition: ovaries might be bigger. Many follicles containing immature eggs may develop around the edge of the ovary.

CHAPTER TWO

Literature Review

Chapter Two

Literature Review

2.1. Overview:

The name ‘PCOS’ focuses on just one diagnostic feature – polycystic ovarian morphology – which is a misleading description of the ovarian features Women with PCOS often believe they have multiple ovarian cysts based on the name of the condition. However, the ‘cysts’ are actually egg-containing follicles that arrest during follicular growth. While polycystic ovaries have an elevated number of follicles and more stromal tissue containing more collagen (Falcone & Hurd, 2022).

This is only one diagnostic feature of the syndrome of PCOS. Note that in this article we critically distinguish the discussion between the syndrome of PCOS, and the clinical feature of polycystic ovaries.

The majority of women with PCOS have elevated androgen levels due in large part to the increased number of antral follicles containing thecal cells that hypersecrete androgens .They therefore exhibit symptoms of excess androgen (hirsutism, acne and not only experience infertility (menstrual irregularity, anovulatory infertility, miscarriage) but also have substantially increased risk of becoming obese, insulin resistant and of developing type 2 diabetes , non-alcoholic fatty liver disease, dyslipidaemia and depression (Xu & Qiao, 2022).

Women with PCOS have at least a four-fold increased risk of type 2 diabetes, even without taking into account their additional predisposition to becoming overweight. Thus PCOS can be considered a syndrome where hormonal underpinnings cause both reproductive and metabolic features (Louwers & Laven, 2020).

Diagnostic criteria for PCOS have evolved following meetings of experts in 1990 hosted by the NIH in 2003 in Rotterdam and subsequently by the Androgen Excess Polycystic Ovary Syndrome Society.

Evidence-based guidelines for diagnosis and treatment have been developed and focus on the combination of key features including oligo or amenorrhea evidence of androgen excess and polycystic ovarian morphology(Huddleston & Dokras, 2022) .

2.2. Prevalence:

Although it has long been known that the polycystic ovary syndrome is an important cause of anovulation and hirsutism, few studies have attempted to define its prevalence in women with these symptoms(Wolf et al., 2018).

In a study of 175 anovulatory women presenting consecutively to a reproductive endocrine clinic, 30 percent of those with amenorrhea and 75 percent of those with oligomenorrhea had ultrasonographic evidence of polycystic ovaries. More than 60 percent of these women were hirsute, and 90 percent had elevated serum concentrations of luteinizing hormone or androgens (or both)(March et al., 2010).

These findings are supported by a study in which clinical and biochemical, rather than ultrasonographic, criteria were used to make the diagnosis of polycystic ovary syndrome. In a series of women being treated at a regional infertility center in southwest England, 37 percent of those with amenorrhea and 90 percent of those with oligomenorrhea (overall, 73 percent of the cases of anovulatory infertility) were found to have the polycystic ovary syndrome. Subsequently, clinical and biochemical markers of the

syndrome were correlated with ultrasonographic results, and a high degree of concordance was observed between the findings(Zhang et al., 2021).

Surprisingly, polycystic ovaries were detected by ultrasonography in 40 of 46 women (87 percent) presenting with hirsutism but with regular menses (i.e., “idiopathic hirsutism”). The recognition of polycystic ovaries in women with regular menstrual cycles is an important finding. First, it belies the idea that the polycystic morphology simply indicates a nonspecific response of the ovary to chronic anovulation. Second, the evidence that this group of women shares the biochemical, as well as the morphologic, characteristics of anovulatory women with polycystic ovaries suggests that the former group represents a particular presentation of the same underlying disorder. Third, it relegates the diagnosis of idiopathic hirsutism to the minority of women with hyperandrogenism alone. These findings have since been supported by the results of other studies, including an analysis of 350 hirsute women among whom polycystic ovaries were found by ultrasonography in over 50 percent of those with regular cycles(Arpitha, 2020).

Polycystic ovaries are also common in women with hyperandrogenism — with or without menstrual disturbances or hirsutism — whose principal presenting symptom is acne, seborrhea, or male-pattern alopecia. It is a moot point whether patients with polycystic ovaries, hyperandrogenism, and regular menses should be considered to have the polycystic ovary syndrome. They do not fit the classic definition of the syndrome, which includes anovulation, but there is clearly considerable overlap between this group and those with anovulation(Zeng et al., 2020).

For example, it is well recognized that women with the polycystic ovary syndrome and oligomenorrhea may occasionally have spontaneous ovulatory cycles(He et al., 2020).

The high frequency of polycystic ovaries in patients with symptoms of hyperandrogenism or anovulation prompted my colleagues and me to investigate the prevalence of ultrasonographic features indicative of polycystic ovaries in the normal population. We found ultrasonographic evidence of polycystic ovaries in 22 percent of 257 volunteers, none of whom had found it necessary to seek medical attention for gynecologic symptoms. Nevertheless, even within this “normal” population, there was a striking correlation between clinical (and biochemical) features and ultrasonographic appearance. Seventy-five percent of the women with polycystic ovaries had irregular menses, whereas only 1 of the 115 women with normal ovaries had abnormal cycles(Jabeen et al., 2022).

Likewise, objective evidence of hirsutism was observed more often in women with polycystic ovaries (45 percent) than in those with nonpolycystic morphologic features (7 percent). Overall, 94 percent of the normal women with polycystic ovaries had at least one symptom that could be considered to be a clinical marker of polycystic ovary syndrome. The effect of polycystic ovaries on the future reproductive function of these women remains unclear(Velez et al., 2021).

2.3Pathogenesis

Despite the heterogeneity of clinical presentations of women with polycystic ovaries, there is a common thread of biochemical features that links the spectrum of symptoms and signs. The endocrine hallmarks are hyperandrogenemia and, to a lesser extent,

hypersecretion of luteinizing hormone. It seems likely, however, that abnormal gonadotropin secretion is a result, rather than the cause, of ovarian dysfunction(Ishizuka, 2021).

Although it is clear that hypersecretion of adrenal androgens may contribute to the hyperandrogenemia of women with the polycystic ovary syndrome, the weight of evidence favors the ovary as the principal source of excess androgen secretion. In particular, pituitary and ovarian suppression by long-acting analogues of gonadotropin–releasing hormone results in a decline in serum androstenedione and testosterone concentrations to within the range for menopausal women or those who have undergone ovariectomy(Acharya et al., 2020).

The biochemical basis of the putative disorder of ovarian androgen biosynthesis remains unclear. There is evidence, from both clinical and in vitro studies of human ovarian theca cells, of dysregulation of the rate-limiting enzyme in androgen biosynthesis, cytochrome P-450c17α, which catalyzes both 17α-hydroxylase and 17,20-lyase activities(Elzenaty et al., 2022).

Cytochrome P-450c17α is expressed in the adrenal glands as well as in the ovary, and recent data suggest that although the polycystic ovary syndrome is primarily a manifestation of ovarian hyperandrogenism, some women with polycystic ovaries also have an exaggerated response of androstenedione and 17α-hydroxyprogesterone to exogenous corticotropin. In other words, an intrinsic abnormality of P-450c17α activity could explain both ovarian and adrenal hyperandrogenism in the polycystic ovary syndrome(Connolly et al., 2018).

2.4 Genetic Basis of the Syndrome

The polycystic ovary syndrome is a familial disorder, but the genetic basis of the syndrome remains controversial. Determining the mode of inheritance of this syndrome is difficult because there has been no clearly described male phenotype and because it is a disorder that affects principally women of reproductive age. However, a recent study of 150 subjects in 10 families of women with the syndrome revealed evidence of an autosomal dominant mode of inheritance, with premature balding in men being the putative male phenotype(Bruno et al., 2022).

What is the role of insulin resistance in the pathogenesis of ovarian hyperandrogenism and the polycystic ovary syndrome? Full expression of the syndrome may require the interaction of an insulin abnormality with an underlying disorder of androgen biosynthesis, but an abnormality of insulin action alone is unlikely to cause hyperandrogenism. The precise nature of the interaction of androgens and insulin awaits identification of the gene (or genes) involved, but this interrelation provides a model that may begin to explain the heterogeneity of the polycystic ovary syndrome(Ding et al., 2021).

2.5Clinical Presentation

- **Irregular periods:** Abnormal menstruation involves missing periods or not having a period at all. It may also involve heavy bleeding during periods.
- **Abnormal hair growth:** grow excess facial hair or experience heavy hair growth on the arms, chest and abdomen. This affects up to 70% of people with PCOS.

- **Acne:** PCOS can cause acne, especially on the back, chest and face. This acne may continue past teenage years and may be difficult to treat.
- **Obesity:** Between 40% and 80% of people with PCOS have obesity and have trouble maintaining a weight that's healthy for them.
- **Darkening of the skin:** may get patches of dark skin, especially in the folds of neck, armpits, groin (between the legs) and under the breasts. This is known as acanthosis nigricans
- **Cysts:** Many people with PCOS have ovaries that appear larger or with many follicles (egg sac cysts) on ultrasound.
- **Thinning hair:** People with PCOS may lose patches of hair on their head or start to bald.
- **Infertility:** PCOS is the most common cause of infertility in people AFAB. Not ovulating regularly or frequently can result in not being able to conceive

Typical clinical features of the polycystic ovary syndrome are summarized in. Hyperandrogenism presents as hirsutism, acne, or male-pattern alopecia. Anovulation manifests itself as menstrual disturbance — amenorrhea, oligomenorrhea, or dysfunctional uterine bleeding — and infertility(Arathy Raj, 2020).

Obesity is common but not usually a presenting symptom. In many cases, a history of menstrual disturbance dates back to the menarche. Menarche may be delayed, and presentation with primary amenorrhea is uncommon but well recognized. Hirsutism and obesity may be present in adolescent girls, even before the menarche. At any institution, the relative frequencies of the various presenting

symptoms will, of course, depend primarily on the particular interests of the referral centers(Naz et al., 2020).

The degree of hirsutism can be assessed by the Ferriman–Gallwey score, a simple, semiquantitative method for recording the distribution and severity of excess body hair. Examination may also reveal, particularly in obese subjects, acanthosis nigricans, a cutaneous indicator of hyperinsulinemia(Radu et al., 2022).

2.6 Diagnosis and Differential Diagnosis

The diagnosis of polycystic ovary syndrome is usually made on the basis of a combination of clinical, ultrasonographic, and biochemical criteria(Rao & Bhide, 2020).

A woman presenting with oligomenorrhea is likely to have the polycystic ovary syndrome if she has one or more of these three features:

polycystic ovaries on ultrasonography, hirsutism, and hyperandrogenemia. Many women with the syndrome have hypersecretion of luteinizing hormone, although normal serum concentrations of luteinizing hormone do not rule out the diagnosis. The diagnosis of polycystic ovary syndrome in a woman presenting with hirsutism and regular cycles is more contentious, but the finding of polycystic ovaries on ultrasonography in association with moderate hyperandrogenemia (i.e., serum testosterone concentrations of 85 to 150 ng per deciliter [3 to 5 nmol per liter]) points to a benign, ovarian cause of the hirsutism, whether or not the term “polycystic ovary syndrome” is used(Rao & Bhide, 2020).

The differential diagnosis of polycystic ovary syndrome includes patients with menstrual disturbances and hirsutism in whom the primary diagnosis is of pituitary or adrenal diseases — for example,

hyperprolactinemia, acromegaly, and classic or nonclassic congenital adrenal hyperplasia. These “polycystic-ovary–like” syndromescan be identified by the presence of other, specific, clinical and biochemical features(Yesiladali et al., 2022).

The need for further biochemical or radiologic investigations should be determined by the clinical context and the results of initial screening tests. The polycystic ovary syndrome can be distinguished from late-onset (nonclassic) congenital adrenal hyperplasia due to 21-hydroxylase deficiency by measuring the 17α-hydroxyprogesterone response to corticotropin, but it is arguable whether such a test should be performed routinely in populations in which the frequency of congenital adrenal hyperplasia is low or in women whose serum testosterone concentrations are less than 150 ng per deciliter(Sarafoglou et al., 2023).

The differential diagnosis of hirsutism includes androgen-secreting tumors of the ovary or adrenal gland. Although rare, it is important to consider this diagnosis in patients with a short history of hirsutism, those with severe hirsutism, and those whose serum testosterone concentrations are greater than 200 ng per deciliter (7 nmol per liter). The presence of acanthosis nigricans in a patient with marked virilization is a useful clinical marker, since this suggests the polycystic ovary syndrome and is not a feature of androgen-secreting tumors(Sardana et al., 2024).

2.7 Causes

The exact cause of PCOS isn't known. Factors that might play a role include:

- **Insulin resistance.** Insulin is a hormone that the pancreas makes. It allows cells to use sugar, your body's primary energy supply. If

cells become resistant to the action of insulin, then blood sugar levels can go up. This can cause your body to make more insulin to try to bring down the blood sugar level(Khalilov & Abdullayeva, 2023).

Too much insulin might cause your body to make too much of the male hormone androgen. You could have trouble with ovulation, the process where eggs are released from the ovary.

One sign of insulin resistance is dark, velvety patches of skin on the lower part of the neck, armpits, groin or under the breasts. A bigger appetite and weight gain may be other signs(Arora & Mathachan, 2021).

- **Low-grade inflammation.** White blood cells make substances in response to infection or injury. This response is called low-grade inflammation. Research shows that people with PCOS have a type of long-term, low-grade inflammation that leads polycystic ovaries to produce androgens. This can lead to heart and blood vessel problems(Rasha et al., 2023).
- **Heredity.** Research suggests that certain genes might be linked to PCOS. Having a family history of PCOS may play a role in developing the condition(Welt, 2021).
- **Excess androgen.** With PCOS, the ovaries may produce high levels of androgen. Having too much androgen interferes with ovulation. This means that eggs don't develop on a regular basis and aren't released from the follicles where they develop. Excess androgen also can result in hirsutism and acne(Ding et al., 2021).

2.8 Complications

Complications of PCOS can include:

- Infertility
- Gestational diabetes or pregnancy-induced high blood pressure
- Miscarriage or premature birth
- Nonalcoholic steatohepatitis — a severe liver inflammation caused by fat buildup in the liver
- Metabolic syndrome — a cluster of conditions including high blood pressure, high blood sugar, and unhealthy cholesterol or triglyceride levels that significantly increase your risk of heart and blood vessel (cardiovascular) disease(Falcetta et al., 2021).
- Type 2 diabetes or prediabetes
- Sleep apnea
- Depression, anxiety and eating disorders
- Cancer of the uterine lining (endometrial cancer)

2.9 Therapy

Treatment for polycystic ovary syndrome focuses on treating symptoms. They can include infertility, too much hair, pimples or obesity. prescribed treatment may include lifestyle changes or medications(Zehravi et al., 2021).

A. Lifestyle changes

May recommend weight loss through a low-calorie diet with moderate exercise. Even if management to lose a little weight, such as losing 5% of the body weight, it can improve the condition. Weight loss can also increase the effectiveness of medications recommended by doctor to treat polycystic ovary syndrome, in addition to helping to treat infertility. The doctor and registered dietitian will work to determine the best plans for weight loss(Li et al., 2022).

B. Medications

To regulate the menstrual cycle, may recommend:

- **Combined pills.** Grains containing both estrogen and progestin reduce androgen production and regulate the level of estrogen. Regulating hormones also helps reduce the risk of endometrial cancer, treats irregular bleeding, and reduces excessive hair growth and acne(Manouchehri et al., 2023).
- **Progestin therapy.** Taking progestins for 10 to 14 days every month or two helps regulate the menstrual cycle and prevents endometrial cancer. But progestin therapy doesn't help improve androgen levels and won't prevent pregnancy. If you also want to prevent pregnancy, it's best to take a small pill that contains only progestin or an IUD containing progestin(Gompel, 2020).

To help ovulate for pregnancy, the doctor may recommend:

- **Clomiphene.** This oral anti-estrogen drug is taken during the first phase of the menstrual cycle.
- **Letrozole (Femara).** This breast cancer treatment may be effective in stimulating the ovaries.
- **Metformin.** It is a medication intended for patients with type II diabetes taken orally to relieve insulin resistance and lower insulin levels. If don't get pregnant with successful clomiphene, the doctor may recommend taking metformin with it to stimulate ovulation. If you have prediabetes, metformin can slow the progression of type II diabetes and help you lose weight(Sciannimanico et al., 2020).
- **Gonadotropin guides.** These hormonal drugs are given by injection.

Talk to your doctor about procedures that can help you get pregnant. For example, in vitro fertilization may be one option(Han et al., 2023).

To reduce excessive hair growth or relieve acne, the doctor may recommend:

- **Birth control pills.** These pills reduce androgen production, which may cause overgrowth and acne.

- **Spironolactone (Aldactone).** This medicine prevents androgen effects on the skin, which include hair overgrowth and acne. Spironolactone can also cause birth defects, so an effective method of birth control should be used when taking this medicine. This medicine is not recommended if you are pregnant or planning to become pregnant(Wang et al., 2023).
- **Evornithine (Vaniqa).** This cream can slow down the growth of facial hair.
- **Hair removal.** Electrolysis and laser hair removal are common hair removal options. Electrolysis involves stitching a small needle into each hair follicles. The needle transmits a pulse of electric current. This electric current damages the hair follicle and then destroys it. Laser hair removal is a medical procedure that uses a focused beam of light to remove unwanted excess hair. You may need several treatments such as electrolysis or laser hair removal. Other options include shaving or pulling hair or using unwanted hair removal creams. However, the effect of these options is temporary, and may cause the hair to thicken when it grows back(Yuan et al., 2022).
- **Methods of treating acne.** Medications, such as pills and a topical cream or gel, may help relieve acne(Eichenfield et al., 2021).

CHAPTER THREE

METHODOLOGY

Chapter Three

Methodology

3.1 .Ethical Considerations:

Ethical approval was obtained to conduct the study from the Nursing College at the University of Tikrit. The study's purpose and procedures were explained and emphasize the study participant's right to self-determination, confidentiality, and anonymity. Numerical codes were used instead of the participant's names on the and interviewing questionnaires to ensure confidentiality.

3.2 Study Design:

The study is a non-experimental, descriptive cross – sectional study design to accomplish the objectives of the study for the period extended from……...

3.3 Setting of the Study:

The study was carried out in Tikrit city, on four hospitals as following:

3.4 Data Collection Period:

The data of the current study were collected from four hospitals in Tikrit city for the period from the 1 of ….to….

3.5 Sample of the Study:

A non-probability sample was purposively selected according to the inclusion and exclusion criteria of women with poly cystic ovarian syndrome.

3.5.1 Inclusion Criteria:

1. All female with polycystic ovarian syndrome.
2. Age range (15-45).
3. Fertile and not fertile women.
4. Participant consent.

3.5.2 Exclusion Criteria:

1. Age less than (15years) or more than (45 years).

2.Pregnant women.

3. Refusal to participate in this study.

3.6. Data Collection Tools:

The study instrument was a structured interviewing questionnaire and composed of (6) parts, which included the following: **(Appendix B)**

Part One:

This part included the following items:

1.Demographic information: (age, marital status, occupation, educational level, residency, and smoking)

2.Weight, Height, BMI.

Part Two:

This part of the questionnaire focuses on obstetric and gynecological history and contains (7) items including:

Menarche Age, Failure to conceive, Subfertility type, Family history of PCOS, Contraceptive use, Medical history, Menstrual history, Length of cycle, Blood flow per cycle, Presence of clots, Need for double

protection, Presence of intermenstrual bleeding, Menstrual cycle Regularity (last 3 cycle).

Part three: clinical presentation and Causes

This part focus on clinical presentation and Causes which includes: asymptomatic, pelvic pain, leg pain, pain during sexual intercourse, backache, frequent urination, hair loss, fatigue, abdominal mass, hormonal imbalance, mood changes, hirsutism, acne, anemia.

3.7 Data Collection Methods:

The data collection tool used in this study was a structured questionnaire form. The questionnaire was designed in Arabic and then translated into English. It consisted of six parts and was designed based on a literature review, experience, and previous research. The data was collected from each participant by direct interview after taking her verbal consent, and some information was obtained from women's records. Each participant needed approximately (15-20) minutes to complete the data collection.

3.8 Pilot Study:

The pilot study was carried out from…….. to…. The pilot study was conducted before the start of the study and consisted of (00) women. The samples of the pilot study had the same characteristics as that of the final study and were excluded from the original samples.

The aims of the pilot study were:

1. To identify the problems that may be met during the study.
2. To test the reliability of the study.

3. To ensure the stability and consistency of the tool and to determine the feasibility of the study.
4. To make needed alteration in the data collecting method.

3.8.1 Validity:

Validation of the tool of the study was performed to provide confidence in the results through a panel of …. experts was chosen from different specialties to examine content validity for clarity, relevance, and applicability of it (Appendix c). This process helped to ensure that the questions were relevant and appropriate for the study, and that the questionnaire accurately assessed the information it was intended to measure.

3.8.2 Reliability:

The reliability test was done to measure the errors in the measurement technique, therefore each instrument used in this study was assessed by statistical analysis. Pearson Correlation coefficients were computed to measure the reliability of the study tools throughout the application of the Test-retest reliability coefficients (or called coefficients of stability) which was of high reliability at r value = (0.83) that was significant at ($P.< 0.05$) level. And this means that the tools are stable and reliable

3.9 Statistical Data Analysis:

In this study statistical analysis of data was done by SPSS software version 26 and Microsoft Excel for graphing. Descriptive stats included frequency, percentage, mean and standard deviation. Fisher's exact test was used for categorical variables and Phi-correlation to find

relationships between variables. A statistician was hired to analyze study results.

3.10 Limitation of the Study:

1.The sample size of the study is not large enough to generalize the results to a larger population.

2.Unavailability of rooms to conduct the interview.

3.Short study period.

CHAPTER FOUR

RESULT

Chapter Four

Result

In this chapter, the result that appeared in this study are presented through tables and the relationship between variable.

Table (4-1): Description of demographic characteristics of the study participants(N:90)

Variables		Frequency	Percentage
Age	15-22 Years	31	34.4%
	23-30 Years	35	38.8%
	31-38 Years	19	21.1%
	39-46 Years	5	5.5%
Body Mass Index	Underweight	7	7.7%
	Healthy weight	13	14.4%
	Overweight	40	44.4%
	Obesity	20	22.2%
Marital status	Married	53	58.8%
	Single	27	28.8%
	Other	10	11.11%
Occupation	Employed	45	50%
	Housewife	35	38.8%
	Student	10	11.11%
Education	Illiterate	11	12.2%

level	Read and write	13	14.4%
	Primary education	20	22.2%
	Secondary education	25	27.7%
	High education	21	23.3%
Residency	Urban	55	61.1%
	Rural	35	38.8%
Smoking status	No	84	93.3%
	Yes	6	6.%
Total		**90**	**100.0**

***Body mass index calculates as; less than 18.5 (underweight),18.5 to <25 (healthy weight),25.0 to <30 (overweight), and 30.0 or higher (obesity).*

This table presents data on various variables including age, body mass index (BMI), marital status, occupation, education level, residency, and smoking status. The frequency and percentage distributions are provided for each category within these variables. In terms of age, the largest group comprises individuals aged 23-30 years (38.8%), followed by those aged 15-22 years (34.4%). The age group, 31-38 years, has the smallest frequency (21.1%). Regarding BMI, the majority of individuals fall within the overweight range (44.4%), while obesity and healthy weight are observed in 22.2% and14.4% of the population, respectively. Regarding marital status, the highest percentage is represented by married individuals (58.8%), followed by singles (28.8%), and other (11. 11%).In terms of occupation, the majority are employed (50.0%), followed by housewives' individuals (38.8%) and students (11.11%). Regarding education level, the largest group consists of individuals who secondary education27.7% and can read and write (14.4%), while illiterate individuals make up 12.2% of the population. Primary education and are

observed in 22.2% of individuals, while the highest education level is reported by 23.3% of the population. In terms of residency, the population is almost evenly split between urban (61.1%) and rural (38.8%) areas. Finally, the vast majority of individuals do not smoke (93.3%), with only a small proportion reporting smoking habits (6.0%).

Table 4-2: Description of the Obstetric and Gynecological History of the study participants (N: 90).

Variables		Frequency	Percentage
Menarche Age	≤ 10 Years	11	12.2%
	11-14 Years	59	65.5%
	≥ 15 Years	20	22.2%
Family history pcos	No	35	38.8%
	Mother	30	33.3%
	Sister	25	27.2%
Diabetes mellitus	No	137	72.9%
	Yes	51	27.1%
Amount of blood	Mild	34	37.7%
	Moderate	46	51.1%
	Severe	10	11.11%
Need double protection	No	58	64.4%
	Yes	32	35.5%
Cycle Length	≤ 25 day(short)	25	27.7
	26-29 days (normal)	27	30
	≥ 30 days (long)	38	42.2

Cycle Duration	3-7 days	47	52.2
	≥ 8 days	43	47.7
Cycle Regularity	Regular	27	30%
	Irregular	63	70%
Presence of intermenstrual bleeding	No	171	91%
	Yes	17	9%
Total		**90**	**100.0**

In this table, there are various variables related to menstrual characteristics and reproductive history. Firstly, with regards to menarche age, approximately 12.2% of the sample experienced menarche at or before the age of 10, while the majority (65.5%) had their menarche between 11 and 14 years of age. A smaller proportion (22.2%) had a later menarche, occurring at the age of 15 years or older. Moving on to cycle length, the data indicates that 27.7% of the participants had short cycles (≤ 25 days), another 42.2% had long cycles (≥ 30 days), and the remaining 30% had cycles falling within the normal range of 26-29 days. Regarding cycle duration, the majority (52.2%) reported a duration of 3-7 days, while 47.7% experienced longer cycles of 8 days or more. In terms of cycle regularity, the data is evenly split, with 30.0% reporting regular cycles and 70.0% reporting irregular cycles. The table also provides information about the Presence of intermenstrual bleeding. The largest proportion of the sample (91%) reported no, and the smallest group (9%). About diabetes mellitus proportion (72.9%) don't had, and 27.1% experience. The presented data, based on a sample of 90 participants, offers valuable insights into menarche age, menstrual cycle characteristics, and reproductive history within the studied population.

Table4-3: Description of the Clinical presentation and cause for PCOS among study participants (N: 90).

Variables	No		Yes	
	Frequency	Percentage	Frequency	Percentage
Asymptomatic	85	94.4	5	5.5
Excess body hair	15	16.6	75	83.3
Pelvic pain	41	45.5	49	54.4
Leg pain	17	18.8	73	81.1
Pain during sexual intercourse	57	63.3	33	36.6
Backache	19	21.1	71	78.8
Frequent urination	31	34.4	59	65.5
Mood changes	13	14.4	57	85.5
Urine retention	27	30.0	63	70
Abdominal mass	54	60.0	36	40.0
Hair loss	11	12.3	79	87.7
Fatigue	10	11.11	80	88.8
Acne	27	30.0	63	70.0
Hormonal imbalance	23	25.5	67	74.4
Anemia	56	62.2	34	37.7

This table show the most prevalent symptom among the participants is excess body hair, with 16.6% reporting no excess body hair and 83.3% reporting its presence. Similarly, a majority of participants (94.4%)are experience symptoms, while 5.5% asymptomatic

When it comes to specific symptoms related to POCS, pelvic pain is reported by 54.4% of participants, while45.5 % do not experience it. Leg pain is also prevalent, with 81.1% experiencing it and 18.8% not reporting leg pain. Pain during sexual intercourse is experienced by 36.6% of participants, while 63.3% do not have this symptom.

Other symptoms include backache, with 78.8% of respondents indicating its presence and 21.2% reporting its absence. Frequent urination was reported by 48.9% of participants, while 51.1% did not experience this symptom. Difficulty emptying the bladder was observed in 52.7% of individuals, with 47.3% reporting no such difficulty. Urine retention was reported by 65.5% of participants, while 34.4% did not experience this condition. Additionally, 40% of respondents reported the presence of an abdominal mass, whereas 60% denied its existence. Hair loss was experienced by 87.7% of participants, while 21.3% did not encounter this symptom. Fatigue was reported by 88.8% of respondents, with 11.11% indicating its absence. Acne were experienced by 70% of individuals, while 30% did not have this condition. Furthermore, hormonal imbalance was reported by 74.4% of participants, whereas 25.5% denied its presence. Lastly, anemia was absent in 62.2% of individuals, while 37.7% reported its occurrence.

The table provides an overview of the various clinical symptoms and cause associated with polycystic ovarian syndrome among the study participants. It highlights the range of symptoms experienced by individuals, including both common and less common presentations. This information contributes to a better understanding of the clinical profile of PCOS, assisting in diagnosis, treatment decisions, and patient management.

CHAPTER Five

Discussion

Chapter Five

Discussion

5.1 Discussion of demographic characteristics for the study participants:

Polycystic ovary syndrome a significant public health problem and is one of the commonest hormonal disturbances affecting women of childbearing age. the finding of this study indicate a high prevalence (38.8%) of women have PCOS in reproductive age, followed by those aged 15-22 years (34.4%). The age group, 31-38 years, has the smallest frequency (21.1%). Regarding BMI, the majority of individuals fall within the overweight range (44.4%), while obesity and healthy weight are observed in 22.2% and14.4% of the population, respectively. A similar study was conducted by (Adawe et al., 2022) which agreed with the present study's finding and reported that (70.0%) of the study participants were in the age group (31-50), underweight (1.1%), normal weight (21.1%), overweight (61.1%), and obese (16.7%).

Regarding marital status, the highest percentage is represented by married individuals (58.8%), followed by singles (28.8%), and other (11. 11%).In terms of occupation, the majority are employed (50.0%), followed by housewives' individuals (38.8%) and students (11.11%). Regarding education level, the largest group consists of individuals who secondary education27.7% and can read and write (14.4%), while illiterate individuals make up 12.2% of the population. Primary education and are observed in 22.2% of individuals, while the highest education level is reported by 23.3% of the population. In terms of residency, the population is almost evenly split between urban (61.1%) and rural (38.8%) areas. Finally, the vast majority of individuals do not smoke (93.3%), with only a small proportion reporting smoking habits (6.0%).%). A similar study was conducted by (Muawad et al., 2022) which agree with the present study finding and reported that (2.9%) Smoker, and (97.1%) Non-smokers.

5.2 Discussion of menarche age, cycle length, cycle duration, cycle regularity, Cycle Regularity and presence of intermenstrual bleeding

In this study we categorized the menarche age as less than 10 Years,

11-14 Years and15 Years or more. Our study shows, approximately 12.2% of the sample experienced menarche at or before the age of 10, while the majority (65.5%) had their menarche between 11 and 14 years of age. A smaller proportion (22.2%) had a later menarche, occurring at the age of 15 years or older. Moving on to cycle length, the data indicates that 27.7% of the participants had short cycles (≤ 25 days), another 42.2% had long cycles (≥ 30 days), and the remaining 30% had cycles falling within the normal range of 26-29 days. Regarding cycle duration, the majority (52.2%) reported a duration of 3-7 days, while 47.7% experienced longer cycles of 8 days or more. In terms of cycle regularity, the data is evenly split, with 30.0% reporting regular cycles and 70.0% reporting irregular cycles, the conducted by (Sezalio et al., 2022) which agreed with the present study's finding and reported that 67.2% irregular and 32.8% regular. The table also provides information about the Presence of intermenstrual bleeding. The largest proportion of the sample (91%) reported no, and the smallest group (9%). About diabetes mellitus proportion (72.9%) don’t had, and 27.1% experience. The presented data, based on a sample of 90 participants, offers valuable insights into menarche age, menstrual cycle characteristics, and reproductive history within the studied population.

5.3 Discussion of the Clinical presentation and cause for PCOS among study participants:

This table show the most prevalent symptom among the participants is excess body hair, with 16.6% reporting no excess body hair and 83.3% reporting its presence. Similarly, a majority of participants (94.4%)are experience symptoms, while 5.5% asymptomatic

When it comes to specific symptoms related to POCS, pelvic pain is reported by 54.4% of participants, while45.5 % do not experience it. Leg pain is also prevalent, with 81.1% experiencing it and 18.8% not reporting leg pain. Pain during sexual intercourse is experienced by 36.6% of participants, while 63.3% do not have this symptom, a study conducted by (Tinelli et al., 2021) that reported the same finding.

Other symptoms include backache, with 78.8% of respondents indicating its presence and 21.2% reporting its absence. Frequent urination was reported by 48.9% of participants, while 51.1% did not experience this symptom. Difficulty emptying the bladder was observed in 52.7% of individuals, with 47.3% reporting no such difficulty. Urine retention was reported by 65.5% of participants, while 34.4% did not experience this condition. Additionally, 40% of respondents reported the presence of an abdominal mass, whereas 60% denied its existence. Hair loss was experienced by 87.7% of participants, while 21.3% did not encounter this symptom. Fatigue was reported by 88.8% of respondents, with 11.11% indicating its absence. Acne were experienced by 70% of individuals, while 30% did not have this condition. Furthermore, hormonal imbalance was reported by 74.4% of participants, whereas 25.5% denied its presence. Lastly, anemia was absent in 62.2% of individuals, while 37.7% reported its occurrence, similar data were obtained from another study conducted by (Munusamy et al., 2017)

The table provides an overview of the various clinical symptoms and cause associated with polycystic ovarian syndrome among the study participants. It highlights the range of symptoms experienced by individuals, including both common and less common presentations. This information contributes to a better understanding of the clinical profile of PCOS, assisting in diagnosis, treatment decisions, and patient management.

CHAPTER Six

Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

6.1. Conclusions:

According to the objective of the current study, discussion of results,and their interpretations, it can be concluded that:

1. The highest percentage of participants was women at age (23-30)years.
2. The majority of clinical presentation was backache, followed by sequentially the pelvic pain , leg pain, urine retention, anemia, difficulty emptying the bladder. And the less common was asyptomatic.
3. The study also show more than one -third of participants has hair loss , and fatigue .
4. The findings of the present study have highlighted the most common Excess body hair, Leg pain, Backache, Mood changes, Acne and Hormonal imbalance.
5. Lastly, this study shows the range of symptoms experienced by individuals, including both common and less common presentations. This information contributes to a better understanding of the clinical profile of PCOS, assisting in diagnosis, treatment decisions, and patient management.

6.2 Recommendations:

Depending on the findings and conclusion of the study, the researcher recommended the following:

1. The Iraq Ministry of Health should work to open specialized centers for specialized health care to treat women, do specialized research and studies, and offer programs.
2. More research studies are needed for a larger sample.Additional research is needed to understand the treatment decisions of women.
3. Raise health awareness through posters, radio, and awareness programs for women about early sign and symptoms poly cystic ovary syndrome.
4. We recommened routine Ultrasound scanning in women of reproductive age early in order to manage them promptly so as to prevent the associated complication.
5. Weight reduction campaign should be encouraged among women of reproductive age to reduce the complication.

Resources

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Appendix

ت	اسم الخبير	اللقب العلمي	الشهادة الحاصل عليها	محل العمل
١	د. مصرية رشا حسين	استاذ مساعد	بورد نسائية وتوليد	كلية الطب/ جامعة تكريت + م. تكريت التعليمي
٢	د. عبد صالح كميت	استاذ مساعد	دكتوراه في تمريض	كلية التمريض/ جامعة كركوك
٣	د. ناريمان محمد أحمد	مدرس مساعد	دكتوراه علوم تمريض	جامعة تكريت/ كلية التمريض
٤	د. الاء أسامة محمد	اخصائية نسائية وتوليد	دكتوراه نسائية وتوليد	مستشفى تكريت التعليمي
٥	د. حارث فتحي خضير	مدرس	دكتوراه في التمريض	جامعة الموصل/ كلية التمريض
٦	د. رنا فايز	مدرس مساعد	بورد نسائية	مستشفى تكريت التعليمي
٧	د. رسل أحمد	دكتوراه	دبلوم عالي نسائية وتوليد	مستشفى تكريت التعليمي
٨	د. أحمد محمود يزن	مساعد دكتور	دكتوراه	مستشفى تكريت التعليمي
٩	م. عبد الرحمن مازن هاشم	مدرس	ماستر تمريض صحة والطفل	جامعة الموصل/ كلية التمريض

بسم الله الرحمن الرحيم

م /ابداء رأي حول استمارة الاستبانة

تحية طيبة....

الأساتذة الافاضل نظرا لخبرتكم وتخصصكم، نأمل منكم التفضل بأبداء رأيكم ومقترحاتكم حول

الاستمارة الاستبيانية المرفقة والخاصة بالدراسة لنيل شهادة بكالوريوس وبعنوان:

(Clinical P resentation and Causes of Polycystic Ovarian Syndrome in Women)

الباحثون : **المشرف** :ا.د عبدالرحمن جهاد منصور

عليه عواد م.م سناء غازي مصطفى

سمية خالد

سارة عادل

اسم الخبير..... :

الشهادة..... :

اللقب العلمي..... :

مكان العمل..... :

سنوات الخدمة..... :

التوقيع..... :

Part one : demographic characteristics of study participants

Age group

Part one : demographic characteristics of study participants

Age group

الاحترام فائق ولكم

Agre group

☐ **(15-22)**

☐ **(23-30)**

☐ **(31-38)**

☐ **(39-46)**

Marital status:

☐ Married

☐ Single

☐ Other

Occupation :

☐ Employed

☐ Unemployed/ Housewife

☐ Student

☐ Retied

Educational level :

☐ Literacy

☐ Read and write

☐ Primary education

☐ Secondary education

☐ High education

Residency :

☐ Urban

☐ Rural

Smoking:

☐ Yes

☐ Past smoker

☐ No

Weight: ☐ Kg

Height: ☐ Cm

Caffeine use

☐

Yes

☐ No

Parity

☐ Primi

☐ Multi

Previous operation :

☐ Yes

☐ No

Part Two: Obstetric and Gynecological History

Menarche Age

☐ ≤10

☐ 11-14

☐ ≥15

Failure to conceive:

☐ Yes

☐ No

Subfertility type :

☐ Primary

☐ Secondary

Family history of PCOS:

☐ Yes, (mother,

sister, aunt, grandmother, I Do not know)

☐ No

Contraceptive use :

☐ Yes, Type:

☐ Pill

☐ Copper IUD

☐ Hormonal IUD

☐ Condom

☐ Withdrawal

☐ Tubal ligation

☐ Injection

☐ Implant

☐ Non use

Medical history :

- ☐ Hypertension
- ☐ Diabetes mellitus
- ☐ Other

Menstrual history : ☐ Last menstrual period

Length of cycle :

- ☐ ≤21 days
- ☐ 21-35 day
- ☐ ≥35 day

Blood flow per cycle :

- ☐ Mild (≤4pads per day)
- ☐ Moderate (5-10pads per day)
- ☐ Severe (11-15pads per day)

Presence of clots :

- ☐ Yes
- ☐ No

Need for double protection:

- ☐ Yes
- ☐ No

Presence of intermenstrual bleeding :

- ☐ Yes
- ☐ No

Menstrual cycle Regularity (last 3 cycle) :

- ☐ Regular
- ☐ Irregular

Part Three : clinical presentation and Causes

Asymptomatic :

- ☐ Yes
- ☐ No

Pelvic pain :

Yes
No

Leg pain:

Yes
No

Pain during sexual intercourse:

Yes
No

Backache :

Yes
No

Frequent urination :

Yes
No

Hair loss :

Yes
No

Fatigue :

Yes
No

Abdominal mass :

Yes
No

Hormonal imbalance :

Yes
No

Mood changes :

Yes
No

Hirsutism :
Yes
No
Acne:

Yes
No

Anemia:

Yes
No

الخلاصة

الخلفية: تؤثر متلازمة المبيض المتعدد الكيسات (PCOS) على 5–20% من النساء في سن الإنجاب في جميع أنحاء العالم. تتميز الحالة بفرط الأندروجينية، وخلل التبويض، وتشكل المبيض المتعدد الكيسات (PCOM)مع الإفراط في إنتاج الأندروجين بواسطة المبيضين وهو سمة رئيسية لمتلازمة تكيس المبايض، والخلل الأيضي الذي يتميز بمقاومة الأنسولين وفرط أنسولين الدم التعويضي واضح في الغالبية العظمى من الأفراد المصابين. تزيد متلازمة تكيس المبايض من خطر الإصابة بداء السكري من النوع 2، وسكري الحمل والمضاعفات الأخرى المرتبطة بالحمل، والجلطات الدموية الوريدية، والأحداث الدماغية والأوعية الدموية والقلب والأوعية الدموية وسرطان بطانة الرحم.

الهدف: تقدير المظهر الأكثر شيوعاً لمتلازمة المبيض المتعدد الكيسات بين النساء، وتحديد الأسباب، وإيجاد العلاقة بين نتائج الدراسة والمتغير المختار.

الطريقة والمواد: تم إجراء تصميم دراسة وصفية مقطعية على (90) امرأة مصابة بأورام ليفية رحمية يترددن على المستشفيات في مدينة تكريت. ولتحقيق أهداف الدراسة، تم استخدام استبيان مقابلة منظم لجمع المعلومات المتعلقة بالمعلومات الديموغرافية، والولادة وأمراض النساء، والعرض السريري، والأسباب.

النتائج: أعلى نسبة للعينة هي النساء في الفئة العمرية 31–38 سنة (42.6%)، وفيما يتعلق بالحالة الاجتماعية، فإن أعلى نسبة يمثلها المتزوجون (58.8%)، والغالبية العظمى من الأفراد لا يدخنون (93.3%). أكثر الأعراض انتشارًا بين المشاركين هو شعر الجسم الزائد، حيث أفاد 87.2% منهم بعدم وجود شعر زائد في الجسم. فيما يتعلق بحب الشباب، أفاد غالبية المشاركين (70.0٪) بوجودهم

الاستنتاجات والتوصيات: خلصت الدراسة إلى أن معظم أفراد عينة الدراسة كانوا يشكون من حب الشباب وتساقط الشعر وألم الظهر والأقل شيوعا هو عدم وجود أعراض. وتوصي الدراسة بضرورة إجراء فحص روتيني بالموجات فوق الصوتية عند النساء في سن الإنجاب في وقت مبكر من أجل علاجهن بشكل سريع ومنع حدوث المضاعفات المصاحبة.

الكلمات المفتاحية: متلازمة المبيض المتعدد الكيسات، المظاهر السريرية

جامعة تكريت
كلية التمريض

المظاهر السريرية والأسباب المتلازمة
تكيس المبايض لدى النساء

مشروع تخرج علوم في التمريض

تقدم به

عليه عواد جريد
سارة عادل قدوري
سمية خالد خريسان

إلى مجلس كلية التمريض/ جامعة تكريت

وهي جزء من متطلبات نيل شهادة بكلوريوس في علوم التمريض

بإشراف

أ.د. عبد الرحمن جهاد منصور
م.م. سناء غازي مصطفى

١٤٤٦هـ ٢٠٢٤م

Ministry of Higher Education
and Scientific Research Tikrit
University College of Nursing

Breastfeeding a child: a comparative study between the urban and rural

A study submitted to the council of the college of Nursing university of Tikrit in partial fulfilment of the requirements for degree of bachelor in Nursing

By

Group members:

Shahla Ibrahim Abdul Rahman

Zeina Ibrahim Atallah

Lena Ali Attia

Supervisor:

A.Dr. Abdul Jabbar Jamil al-Samarrai

2024 م **١٤٤٥ هـ**

بِسْمِ اللَّهِ الرَّحْمَـٰنِ الرَّحِيمِ

وَعَلَّمَكَ مَا لَم تَكُن تَعْلَمُ وَكَانَ فَضْلُ اللَّهِ عَلَيْكَ عَظِيمًا (١١٣)

صدق الله العظيم

سورة النساء

الآية (١١٣)

ABSTRACT

Background: - Breastfeeding is an ideal way to ensure healthy food for the proper development of babies. The aim of this study was to find out the trend of urban and rural mothers towards the type of lactation adopted in the nutrition of their children and to study some factors affecting the adoption of the type of lactation and the duration of lactation.

Subject and method: - This study was conducted on 100 Iraqi mothers in Salah al-Din governorate and they were randomly selected between the ages of (18-45 years). this study was based on the personal interview of mothers and filling out special forms prepared for this purpose. Information was documented on the socio-economic status and place of residence, as well as the duration of breastfeeding of their children, the level of education of the mother, her age, work, the extent to which she was encouraged to breastfeed and artificial feeding, the results were analyzed and calculated using Excel and displayed through the Microsoft program.

Result:- The study was conducted by 100 women, 50 in urban areas and 50 in rural areas, where the results of this study proved that there is a relationship between the age of the mother and the length of breastfeeding, where the higher the age of the mother, the longer the duration of breastfeeding, and it seemed that the duration of breastfeeding in rural areas is 81% higher than in urban areas by 41% for all age groups .The duration of breastfeeding for non-working mothers increases compared to working mothers and non-working mothers 32% are encouraged more in rural areas than working mothers 14 % their work is government and 14% private, while in urban areas, non-working mothers 24% are also encouraged to breastfeed more than working mothers 4 % their work is government 72 % private work, as the study showed that artificial feeding reached 46% in urban areas as well as in rural areas 46%,This shows that artificial feeding takes an equal course in urban and rural.

Conclusion: - This study showed that breastfeeding between urban and rural is good, and artificial feeding has reasons such as the lack of breast milk and the mother's work outside the home, so mothers should be made aware of the need for breastfeeding because of its many benefits for the mother and child.

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Chapter One:

Introduction

1.1. Introduction

prepare the stage of the ground the rising phase of the mission to maintain the health of the infant as confirmed by the American Society of Pediatrics and the World Health Organization on the importance of breastfeeding during the first months of infant's age [1,2]

bring breastfeeding today's acceptance of the recommendations of the wide and breastfeeding are the perfect way to cover the baby [3]

where it reaches the milk from the breast into the mouth of warm sterile balanced in proteins, fat, carbohydrates, vitamin and its components and mineral necessary for normal growth and development [4,5]

Evidence points to declining breast-feeding, communication, day after day, to artificial feeding which has prompted several international organizations and bodies to promote breastfeed reminders of the dangers of P lactation industrial especially in developing countries that are characterized by high mortality rate of children considered these products to feeding from the breast is the key to the safety and health of the child, protection of most of the ailments that are infected by it through the first year, can be considered the use of milk the kids ready of the factors that contributed to the changing role of motherhood and society to breastfeed as to the involvement of a woman in labor shares in the request alternative to breast feeding [6]

in the case of non-availability of milk for reasons as diverse as the disease it or lack of breast milk, in some cases, or the state of health of the border, it becomes necessary to use milk last to be appropriate to the child as directed by a physician competent Specialist Nutrition [7].

1.2. Aim

Find out some of the factors influencing the type of lactation in the nutrition of urban and rural children, and find out the trend of mothers towards the type of lactation adopted in the nutrition of children.

Objectives:

1-determining the methods of feeding the child (breast milk or bottle milk)

2-determining the time period (from birth to 2 years)

3-determining the causes of bottle feeding.

4-the extent to which the mother's age affects the method of breastfeeding well as the extent to which the mother's work in government and private institutions affects.

5-identifying the health problems of children with bottle feeding.

Chapter Two:
Literature Review

2.1. Lactation: -

lactation is divided into natural from breast milk and artificial (factory milk) or mixed Using both bottles together. Lactation is a physiological process after pregnancy, even if the parts of the mother's body participate in feeding the infant, where the mammary glands secrete milk, and these glands develop and are active during pregnancy until they are able to produce milk, and the milk cells during pregnancy begin to form milk inside them, called Storage cells (lobules), where hormones prepare for changes in the breast, which results in the stimulating effect of the hormone prolactin, which is responsible for the process of milk formation in women and the lactation process in general [8].

2.2. Benefits of breastfeeding

For fifty years, there have been studies comparing the composition and benefits of breast milk with breast milk substitutes, and breastfeeding remains the ideal way to feed a baby [9].

2.2.1. So to get the benefits of milk listed below: -

Breast milk is kept naturally and at a temperature suitable for the infant, free of any contamination, it is available at any time and there are no special preparations and tools used for lactation [10].

Breast milk contains all the essential nutrients necessary for the development of the baby in a way that is consistent with age, weight, ability to digest and absorb, changes daily, not even Hours according to his requirements [11].

‹Breast milk contains live immune cells, antibacterial antibodies, toxins (IGA - . IGM , IG and immunoglobulins) B (such as lymphocytes , lactoferrin ‹ IGD‹IgG , lysozyme and some dietary supplements and others that give infants immunity and make them resistant to infections of transitional and infectious diseases, especially affecting the organ Respiratory and digestive system [12].

Breastfeeding shows a lower risk of allergies, obesity and other health problems - compared to artificial feeding [9,12].

Electronic breastfeeding enhances the immature immune system of the newborn and strengthens Defense mechanics to move forward [13,14].

Breastfeeding accelerates the return of the mother's body systems to their - normal state before pregnancy, especially the uterus and its appendages, due to the effect of the secretion of a hormone (oxytocin) secreted from the back of the pituitary gland, and its secretion is increased by the influence of the reflex factor (sucking from the breast) during breastfeeding [15].

Breastfeeding reduces the incidence of breast and ovary cancer.it it has been - observed that mothers who breastfeed their babies, especially at an early age, are less likely to develop these diseases than those who do not breastfeed or in comparison with unmarried [16].

Breastfeeding reduces the occurrence of bleeding after childbirth and thus works to reduce the likelihood of infants developing anemia and its complications.

Breast milk contains a percentage of lactose (milk sugar is more compared to - formula milk, as this sugar helps to accelerate the absorption of calcium, as it relieves constipation and promotes the growth of intestinal bacteria that help eliminate the bacteria that cause diarrhea. Breast milk promotes the typical development of the nervous system, brain and heart [17].

Breastfeeding acts as a natural contraceptive [10] with the effect of hormone - Prolactin (prolactin) which is secreted from the anterior part of the secretion pituitary gland, which increases when Lactation in addition to being a diuretic for milk, it suppresses the ovaries and causes the cycle to stop.

Monthly for a specified period, leading to a spacing between births, this is beneficial for both mother and child Breastfeeding encourages the bonding of the mother-child relationship as lactation occurs.

Normal interactions between mother and child and at the same time any from to the eye, a voice with a tone, the embrace of the mother to child touch and eye baby, the smell of the mother, warmth and from the baby to the mother Face to by face, cry, try to touch, smell the baby and this serves to bind the relationship Mother. [18,16]

Breastfeeding is more economical than artificial feeding, both at the country - level in general and at the home level in particular. This benefit is twofold, the first is that breast milk is inexpensive compared to alternative milk, and the The occurrence of diseases caused by artificial second indirectly by reducing feeding and the consequent cost of treatment and so on. Breast milk contains Potentially contaminated enough water to relieve the baby from taking water that [19].

2.2. Start breastfeeding after childbirth: -

The mother's initiative to breastfeed her baby immediately after birth is one of the main things in promoting breastfeeding and among the ten steps identified by the World Health Organization to achieve the success of breastfeeding, where it was noted that there is a relationship between the age of the mother, her educational level, her work and her husband and her initiative to breastfeed during the first hours after birth. [20]

Continuation of breastfeeding that starting breastfeeding is not the main problem, more than 90% of women around the world start breastfeeding their newborns, but the problem lies in direct, societal and commercial pressure, where about a third of cases of malnutrition are estimated to be due to improper feeding of infants and young Children, many women do not continue breastfeeding until the end of the recommended two years which was recommended by the Holy Quran more than a year ago 1400 one of the useful things in continuing breastfeeding for two years is that the mother gives a period between births for two years, followed by a pregnancy for nine months, so the total period between the first and second pregnancy is not less than two years and nine months, [20]

which is an ideal period to help the mother. In restoring her health and preparing for the next pregnancy as They help to give a sufficient duration for feeding and raising a child .Feeding babies using nutritional preparations is an expensive, nutritionally inappropriate and often life-threatening alternative to breast milk, especially in unsanitary environments epidemiological evidence has long

established the features of breastfeeding and the mortality rate due to diarrhea has been observed in children who are fed formula milk six times more than it is It is found in children who are fed mother's milk [21]

2.3. Breastfeeding versus artificial feeding: -

Both mother's milk and substitute preparations are sources for the infant to obtain the first months of the infant's life, ٦-٤the required nutrients and energy during and today there is an increasing trend to rely on artificial feeding of children instead of breastfeeding, as mothers have gone to work, leaving children in nurseries for artificial feeding on modified liquid or dried cow's milk however, many studies confirm that breastfeeding is more suitable for feeding a child than artificial feeding, and many studies show the disadvantages of mothers relying on artificial feeding instead of breastfeeding and mixed, although there are justifications that may not be the most important of which are the mother's work outside the home, the socio-economic situation and the sequence of the child In the family [24]

2.4. Disadvantages of dependence on artificial feeding: -

The prevalence of breastfeeding recedes backwards among the population of industrial societies with the advancing age of the child as it was replaced by artificial feeding, which led to the occurrence of suppuration, hypoplasia of their teeth, gastroenteritis and obesity. Despite the disadvantages caused by artificial feeding, it also has benefits is the opportunity for the mother to work outside the home and the possibility of the child taking milk when the mother has some pathological conditions such as chronic diseases, lack of milk, in the event of the death of the mother or when the child has some metabolic diseases Possible obstacles to breastfeeding [24,25].

Some obstacles come from the child himself: -

accustoming the baby to artificial feeding immediately after birth.

The inability of the baby to breastfeed normally or his fast asleep during Feedings.

2.5. Bottle Feeding: -

defined as feeding in which the baby is supplied with milk (milk) to provide the nutrients necessary for its growth and development by means of an artificial feeding bottle, whether it comes from: The mother's breast, in this case it contains the same nutrients as in breast milk, but it gives her more comfort because the Infant formula, ‹baby does not depend on her presence while eating his food which contains a lot of nutrients, and its manufacture is monitored by the food and Drug Administration, but it does not match the great nutritional value found in breast milk. [26]

Chapter Three:
Subject and Method

Study of design and samples: -

1- A study was conducted to collect information between rural and urban between 24/11/2023 and 2024/2/27 using a questionnaire filled out by women to study the method of breastfeeding and bottle feeding in urban and rural.

2-The questionnaire was written in Arabic, completed and collected throughout Salah al-Din governorate.

3- The sample size was 100 participants (filled by 50 urban and 50 rural women)

4- The sampling method in the study was convenience sampling.

Statistical analysis: -

A statistical analysis was carried out by Excel. Data provided using tables and forms in Microsoft programs (Word and excel).

Moral consent: -

The ethical approval of the study protocol, questions and approval statement was granted by the scientific committee of Tikrit University, Faculty of nursing.

Chapter Four:

Result

Result: -

The study was conducted on (100) women, (50 in urban) areas and (50 in the rural) areas, regarding the type of breastfeeding.

(26 women) in urban areas are fully breastfeeding, and also in the rural, there are (26 women) who are fully breastfeeding. (4.1)

And through the results of this study.

It has been shown that there are many differences and factors affecting women regarding breastfeeding, whether natural or artificial.

Table :4.1 Show Socio-demographic characteristics of the urban areas			
Properties	**Class**	**Number**	**Ratio**
Age	18-30	33	66 %
	31-45	17	34 %
Social status	Married	49	98 %
	Divorced	0	0 %
	Widow	1	2 %
number of births	1-3	29	58 %
	3-5	9	18 %
	5-10	12	24 %
Education level	There is no	4	8 %
	Secondary	19	38 %
	Primary	8	16 %
	University	19	38 %
Type of employ	Government	12	24 %
	Private	2	4 %
	Housewife	38	72 %

This table shows the socio-demographic characteristics of women in urban areas, where it was found that their ages range from 18-45 years and the highest

birth rate of 58% are births ranging from 1-3 births, the social status was the highest percentage of married women at 98%, the level of education was at 38% for university studies followed by secondary education at the same percentage with 16% for primary education and type of work, the housewife had the highest percentage 72%.

Table: 4.2
Show Breast Feeding in Urban Areas

Properties	Class	Number	Ratio
Nursing mother	Yes	32	64 %
Breast feeding	Full breastfeeding	13	41 %
	Mixed breastfeeding	19	59 %
Breast feeding period	Less than six months	11	35 %
	More than six months	3	9 %
	Two years	18	56 %
Present with intestinal problem	constipation	0	0 %
	diarrhea	0	0 %
Breast milk	useful	27	84 %
	No useful	5	16 %
Breastfeeding for the Mother	Stressful	25	78 %
	Not stressful	7	22 %

The majority of urban children receive breastfeeding at good rates without experiencing intestinal problems, but it is rather stressful for most mothers, nursing mothers 64 % full breastfeeding 41 % benefit of breast milk 84%.

Table: 4.3 Show Bottle feeding in Urban Area			
Properties	**Class**	**Number**	**Ratio**
Bottle feeding	Yes	23	46 %
Beginning to bottle feeding the baby	first six months	17	74 %
	Second six months	6	26 %
Present with intestinal problems	constipation	17	74 %
	diarrhea	6	26 %
Reasons for Bottle feeding	Health reasons	20	87 %
	Working reasons	3	13 %
	Others	0	0 %
Bottle feeding	Good	18	78 %
	Middle	0	0 %
	very good	5	22 %

This table shows bottle feeding at 46 % in urban areas, where the first 6 months of childbirth take the largest 74% from the beginning of bottle feeding, the majority of breastfeeding women report that bottle milk is good, mothers faced their babies with constipation at 74% and diarrhea at 26%, most mothers had to bottle feed due to sanitary conditions at 87% and working conditions 13%.

Table :4.4 Show Socio-demographic characteristics of the Rural areas			
Properties	**Class**	**Number**	**Ratio**
Age	18-30	43	86 %
	31-45	7	14 %
Social status	Married	43	86 %
	Divorced	2	4 %
	Widow	5	10 %
number of births	1-3	39	78 %
	3-5	9	18 %
	5-7	2	4 %
Education level	There is no	17	34 %
	Secondary	7	14 %
	Primary	10	20 %
	University	16	32 %
Type of employ	Government	7	14 %
	Private	7	14 %
	Housewife	36	72 %

This table shows the socio-demographic characteristics of women in urban areas, where it was found that their ages range from 18-45 years and the highest birth rate of 58% are births ranging from 1-3 births, the social status was the highest percentage of married women at 86%, the level of education was 34%

for no followed by university education at 32% for primary education and type of work the housewife got the highest percentage 72%.

Table: 4.5 Show Breast Feeding in Rural in Areas			
Properties	**Class**	**Number**	**Ratio**
Nursing mother	Yes	32	64 %
Breast feeding	Full breastfeeding	26	81 %
	Mixed breastfeeding	6	19 %
Breast feeding period	Less than six months	16	50 %
	More than six months	9	28 %
	Two years	7	22 %
Present with intestinal problem	constipation	0	0 %
	diarrhea	0	0 %
Breast milk	useful	27	84 %
	No useful	5	16 %
Breastfeeding for the Mother	Stressful	29	91 %
	Not stressful	3	9 %

Rural children also receive breastfeeding at good rates without experiencing intestinal problems, but it is somewhat stressful for most mothers, nursing mothers are 64%, while full lactation in rural areas is higher than in urban areas by 81% and the use of breast milk was 84%.

Table: 4.6 Show Bottle feeding in Rural Area			
Properties	**Class**	**Number**	**Ratio**
Bottle feeding	Yes	18	36 %
Beginning to bottle feeding the baby	first six months	12	67 %
	Second six months	6	33 %
Present with intestinal problems	constipation	13	72 %
	diarrhea	5	28 %
Reasons for Bottle feeding	Health reasons	12	67 %
	Working reasons	6	33 %
	Others	0	0 %
Bottle feeding	Good	10	56 %
	Middle	2	11 %
	very good	6	33 %

The table shows bottle feeding by 46 % in rural areas, where the first 6 months of childbirth take the largest 67% from the beginning of bottle feeding, the majority of breastfeeding women reported that bottle milk is good, mothers faced their children with constipation by 72% and diarrhea by 28%, most mothers had to bottle feed due to health conditions by 67% and working conditions 33%.

Chapter Five:

Discussion

Discussion: -

The study shows that 56% of women breastfeed their babies for two years and 35% of the breast-feed their children for short periods of time, this corresponds to the results of the Algerian survey in 1992 found that a quarter of women to breastfeed their babies for a very short period of less than 3, 4 months, and 25% of women breastfeed their babies more than 19.9 months, with regard to Iraq, the available statistics according to national surveys indicate that the rate of exclusive breastfeeding in the first six months of life the child had fallen from 25% in 2006 to 19%.

In 2012, the rate of continued breastfeeding for the first year is 52% compared with 23% at the end of the second year, higher indicators of malnutrition among children under five years of age, according to the results of the Multiple Indicator Cluster Survey fourth round underweight, 8% Lean, 7% and 22% has a direct relationship to the low rates of breastfeeding in addition to the mortality rate of children under the age of five (38%), which also corresponds with the results of the questionnaire where the results of children who suffer from diseases of the bowel such as constipation 74%, diarrhea 26%.

breastfeeding for six months, which is recommended by the World Health Organization to ensure the child's physical and mental health, as I put the results of the study of the Algerian that the rate of breastfeeding is 6.9%and the lowest rate was recorded. In the western region, the percentage is 3.8%, which is close to what our research results showed, with 46 % for breastfeeding. As for the age group, the results of the study showed that the ages of mothers from 18-30 by 66 % and from 31-45 by 34%, where they breastfeed their babies for two years by 56%, less than half a year 35 % and more than half a year 9%, this gives an approximate percentage for the second Algerian National Multi-Indicator Survey 2000 The proportion of infants under the age of 4 months was estimated at 15.5%.The proportion of infants estimated to be under 12 months of age is 51.5%.While the proportion of children over 12 months of age was estimated at 48% [26].

The success or failure of breastfeeding is determined by the first days after birth and these days are determined by the worker's in The health center, since at that time the mother is in the hospital or in the clinic. This is what has already become clear through our field study, where 80% of women do not attend maternity and child protection centers and resort to artificial feeding, however, the hesitant rely on mixed breastfeeding by a percentage of e, 5, which indicates that these health workers do not perform their role to the fullest, as 66.92% of the respondent's

state that they receive general information about pregnancy during the monitoring of their pregnancy, but

They continue breastfeeding at home until after the year of the child's life, because she received support and guidance from the traditional midwife or midwife, unlike health workers who resort to some unhealthy practices, especially when it comes to cesarean delivery, where the child is separated from his mother sometimes 3 days or more, in addition to feeding him through Contact between mother and child was not infusions such as glucose liquid available after birth, as 0% of the women of the sample stated that they weaned their children due to insufficient milk to feed the child, however, the reality is the opposite, but there are a set of practices that the mother and her social environment or health workers may resort to, which would make the milk gradually decrease until it is interrupted and our mothers and grandmothers feed their children. From the studies, she resorts to the method of sudden weaning, which%, as for the method of weaning, States 55,28 Doctors and psychologists warn about it a lot, because of the serious effects this method has on the psyche of weaning is carried out by a personal decision of the child, and we can understand this resort only if we know that 77,24 without consulting anyone, neither the family nor the doctor [27].

We understand from our study that 87% of mothers in urban areas stop breastfeeding for health reasons and 13% because of work. The rate of exclusive breastfeeding for infants under 6 months of age was 34.6 in 2012, below the global average of 37.0% and below the World Health Assembly target of at least 50% during the first six months of life by 2025. With regard to subgroups in the region, the highest rate was in the middle-income countries from the lower segment at 39.7%, and higher than the estimated global average, followed by low-income countries at 33.2%, the least developed Arab countries at 29.4% and middle-income countries from the upper segment at 19.9%. in the Arab countries, according to the latest data, Sudan was the only country where the prevalence of exclusive breastfeeding was higher than the World Health Assembly target set at at least 50%, with the percentage of infants under the age of 6 months who were breastfed pure normality was 54.6% in 2014, while the lowest prevalence was in Yemen at 9.7% in 2013. Five countries, in each of the subgroups in the region, experienced a decrease in exclusive breastfeeding rates and remained unchanged in the reported periods. Mauritania and Somalia saw rate increases of more than 20 percentage points. [32].

With regard to Iraq, the available statistics and according to national surveys indicate that the rate of exclusive breastfeeding for the first six months of a child's life has decreased from 25% in 2006 (2) to 19% in 2012, and the rate of

continuing breastfeeding for the first year is R% compared to 23% at the end of the second year, and the high indicators of malnutrition for children under five, according to the results of the Multi-Indicator Cluster Survey, the fourth round underweight 8%, wasting 7% and stunting 22% is directly related to the low rates of breastfeeding in addition to the mortality rate of children under five (in addition to the mortality rate of children under five) 38%) [26].

Chapter Six:
Conclusion

Conclusion: -

1- Breastfeeding is a joint effort. We need correct information based on scientific and unbiased experiments,

2-along with constant intimate support in order to provide an environment that enables mothers to practice breastfeeding in the best way. Although breastfeeding is the prerogative of the mother,

3- breastfeeding rates can be improved with the active support of parents, family members, work environments and communities. Since lactation affects the mother and her close supporters, it is necessary to adopt a comprehensive, gender-sensitive approach to breastfeeding, we can give appropriate advice to everyone. supportive environment for breastfeeding empowerment can also be created through gender-equitable social protection, which includes paid leave and a supportive work environment in both the formal and informal employment sectors. Despite the benefits of breastfeeding, the percentage of bottle feeding is not small and is increasing significantly in urban and rural areas,

4- where many mothers resort to it for a variety of reasons, so the government should monitor artificial dairy factories and put an end to their spread, and health organizations should educate mothers about the benefits of breastfeeding versus the harms of bottle feeding.

Chapter Seven:
The Recommendation

Recommendation: -

1-Egypt-we urge women to breastfeed their babies because of the risks of exposure There are fewer health problems compared to artificial feeding.

2-Enter information about breastfeeding, its importance and the factors affecting it in the school and university curricula, it helps to provide the necessary information to the new generation, encourage and promote breastfeeding.

3-Encourage the spacing of births in order to give the mother enough time to - take care of her baby and breastfeed for as long as possible, this can encourage the continuation of breastfeeding.

4-Raising awareness of the benefits of breastfeeding through the preparation of - lectures and seminars that show the advantages of breastfeeding as well as through the development of health programs

5-The media is audible. Work on the creation of special nurseries for babies in institutions and companies where a large number of mothers are present in order to give the mother the opportunity to breastfeed her baby and take care of him.

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College of Social Sciences and Humanities Department of Sociology Demography branch A memorandum for obtaining a master's degree in sociology, prepared by the student: - Mushaid Nabila Dr. Mustafa Bou Tafnousht

Appendix

Questionnaire

Q1- Socio-demographic characteristics

- Age ( )

- Social status (Married) (Divorced) (Widow)

- Number of births ( )

- Education level: (There is no) (Secondary) (Primary) (University)

- Type of employ: (Government) (Private) (Housewife)

Q2- Nursing mother: (Yes: No)

- If yes (Full breastfeeding) (non-full breastfeeding)

-Reasons for Bottle feeding (Health reasons) (Working reasons) (Others)

Q3-Weaning the baby:(One year) (Half a year) (Two years)

Q4-Breast feeding: (Full breastfeeding) (Mixed breastfeeding)

-If Mixed breastfeeding (Health reasons) (Working reasons) (Others)

Q5- Breast feeding period (Less than six months) (More than six months) (Two years)

Q6- The child is exposed to intestinal health problems (a little) (middle) (a lot)

Q7- How to breastfeed breast milk (Yes) (No)

- (Full breastfeeding) (Mixed breastfeeding)

- Reasons Mixed breastfeeding (Health reasons) (Not enough milk) (Working reasons)

- Breast feeding period (Less than six months) (More than six months) (Two years)

Q8- Present with intestinal problem constipation-diarrhea (nothing) (a little) (a lot)

Q9-Is breast milk:(Little use) (useful)

Q10- Breastfeeding for the Mother: (Stressful) (Not stressful)

Q11- Bottle feeding (Yes) (No)

- Beginning to bottle feeding the baby (first six months) (Second six months)

Q12- Present with intestinal problem diarrhea - constipation (nothing) (a little) (a lot)

Q13- Bottle feeding (Health reasons) (Working reasons)

Q14- Is Bottle feeding Nutritious (Good) (Middle) (very good)

Q15- Is Bottle feeding (Stressful) (Not stressful)

الخلاصة:

الخلفية: - الرضـاعة الطبيعية هي الطريقة المثالية لضـمان الغذاء الصـحي لنمو الأطفال بشـكل سـليم. هدفت هذه الدراسة هي معرفة اتجاه الأمهات الحضريات والريفيات نحو نوع الرضاعة المعتمد في تغذية أطفالهن ودراسة بعض العوامل المؤثرة في اعتماد نوع الرضاعة ومدة الرضاعة.

الموضـــوع والطريقة: - أجريت هذه الدراســة على ١٠٠ أم عراقية في محافظة صــلاح الدين وتم اختيارهن عشوائياً بأعمار (١٨-٤٥ سنة). اعتمدت هذه الدراسة على المقابلة الشخصية للأمهات وتعبئة النماذج الخاصــة المعدة لهذا الغرض. تم توثيق المعلومات عن الحالة الاجتماعية والاقتصــادية ومكان الإقامة، وكذلك مدة إرضــاع أطفالهم، ومســتوى تعليم الأم، وعمرها، وعملها، ومدى تشــجيعها على الرضاعة الطبيعية والرضاعة الصناعية. وتم تحليل النتائج وحسابها باستخدام برنامج Excel وعرضها من خلال برنامج .Microsoft

النتيجة: - أجريت الدراســة على ١٠٠ امرأة، ٥٠ في الحضــر و٥٠ في الريف، حيث أثبتت نتائج هذه الدراسـة أن هناك علاقة بين عمر الأم وطول مدة الرضـاعة الطبيعية، حيث كلما زاد العمر بالنسـبة للأم، كلما طالت مدة الرضـاعة الطبيعية، ويبدو أن مدة الرضـاعة الطبيعية في الريف أعلى بنسـبة ٨١% منها في الحضــر بنسـبة ٤١% لجميع الفئات العمرية. وتزداد مدة الرضــاعة الطبيعية للأمهات غير العاملات مقارنة بـــ الأمهات العاملات والأمهات غير العاملات ٣٢% يتم تشجيعهن في المناطق الريفية أكثر من الأمهات العاملات ١٤% عملهن حكومي و١٤% خاص، بينما في المناطق الحضــرية، يتم تشــجيع الأمهات غير العاملات ٢٤% أيضًــا على الرضــاعة الطبيعية أكثر من الأمهات العاملات. ٤% عملهم حكومي ٧٢% عمل خاص، كما أظهرت الدراسـة أن التغذية الصـناعية بلغت ٤٦ % في الحضـر وكذلك في الريف ٤٦%، وهذا يدل على أن التغذية الصناعية تأخذ مساراً متساوياً في الحضر والريف.

الاسـتنتاج: - أظهرت هذه الدراسـة أن الرضـاعة الطبيعية بين الحضـر والريف جيدة، وأن الرضـاعة الصناعية لها أسباب مثل قلة حليب الثدي وعمل الأم خارج المنزل، لذا يجب توعية الأمهات بضرورة

وزارة التعليم العالي والبحث العلمي
جامعة تكريت – كلية التمريض

طريقة ارضاع الطفل حليب الام او حليب صناعي (دراسة مقارنة بين الحضر والريف)

مشروع بحث مقدم الى مجلس كلية التمريض / جامعة تكريت
كجزء من متطلبات استيفاء درجة البكالوريوس في علوم التمريض

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٢٠٢٤ م ١٤٤٥ هـ

Ministry of Higher Education and

Scientific Research

University Tikrit

College of Nursing

The role of school health and school nursing for primary school students in Diyala

A project submitted to The Council of the College of Nursing/Tikrit University In Partial Fulfillment of the Requirements for Bachelors Degree of Nursing Science

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2024 A.D **1445 H. A**

بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ ٱلرَّحِيمِ

(وَقُلْ رَبِّ زِدْنِي عِلْمًا)

(صدق الله العظيم)

Dedication

With all success, I dedicate this work:

To my dear parents, who have spared no effort in providing me with all the support and comfort, and Tonya has spared no effort in providing encouragement and advice in every step of my life, they have my sincere thanks and deep gratitude.

To my distinguished professors, who did not neglect their knowledge and experience, and would have benefited from beacons of guidance in my scientific journey, so they have all my best.

To my friends, Omelai, who shared the definition of the beautiful and the difficult during this journey, and were a source of inspiration for inexhaustible customization, they have all my love and thanks.

Each of them has his mark on this achievement, whether through spiritual or material support. I offer this work as a token of thanks and appreciation, and we thank God that we are all in the balance of our good deeds.

Thanks and appreciation

I am pleased to extend my sincere thanks and great gratitude to everyone who contributed to the completion of this work:

First, to God Almighty, who has enabled me and helped me to complete this work, and to Him belongs all praise and gratitude.

Secondly, to my dear parents, who have been the support and support in all my steps, and my constant source of inspiration, you have all my love and appreciation.

Thirdly, to my honorable supervisor: Pro.Dr Abdul Jabbar Jamel Al_Samrrie, who gave me indescribable amounts of his time and effort, and lavished me with advice and guidance, and whose guidance was of great credit in achieving this achievement, I owe him many thanks and deep gratitude.

Fourthly, to all the faculty members of the College of Nursing, for their invaluable contribution to my education and guidance during my years of study.

Fifth, to my dear friends and colleagues, who were like a second family to me and shared the difficult and beautiful moments with me. They have all my love and thanks.

Finally, to everyone who supported and supported me on this journey, whether with moral or material support, I extend my sincere thanks and great gratitude to all of you, praying to God to reward you with the best reward.

Abstract

the role of school health and school nursing has become a major focus

in promoting a healthy and safe educational environment, especially for primary school students. Studies indicate that maintaining student health has a direct impaction their ability to learn and academic achievement, making school health an integral part of the educational process.

school health is a field that focuses on promoting and protecting the health and well-being of students and staff in the school environment. These efforts include providing nutrition and physical activity programs, mental health services, direct and preventive health care, in addition to health awareness programs .

Results Show that :

- Health care provided to primary school students :

  Health education (guidance) provided by school staff (98%) While they are in school(86%) .
- vaccine provided to students in schools :

  Flu(48%) while Mumps(3%) .
- Medical examination provided to students in schools :

  vision examination (46%) whlie lymph nodes (2%) .
- The teaching staff's knowledge about school nursing recommend having a school nurse (96%)

Keywords :

1. Recognizing the importance and Role of school health among primary school students.
2. Identifying the concept of school nursing among the educational staff of primary school.

List of Tables

Chapter one

Introduction

Chapter one

1.1 Introduction:

Recently, the role of school health and school nursing has become a major focus in promoting a healthy and safe educational environment, especially for primary school students. Studies indicate that maintaining student health has a direct impacton their ability to learn and academic achievement, making school health an integral part of the educational process[5].

School health includes a wide range of programs and services aimed at promoting student health and well-being, including proper nutrition, physical activity, disease prevention, and health education. For its part, school nursing plays a vital role in providing direct health care to students, supervising school health programs, and acting as an intermediary between the school and the medical community School health is a field that focuses on promoting and protecting the health and well-being of students and staff in the school environment. These efforts include providing nutrition and physical activity programs, mental health services, direct and preventive health care, in addition to health awareness programs[8].

The role of school health:

Promoting physical and mental health, providing a safe and healthy educational environment, and integrating prevention and health awareness programs into school curricula. Emphasizes the importance of providing healthy meals, encouraging physical activity, andmanaging students' mental and emotional health [17].

School nursing is a specialty within the field of nursing that focuses on promoting and protecting the health of students and the school community[1]

This role includes providing direct health care, health management for students with chronic conditions, implementing health education and awareness programs, and serving as advisors to teachers and administration regarding health and safety[3]. School nurses play a critical role in linking the family, healthy community, and school to provide a supportive environment that contributes to the health and educational development of students [2] .

School nursing role:

The vital role of school nurses in providing direct health care, managing chronic conditions, responding to emergencies, and developing health awareness programs. Highlights the importance of school nursing in early identification and intervention in health issues that may affect the academic achievement and general well-being of students [2].

1.2 Aim of study

1_Recognizing the importance and Role of school health among primary school students.

2_Identifying the concept of school nursing among the educational staff of primary school.

1.3 Objectives :

1_Identyfing the school health care provided to primary school students.

2_Identify the vaccination that are given by school health staff to students in schools.

3_Identify the common examinations provided by school health staff in primary schools.

4_What is the teaching staff knowledge about school nursing.

Chapter Two

Review of Literatures

Chapter Two

2.1 School health

School health plays a crucial role in ensuring the well-being of primary school students. It encompasses a range of activities aimed at promoting physical, mental, emotional, and social health within the school setting. This includes ensuring a safe and healthy environment, providing health education, and offering access to health services[4].

One of the key aspects of school health is the promotion of healthy behaviors and lifestyles among students. This can be achieved through health education programs that address topics such as nutrition, physical activity, and personal hygiene.[18] By instilling these habits early on, students can develop a strong foundation for lifelong health and well-being[4].

school health also involves the provision of health services to students. This may include regular health screenings,[15] immunizations, and the management of chronic conditions. Having access to these services within the school setting can help ensure that students receive the care and support they need to thrive academically and socially[5].

school health also extends to creating a safe and supportive school environment that fosters overall well-being. This includes addressing issues such as bullying, mental health support, and promoting positive peer relationships. By creating a nurturing and inclusive school climate, students are more likely to feel empowered to prioritize their health and seek support when needed[6].

the role of school health for primary school students is multifaceted, encompassing both education and access to essential health services.[7] By prioritizing the health and well-being of students, schools can support their academic success and long-term flourishing[8].

school health, the role of school nursing is particularly crucial for the well-being of primary school students[9]. School nurses are highly trained professionals who play a vital part in promoting and protecting the health of students[10]. They contribute to the school health system by providing both direct and indirect care to students, as well as by implementing health education programs and policies[11].

School nurses are responsible for conducting health assessments and screenings, such as vision and hearing tests, to identify any health concerns early on. They also play a key role in managing chronic conditions and ensuring that students have access to necessary medications and treatments during school hours. This is essential for students with health conditions to be able to fully engage in their education without compromising their health[12].

school nurses are valuable resources for health education and counseling. They often lead workshops and seminars on various health topics, such as hygiene, nutrition, and mental health. Additionally, they provide individualized support and guidance to students who may be facing health challenges or in need of preventive care[2].

Another critical aspect of the role of school nursing is collaboration with other healthcare professionals, families, and the broader community to ensure that students have seamless access to healthcare services beyond the school setting. By acting as a liaison between the school and the healthcare system, school nurses contribute to the comprehensive well-being of students[12].

school nursing is an indispensable component of the school health system, playing a vital role in promoting the physical, mental, and emotional well-being of primary school students. The presence of school nurses not only ensures the day-to-day health needs of students are met but also contributes to creating a health-conscious school environment where students can thrive[12].

2.2 School nursing

The role of school nursing goes far beyond physical health, and it extends into the overall well-being of students and their families[14] .School nurses are uniquely positioned to provide support and guidance in addressing a wide range of health-related concerns that can impact students' academic success and personal growth[4].

school nurses can also contribute to creating a healthy and safe school environment. They can collaborate with educators and administrators to develop and implement programs that address nutritional needs, physical activity, and preventive health measures[13]. By fostering a culture of wellness within the school community, school nurses play a pivotal role in shaping the overall health and success of the students[12].

school nurses can serve as advocates for health equity and inclusivity, ensuring that students from diverse backgrounds have access to necessary health resources and support[5]. By addressing barriers to healthcare access and promoting culturally responsive care, school nurses contribute to a more inclusive and supportive school environment[16].

professionals provide a range of services that support the physical and mental well-being of students [15].By addressing issues such as mental health, nutrition, and physical activity, school nurses contribute to creating a healthy and supportive environment for students to thrive[17].

school nurses can play a crucial role in identifying and addressing mental health concerns among students. They can provide counseling, support, and referrals to mental health professionals when needed, contributing to a holistic approach to student well-being[7]. By promoting mental health awareness and

providing support, school nurses can help students navigate challenges and develop resilience, ultimately enhancing their overall success in school[5].

school nurses also play a role in promoting health education and preventive measures within the school community[8] They can collaborate with teachers to develop curriculum on topics such as healthy lifestyles, disease prevention, and first aid, equipping students with the knowledge and skills to make informed health decisions[7].

Chapter Three

Methodology

Chapter Three

3.1 Design of the study

This descriptive cross- sectional study Was conducted through physical survq to find role the school heath and important of school nursing in primary school students

The study started from 12th December and ended on the 3th March .

3.2 Administrative arrangements

A from was given to expiry regarding the subject and they area greed to do aquestionnain and collect samples from primary schools

3.3 setting of the study

this study was conducted in Diyala government in Baquba city

3.4 the sample of study

the sample was (100) women's

3.5 data collection

data were collected through physical survey using respondents using paper aquestionnain

3.6 the study instrument

The questionnaire contion(18)and consist of two sections section = socio - demogroglphic data includes . Age and gender Section

1. the school heath car provided to primag school students

2. the vaccination that are given by school heath staff to students in schools
3. the common examintions provided by school health staff in primanry school
4. the knowledde teathing staff about school nirsing

3.7 statstical data

Data analyzed statisticaly by using pereantay for all the ansuers

The formala is as follows

%=value total

Value= number of people who ansuered

Total = nume of total sample [19].

Chapter Four

Results

Table (1) : Sociodemographic characteristics

Properties	Class	number	ratio
gender	male	36	36%
	female	64	64%
Age group	20 - 30	18	%18
	31 - 40	45	%45
	41 - 50	37	%37

High percentages of providing health care and initial examinations for students reflect schools' commitment to student health and early detection of health conditions.

The presence of a high percentage (98%) of providing health awareness by school staff emphasizes the role of education in promoting general health among students.

Table (2) : The health care provided to primary school students

S	Health care provided to primary school students	Yes	No
1	Is health care available for students while they are in school?	**%86**	**%14**
2	Do you ensure that all students have access to health care?	**%86**	**%14**
3	Is there communication between school staff, family, and health care providers?	**%87**	**%13**
4	Is there an initial screening for new students?	**%96**	**%4**
5	Is there early a detection of the common diseases	**%92**	**%8**
6	Is there health education (guidance) provided by school staff?	**%98**	**%2**
7	Is there health education provided by school health staff?	**%96**	**%4**
8	Are vaccination programs and routine examinations implemented?	**%96**	**%4**
9	Is the spread of infectious diseases monitored?	**%91**	**%9**

%68of participants reported that health care is available to students while they are in school. This percentage reflects schools' commitment to ensuring students' health and safety during the school day. However, the remaining 32% indicate potential gaps in access to health care within some educational institutions.

Ensure all students have access to health care

Ensuring all students have access to health care was confirmed by the same percentage (68%). This percentage indicates the importance of equity in providing health services among students, but it also highlights the presence of a significant percentage of students who may not receive adequate care.

Communication between staff, families and health care providers

%68of responses indicated communication between staff, families and health care providers, demonstrating good collaboration between stakeholders to support student health. However, 32% indicate that there is room for improvement in strengthening communication and partnerships between the school and the medical community.

Initial screening for new students

The high percentage of initial screenings for new students (68%) reflects schools' commitment to prevention and early detection of any health issues that may affect student learning and well-being.

Early detection of common diseases and health awareness

The rates of early detection of common diseases and provision of health awareness (62% and 66%, respectively) show the efforts of schools to promote health and health awareness among students.

Table (3) : Vaccines provided to students in schools

S	Type of vaccines provided to students in schools	Percentage
1	flu	48%
2	Tetanus	18%
3	Measles	16%
4	Mumps	3%
5	poliomyelitis	15%

Data shows the flu vaccine is the most popular at 48%, reflecting the focus on preventing seasonal illness.

The rate of provision of vaccines such as tetanus and measles indicates the efforts of schools to cover a wide range of common diseases.

Table (4) : Medical examinations provided to students in schools

S	Type of medical examinations	Percentage
1	Vision examination	%46
2	Teeth	%40
3	lymph nodes	%2
4	general examinations	%12

Vision and dental examinations constitute the highest percentage of examinations, highlighting the importance of early detection of vision and oral health problems that can affect learning.

Table (5) : The teaching staff's knowledge about school nursing

ت	knowledge about school nursing	Yes	No
1	Is there a school nurse?	**%0**	**%100**
2	Do you recommend having a school nurse?	**%96**	**%4**
3	Does school nursing enhance student health?	**%95**	**%5**

The table shows that there is a 100% shortage of school nurses, indicating a potential health care gap within the school setting.

However, a high percentage of teaching staff (96%) support the presence of a school nurse, reflecting recognition of the importance of the role of school nursing in supporting student health.

Chapter five

Discussion

5.1 Discussion

The document provided includes several tables that present data related to health care provided in schools, vaccinations for students, medical examinations conducted, and the teaching staff's knowledge about school nursing. Key points include:

A high percentage of schools report providing health care to students, with initial screenings for new students and health education being particularly prevalent.

Ensure all students have access to health care

Ensuring all students have access to health care was confirmed by the same percentage (68%). This percentage indicates the importance of equity in providing health services among students, but it also highlights the presence of a significant percentage of students who may not receive adequate care.

Communication between staff, families and health care providers

68% of responses indicated communication between staff, families and health care providers, demonstrating good collaboration between stakeholders to support student health. However, 32% indicate that there is room for improvement in strengthening communication and partnerships between the school and the medical community.

Initial screening for new students

The high percentage of initial screenings for new students (68%) reflects schools' commitment to prevention and early detection of any health issues [13]

Vaccinations for flu and tetanus are the most commonly provided to students.

Data shows the flu vaccine is the most popular at 48%, reflecting the focus on preventing seasonal illness.

The rate of provision of vaccines such as tetanus and measles indicates the efforts of schools to cover a wide range of common diseases

Vision and dental examinations are the most common medical examinations provided to students.

Vision and dental examinations constitute the highest percentage of examinations, highlighting the importance of early detection of vision and oral health problems that can affect learning . [6]

Despite the absence of school nurses in all surveyed schools, a large majority of the teaching staff recognizes the importance of having a school nurse and believes that school nursing enhances student health.

The table shows that there is a 100% shortage of school nurses, indicating a potential health care gap within the school setting.

However, a high percentage of teaching staff (96%) support the presence of a school nurse, reflecting recognition of the importance of the role of school nursing in supporting student health . [11]

Chapter six

Conclusion and Recommendations

6.1 Conclusion

- Health care available for students while they are in school 86%.
- Ensure that all students have access to health care 86%.
- There communication between school staff, family, and health care providers 87%.
- There an initial screening for new students 96%.
- There health education (guidance) provided by school staff 98%.
- Are implemented vaccination programs and routine examinations 96%.
- Flu vaccine provided to students in schools 48%
- Measles vaccine provided to students in schools 16%
- Medical examinations provided to students in schools (vision examinations , teeth , lymph nodes , general examinations).

6.2 RECOMMENDATIONS

1-We direct them to studies in high and middle schools.

2. Providing a health clinic in schools that promotes the health of students in schools.

3. Preparing health awareness programs for students.

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Appendix

الاسم:-

الجنس:-

_ذكر

_انثى

الفئة العمرية:

- من ٢٠ الى٣٠
- من ٣٠ الى٤٠
- من ٤٠ الى ٥٠

1- هل تتوفر الرعاية الصحية للطلاب اثناء وجودهم في المدارس؟

- نعم
- لا

٢_ هل تضمن حصول جميع الطلاب على رعاية صحية مقدمة؟

- نعم
- لا

3-هل يتوفر أتصال بين موظفين المدرسة والاسرة ومقدمي الرعاية الصحية؟

- نعم
- لا

4- هل يوجد كشف مبدني على الطلاب الجدد؟.

- نعم
- لا

5-هل كشف عن المرض؟.

- نعم
- لا

6-هل يوجد تثقيف صحي(ارشادات) من قبل الكادر التعليمي والمدرسي؟.

- نعم
- لا

7-هل يوجد تثقيف صحي من قبل الكادر الصحي المدرسي؟.

- نعم
- لا

٨-هل يتم تنفيذ برامج اللقاحات والفحوصات الروتينية ؟

- نعم
- لا

٩-هل يتم مراقبة أنتشار الأمراض المعدية؟

- نعم
- لا

١٠_ما هي التطعيمات التي يتم استخدامها في المدارس؟

- الانفلونزا
- الكزاز
- الحصبة
- النكاف
- شلل الأطفال
- كل مماسبق

١١_ماهي الفحوصات الشائعة في المدارس الابتدائية؟

- فحص النظر
- الأسنان
- العقد اللمفاوية
- فحوصات عامة
- كل مماسبق

١٢-هل يوجد ممرض مدرسي ؟

- نعم
- لا

١٣_هل تنصح بوجود ممرض مدرسي؟

- نعم
- لا

١٤_هل يعزز التمريض المدرسي صحة الطالب ؟

- نعم
- لا

١٥- ماهي معرفتك عن التمريض المدرسي؟

Name:

Gander:

-male
-female

Age group:

20__30
31__40
41__50

1_ Is health care available for students while they are in school?

-Yes.
-No

2 _Do you ensure that all students have access to health care?

-Yes
-No

3_ Is there communication between school staff, family, and health care providers?

-Yes
-No

4_ Is there an initial screening for new students?

-Yes
-No

5 _Is there a detection of the disease?

-Yes
-No

6_ Is there health education (guidance) provided by educational and school staff?

-Yes
-No

7 _Is there health education provided by school health staff?

-Yes
-No

8 _Are vaccination programs and routine examinations implemented?

-Yes
-No

9_ Is the spread of infectious diseases monitored?

-Yes
-No

10_ What vaccines are used in schools?

-Flu
-Tetanus
-Measles
-Mumps
-Poliomyelitis

11_What are the common tests in primary schools?

-Vision examination
-Teeth
-lymph nodes
-general examination

12_Is there a school nurse?

-Yes
-No

13_Do you recommend having a school nurse?

-Yes
-No

14_Does school nursing enhance student health?

-Yes
-No

15_What do you know about school nursing?

-Yes
-No

Appendix (2)
(Panel of Experts)

ث	الاسم الثلاثي	اللقب العلمي	الاختصاص	مكان العمل
1	آمده سرى سعد عبد العزيز	مدرس	دكتوراه علوم فسلجة	جامعة تكريت/ كلية التمريض
2	د. هدى ضامن عبد الجبار	مدرس	دكتوراه حشرات طبية	جامعة تكريت / كلية التمريض
٣	د. أحمد محمود يونس	مدرس	صحة المجتمع	جامعة تكريت / كلية التمريض
٤	م.م ماريطل محمد احمد	مدرس	تمريض اطفال	جامعة تكريت / كلية التمريض

الخلاصة

يتضح من نتائج البحث والاستبيان أن ممرضات المدارس يلعبن دورًا أساسيًا ومتعدد الأوجه في ضمان الرفاهية العامة للطلاب. إنهم لا يقدمون رعاية مباشرة وغير مباشرة للطلاب فحسب، بل يساهمون أيضًا في خلق بيئة مدرسية داعمة واعية بالصحة. لقد ثبت أن وجود ممرضات المدارس أمر بالغ الأهمية في معالجة مجموعة واسعة من المخاوف المتعلقة بالصحة والتي يمكن أن تؤثر على النجاح الأكاديمي للطلاب والنمو الشخصي.

تسلط نتائج المسح الضوء على أن غالبية المدارس توفر الرعاية الصحية للطلاب في الموقع وتعطي الأولوية للتواصل بين موظفي المدرسة والأسر ومقدمي الرعاية الصحية. يوضح هذا التركيز على التعاون والتدابير الصحية الوقائية القيمة الموضوعة لرفاهية الطلاب داخل المجتمع المدرسي.

وزارة التعليم العالي والبحث العلمي
جامعة تكريت
كلية التمريض

دور الصحة المدرسية والتمريض المدرسي لتلاميذ المرحلة الابتدائية في ديالى

مشروع مقدم إلى مجلس كلية التمريض / جامعة تكريت لاستيفاء جزء من
متطلبات درجة البكالوريوس في علوم التمريض

إعداد
ريهام شعلان رشيد
هديل مزهر هادي
مريم عبدالرزاق موسى

بأشراف
أ. د. عبدالجبار جميل السامرائي

2024 م 1445 هـ

Republic of Iraq
Ministry of Higher Education and Scientific Researcl
University of Tikrit
College of College of Nursing

Assessing the knowledge of prostate cancer students of Tikrit, Mosul, and Kirkuk Medical Group colleges

Research submitted to the College of Nursing/Tikrit University as part of the requirements for obtaining a bachelor's degree in nursing

By

Ahmed Murbad Ahmed

Issa Sattar Mohsen

Issa Saleh Issa

SUPERVISED BY

Assistant Professor Dr.

Ahmed Mahmoud

2024 A.D **1445 A.H**

بسم الله الرحمن الرحيم

﴿أُوْلَٰٓئِكَ ٱلَّذِينَ نَتَقَبَّلُ عَنْهُمْ أَحْسَنَ مَا عَمِلُواْ وَنَتَجَاوَزُ عَن سَيِّـَٔاتِهِمْ فِيٓ أَصْحَٰبِ ٱلْجَنَّةِ ۖ وَعْدَ ٱلصِّدْقِ ٱلَّذِى كَانُواْ يُوعَدُونَ﴾ الأحقاف: ١٦

Dedication

I dedicate my dissertation work to my family and many friends.

A special feeling of gratitude to my loving parents.

I dedicate this work and give special thanks to my best and wonderful friends for being there for me throughout the entire studying program.

 All of you have been my best cheerleaders 

Acknowledgment

In The Name of Allah, The Most Gracious Most Merciful

At the beginning, I would like to express my deep gratitude to my supervisor , for his great efforts and valuable guidance to write this research; and surly his great role left a great positive impact on the result of this academic work.

Also, I will not forget the effective contribution of my colleagues who do not save any effort in helping my present research in the best way. For this reason, I am so grateful for everyone who help me and let that work to achieve the peak of success.

Abstract

Through our personal experience in dealing with each other, from which some differences emerged, we are students at Tikrit University College of Nursing that coming together completely for cancer and choosing between different treatment options can be a difficult and frustrating process of group cooperation. He succeeds in obtaining these guidelines that help him become more knowledgeable about this king, and become wiser in the treatment path he ultimately chooses. Thus, they were able to make progress in discovering new cancers, diagnosing men earlier with this disease and treating them more effectively. There is good reason to feel hopeful and optimistic about your future.

For some people, almost all of the information presented may be completely new. Others may already be well informed about prostate cancer and its treatment, and much of what is discussed will be familiar. Either way, don’t feel that this material has to be fully absorbed and understood in one reading. Reviewing portions of the material and discussing it with family, other men with prostate cancer, and your physicians can make this information more meaningful and useful.

Chapter one: Introduction

1-1- Introduction

It is one of many people's biggest fears—sitting in the doctor's office and hearing the word "cancer." People diagnosed with prostate cancer often say they were stunned by their diagnosis and couldn't hear, much less remember, what was said afterward. However, absorbing the news of a cancer diagnosis is a key part of the coping process.[1]

in the weeks to come, you may find it helpful to have family members or friends come to your appointments with you. They will not only give you some much needed support, but they can also help listen to and remember the information your health care team gives you.

Prostate cancer is a malignant tumour in the prostate. There are several stages of prostate cancer. Your treatment and experience depend on the specific characteristics of the tumour and the expertise of your medical team. The sections in this series provide general information about prostate cancer, diagnosis, and various treatment options. Discuss with your doctor what is best in your individual situation. Most prostate cancers develop slowly and do not cause symptoms. Fast-growing prostate cancer is less common. The risk of getting prostate cancer increases with age. The average age for diagnosis of prostate cancer is 69. Because of the development in diagnostic tools and longer life expectancy, more prostate cancers are now detected. Prostate cancer is the most common cancer in elderly men in Europe. The survival rate for prostate cancer in Europe is relatively high and is still going up.

1-2- Research aims:

Areas covered in the guide include:

- How prostate cancer is detected and diagnosed
- Available treatments, their effectiveness, and their effects on quality of life
- Effective ways of coping with the stress related to a cancer diagnosis

Chapter Two: Review References

2-2- Prostate Cancer:

Prostate cancer is a malignant tumour in the prostate. There are several stages of prostate cancer. Your treatment and experience depend on the specific characteristics of the tumour and the expertise of your medical team. The sections in this series provide general information about prostate cancer, diagnosis, and various treatment options. Discuss with your doctor what is best in your individual situation. Most prostate cancers develop slowly and do not cause symptoms. Fast-growing prostate cancer is less common. The risk of getting prostate cancer increases with age. The average age for diagnosis of prostate cancer is 69. Because of the development in diagnostic tools and longer life expectancy, more prostate cancers are now detected. Prostate cancer is the most common cancer in elderly men in Europe. The survival rate for prostate cancer in Europe is relatively high and is still going up.[2]

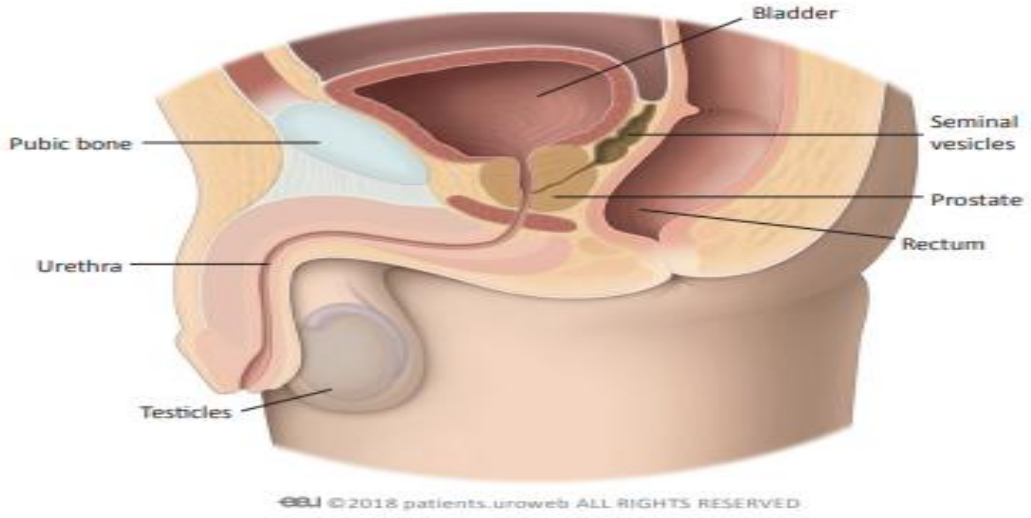


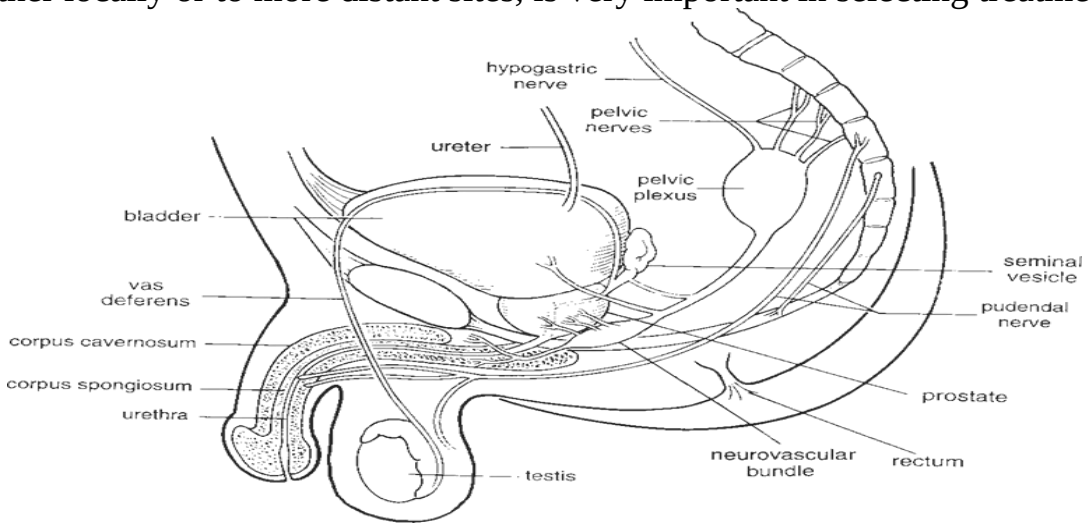
Fig. 1: A healthy prostate in the lower urinary tract.

The prostate is a walnut-sized organ located below the bladder and in front of the rectum in the male reproductive system that normally feels like the ball portion of the palm of a man's hand. It surrounds part of the urethra, the tube that carries urine from the bladder to outside the body. The gland's main function is to produce fluid for semen, which nourishes and transports sperm cells.

When cells grow abnormally and become a mass, it is called a tumor. Some tumors are benign (not likely to be life-threatening) and others are malignant (cancerous and potentially life-threatening).

Over time, some prostate cells may become cancerous. Sometimes, the cancer can be very small, localized, and confined within the prostate. Most often, however, the cancer is present in more than one site, often on both sides of the gland. Through

a process called metastasis, the cancer cells can spread outside the prostate to nearby lymph nodes or organs in the pelvic area. They eventually can spread to more distant parts of the body, through the blood and lymph systems, most often to the bones. Determining whether the cancer is confined to the prostate, or whether it has spread either locally or to more distant sites, is very important in selecting treatment.[3]



2-3- How is Prostate Cancer Detected?

1- Physical Symptoms

Should I wait for symptoms?

No, in its early stages, prostate cancer often doesn't produce any symptoms .

The two most common findings that lead to a diagnosis of prostate cancer are: (1) an elevated prostate–specific antigen (PSA) blood test and (2) an abnormal digital rectal examination (DRE). As a single screening method, the PSA test is more effective than the DRE. But using both increases the chance of detecting early stage cancer when present. These tests will be discussed more. It is important to note that a biopsy is required to confirm the diagnosis of prostate cancer.

The vast majority of patients do not have any symptoms when diagnosed with prostate cancer. Symptoms that may indicate prostate cancer are listed below but it is important to note that most men with these symptoms have benign (non-cancer) related causes:

- Frequent urination, especially at night
- Urgency in urinating
- Inability to start your urine stream
- A weak or interrupted urine stream
- Pain or burning during urination
- A feeling that your bladder doesn't empty completely
- Blood in the urine
- Pain in the back, hips or pelvis
- Weakness, weight loss, loss of appetite (common to all cancers when advanced)

As noted above, although these symptoms can be caused by prostate cancer, they are more frequently caused by other conditions that are not cancer. A very common one is benign prostatic hyperplasia (BPH). As men age, the prostate often enlarges and can press on and block the urethra and bladder, producing some of the symptoms described above. BPH can be successfully treated with medication or surgery.[4]

2. Digital Rectal Examination (DRE)

During this examination, a doctor inserts a gloved, lubricated finger into a man's rectum to feel for any irregular or abnormally firm area in the prostate. Most prostate cancers cannot be detected this way.

3. Prostate-Specific Antigen (PSA) Test

Prostate-specific antigen (PSA) is a protein in the blood that is produced only by prostate cells. PSA reflects the volume of both normal and cancerous prostate tissue. The higher the PSA level, the more likely prostate cancer is present. The PSA test results are reported as nanograms per milliliter (ng/ ml). In the past, results of less than or equal to 4.0 ng/ml were considered normal, and values above that were regarded as high. But recent research has shown that 15% or more of men with a PSA below 4.0 have a clinically significant prostate cancer. Prostate cancer can be detected at all levels of PSA, although the likelihood of detecting prostate cancer increases as PSA increases. The average PSA level increases with age and prostate size. Because prostate cancer screening is controversial ,it is best to discuss this thoroughly with your physician to make sure you understand the risks and benefits of screening and the implications of different PSA values for you. In the past, a simple cut off of 4.0 ng/ml was used to prompt further evaluation for prostate cancer. Now different methods are being used, including total PSA value, change in PSA over time (velocity), the size of the prostate, a man's age, family history, race, and overall health. Deciding what is a "normal" or safe PSA velocity can be a complex process and should be done in consultation with a physician.

The determination to proceed to biopsy is based on a combination of factors and should be done after discussing the risks and benefits with a physician. Screening and biopsy are not recommended for men with a life expectancy of less than 10 years. The following factors can indicate the need to discuss a biopsy with your urologist:

- Abnormal DRE
- High PSA
- A low free PSA
- High PSA velocity (rate of change of the PSA) - this measures how quickly the PSA level rises over a period of time. Prostate cancer is more likely if the PSA rises more than 0.75 ng/ml per year (for a PSA of 4-10), or 0.4 ng/ml per year (for a PSA less than 2.5). Another useful measure is the Doubling Time. If the PSA doubles in less than a year, there is an increased likelihood of prostate cancer. More accuracy is achieved with a minimum of three tests over a period of 18 months

or less to determine the velocity. Again, all of these variables are used in context and must be individualized to the patient.

A high PSA does not mean that you have cancer. Certain activities and conditions can produce a high PSA, including:

- Benign prostatic hyperplasia
- Ejaculation up to three days prior to the testing (which is controversial)
- A recent prostate biopsy (A man should wait at least six weeks after a prostate biopsy before getting another PSA test.)
- An acute urinary tract infection
- Prostatitis, an inflammation of the prostate that usually is treated successfully with antibiotics
- Rarely, bicycle riding

However, if the PSA scores remain high with repeat testing, and this elevation cannot be explained by any of the above, it is essential that you continue regular monitoring of your prostate situation, even if the latest biopsy results were negative for cancer.

Similarly, a low or "normal" PSA does not mean that you are cancer-free. The findings from other tests – such as the DRE, a color Doppler transrectal ultrasound, the percent free-PSA, and the PSA velocity – should be considered in making this assessment. Some prostate cancers produce very little PSA.

Certain medications and herbal preparations may lower PSA levels, possibly masking the presence of early prostate cancer. These include:[5]

- Finasteride (Proscar or Propecia)
- Dutasteride (Avodart or Avocar)
- Saw palmetto, an herb some men use to treat benign prostatic hyperplasia
- Herbal mixtures such as Prostasol and others like it
- Estrogens

Tell your doctor if you are taking any of these.

Another modification of the PSA test can increase its effectiveness for detecting cancer:

- Percent free-PSA, indicates how much PSA circulates unbound in the blood (free-PSA), and how much is bound together with other blood proteins. Men with prostate cancer are more likely to have low levels of free-PSA. A free-PSA score below 15 percent may indicate prostate cancer. A score above 25 percent is more consistent with benign prostatic enlargement. Levels between 15 percent and 25 percent are indeterminate, but suggest the need for more monitoring or evaluation. The percent free-PSA measure appears most useful when the total PSA level is between 4 and 10. The range of the percent free-PSA can vary with the assay or testing procedure used by the laboratory. This test is primarily used for the initial detection of prostate cancer, in deciding whether or not to perform a biopsy.

2-4- Other Uses of the PSA Test

While the PSA test is used mostly for early detection, it has value in other situations. Men with PSA scores above 20 ng/ml are more likely to have cancer that has spread beyond the prostate. In such cases, localized treatments such as radical prostatectomy – an operation to remove the prostate – or radiation therapy are less likely to be successful as a sole treatment. The PSA test also is used to monitor treatment effectiveness, and should be done regularly after treatment. Rising PSA levels after surgery or radiation, or during hormonal treatment, can provide an early sign that the cancer is recurring or continuing to grow. The earlier and more rapid the rise of your PSA following localized

treatment, the more likely the recurrence is due to cancer cells that were already distant from the site of the prostate. However, some advanced cancers produce very little PSA, and other markers or tests have to be used to monitor the status of the cancer.[6]

Chapter Three: Methodology

3 Methods

3.1 Design / Study methodology

This is amazing study Sectional Collected information on a burden the job And pattern life Healthy And Assessing the knowledge of students in group colleges Medical Tikrit Mosul Kirkuk for prostate cancer And aim to Analysis and Assessing the knowledge of prostate cancer students of the Tikrit, Mosul, and Kirkuk Medical Group colleges.

3.2 Instruments

A customized, anonymous questionnaire was prepared Self Appendix A, Table A1 Table A٢ , , and Table A٣, which consists of two sections. In the first stage , It was completed plural Social variables And demographics And variables the job:Age and gender And block index the body Action Center and Class the job And years Experience in care Health Primary And do With deeds Shifts.As for Section the second Lost Include on8 Questions Related With habits life Next : Assessing the knowledge of prostate cancer students of the Tikrit, Mosul, and Kirkuk Medical Group colleges.[31]

3.3 Validity and Reliability

before the study, It was completed Procedure a test experimental with ١٥٠ students/b to evaluate performance And reliability a tool Measurement.lhave They answered All _ _ on questions different For the questionnaire Without any problems And why Be there need to Changes.

3.4. Ethical Considerations

And in this the study He rose Department directors specializations and assessment of students' knowledge of colleges of the medical group, Tikrit, Mosul, and Kirkuk for prostate cancer. Inform all Participants around Goal the study . It was completed Preservation on non Reveal on His identity in all times . did not Contains Questionnaires completed on any information a personality maybe that Determine identification Participants .[32]

3.5. Data Analysis

For system Employment Statistics SPSS IBM It was completed analysis data that It was completed Get on her from Questionnaires using package Statistics Release Windows He was variable Shop interest in This is amazing the study he what if He was Nurses Working System Shifts , any a variable Response the couple that Takes Two values Just .

Included Variables Interpretation or Independent used To explain

Probability The performance Or not The performance With deeds Shifts variables Categorical and variables ongoing, And it can Divide it to third groups . Included The first group Properties Latent in The Worker, like Sex. In addition, the worker's age was also included, categorized into 4 groups (18 years , 20-25 years). In the second group, we took into account environmental variables that may affect employee performance, such as Geographic factors , for example, work location (work area = 1 if located in Tikrit Medical Colleges ; work area = 2 if located in Mosul University , and work area = 3 if located in Kirkuk University). The third group referred to those variables that depend directly on the individual: the number of days devoted to exercise per week (1 day; 2 days; 3 or more days, or none) and variables related to nutritional habits (daily or weekly.Most of the variables performed had first descriptive bivariate analysis. Between the relationships of study and interest . The first bivariate descriptive analysis was conducted among the most important variables to study the relationships between them.[33]

The statistical analysis was based on logistic regression, which is suitable for working with a binary variable and allows us to model the probability of doing shift work or not as a function of a series of explanatory variables. In this way, we calculated associations between a dichotomous variable (shift work or not) and a series of covariates of interest that allowed us to adjust for primary care workers' gender and daily habits . A general model was created taking into account the entire study population to reveal the relationship between the variables analyzed and whether or not working shifts. Next, given the different distribution by sex and different age group patterns observed in this first analysis, a sensitivity analysis was performed to verify the results. The analyzes were then repeated, stratified by gender, and then further Stratification by age group.[35]

3-1- Diagnosing, Grading, and Staging the Cancer

This section will describe how prostate cancer is formally diagnosed, how it is graded to estimate its aggressiveness, how it is staged to describe its extent, and the procedures commonly used to accomplish these tasks.[7]

1. Formal Diagnosis

Making a formal diagnosis of prostate cancer requires a needle biopsy. The samples obtained from the prostate are then examined by a pathologist in a laboratory to confirm the diagnosis.

Transrectal ultrasound (TRUS) guided biopsy – A TRUS uses sound waves produced by a small probe placed in the rectum to create an image of the prostate on a video screen. The transrectal ultrasound also can sometimes provide valuable information about whether the cancer has reached the edge of or broken through the capsule of the prostate gland. It also provides an estimate of the size of the prostate.

While the image can reveal suspicious areas that should be sampled, multiple other areas of the prostate should be sampled for tumors that do not show on ultrasound. An instrument called a biopsy gun quickly inserts and removes narrow needles, obtaining cores of tissue about one half inch long that are sent to the laboratory for examination. A minimum of 8 cores and up to 20 should be removed from different areas of the prostate and especially from the more suspicious locations. The patient should not fear this procedure. It usually causes only mild discomfort, a little bleeding, and takes less than half an hour. An antibiotic is usually given prior to and following the procedure to reduce the risk of infection.

Sometimes, the first biopsy doesn’t reveal the presence of cancer, even when this is strongly suggested by the patient’s symptoms or PSA test results. Repeat biopsies may be required if the presence of cancer is still suspected.[8]

2. Imaging Techniques

Bone Scan – A radionuclide bone scan can show whether the cancer has spread from the prostate to the bones. Some low level radioactive material is taken into the body by injection and will be taken up by diseased bone cells. This allows the location of diseased bone to be seen on the total body bone scan image. These areas may suggest that metastatic cancer is present, but arthritis and other bone diseases could create a similar pattern. Very small metastases may not be detected by this scan.

Usually, a bone scan is not ordered unless there are signs of aggressive disease such as an elevated PSA level (>15ng/ml), a high

Gleason grade (a prostate cancer grading system described later in the guidelines), a large tumor, or bone pain.

Computed Tomography (CT scan or CAT scan) – uses a rotating X-ray beam to create a series of pictures of the body from many angles that can be put together into a detailed cross–sectional image. This can help reveal abnormally enlarged pelvic lymph nodes, or spread of the cancer to other internal organs. A CT scan usually isn't ordered unless there is an elevated PSA (>20ng/ml), a high Gleason score or primary Gleason grade of 4, or evidence of a large tumor.

Magnetic Resonance Imaging (MRI) – is like a CT scan except that magnetic fields are used instead of X–rays to create the detailed images of selected areas of the body. These scans are not effective in revealing microscopic–sized cancers, although an MRI using an endorectal coil is superior to a routine pelvic MRI as it images the prostate gland itself better.

Color Doppler Ultrasound – This is a refinement of the standard transrectal ultrasound, which produces only black and white images. The Color Doppler machine can detect blood flow patterns; cancerous areas sometimes show an increase in the density of the blood vessels. Only the prostate gland and immediate adjoining tissues are imaged.

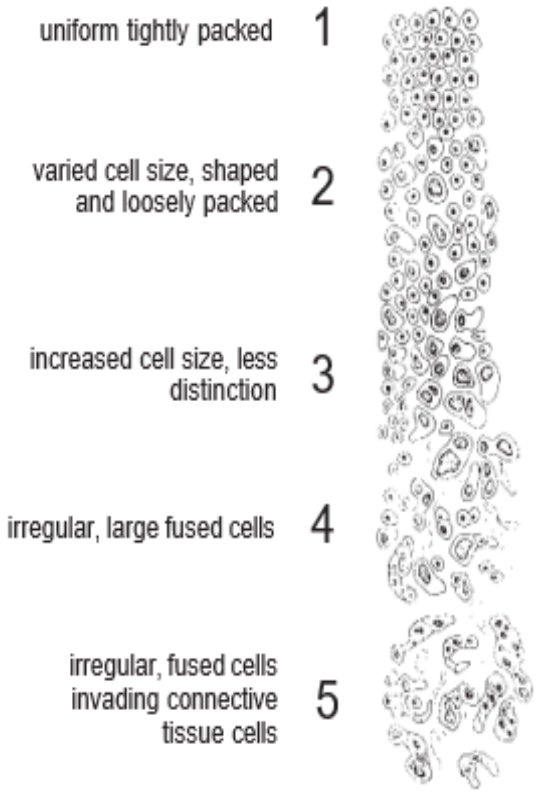
Magnetic Resonance Spectroscopy Imaging (MRSI) – This is a refinement of the endorectal MRI. Magnetic resonance spectroscopy detects the levels of certain compounds that are present in different amounts in benign and cancerous prostate tissues. These are then mapped on a regular MRI image to indicate possible cancer sites. This method can produce findings for the prostate gland, but does not image the lymph nodes. This study may be useful in monitoring the prostate after radiation therapy as well. Currently, it remains investigational.

ProstaScint™ – This method uses a special antibody that can recognize prostate cancer cells. This antibody is chemically attached to a radioactive tracer, and then injected into the bloodstream. A few days later, the entire body is scanned by a procedure similar to a bone scan. The ProstaScint™ can locate microscopic amounts of prostate cancer cells in soft tissues in the body. Combining it with a regular CT or MRI scan can increase its accuracy. Newer antibodies have been developed that will improve cancer staging, as they become available for use in the near future. This test is not commonly used due to the high likelihood of both "false positive" and "false negative" results.

3-2- Other Imaging Techniques:

Under unusual circumstances other imaging studies may be indicated such as PET/CT, Combidex (not FDA approved), and Sentinel

node Imaging. Since there is no general agreement as to the clinical indication for using these tests, they will not be discussed here.



3. Grading the Cancer

If cancer is found in the prostate biopsy sample, it is graded to estimate its aggressiveness. The most commonly used prostate cancer grading and scoring system is called the **Gleason** system. The pathologist examines the cancer cells under a microscope and evaluates how closely the arrangement of the cancer cells matches that of normal prostate cells. For each sample, two grading assessments are made. The first is an estimate of the most common cancer cell pattern, and the second is of the next most common cancer cell pattern. These are done on a scale of 1 (most like normal cells) through 5 (least like normal cells). The two grades are then added (e.g., 3+2=5) to give the Gleason score or sum, with a range of 2 to 10.

The Gleason score is very important!

The Gleason score is essential for treatment planning and decision-making. Every prostate cancer patient should know his Gleason score. Those with low scores (6 or less) are more likely to have a less aggressive, slower growing

cancer. Gleason 6 is the most common score. Gleason 7 indicates intermediate risk; a Gleason 3+4 may be a less aggressive cancer than a 4+3, so knowing both the primary and secondary grades is helpful. Gleason scores of 8 to 10 indicate high-risk cancers that could grow and spread more rapidly. Since the most accurate grading of the cancer is, in part, a function of the skill and experience of the pathologist, it may be appropriate to get a second opinion for the Gleason score.[8]

Ideally, the pathology report should provide for each of the biopsy cores containing cancer tissue the following information (which can help in evaluating your cancer and planning treatment):

- The length of the core.
- The Gleason score for that core.
- The percentage of cancerous tissue in that core.
- The site in the prostate of the core with cancer.
- Both the primary and secondary grades.
- A Gleason 7 sample should indicate whether it is 3+4 or 4+3, and also show the percentage of Gleason Grade 4 in that sample. The

presence of any grade 5 should be noted even if not primary or secondary.

4. Staging the Cancer

A prostate cancer's stage indicates how far it has spread, and is very important in selecting treatments and in predicting prognosis or the future of the disease. The commonly used staging system is the TNM system. This describes the extent of the primary tumor (T), the absence or presence of metastasis to nearby lymph nodes (N) and the absence or presence of distant metastasis(M). (Previously used staging systems for prostate cancer had employed I through IV and A through D classifications) T Categories – There are two types of T classifications for prostate cancer. The clinical stage is based on the digital rectal examination, and imaging findings. The pathological stage is based upon surgical removal of the entire prostate gland, the seminal vesicles (which are two small sacs that store semen), and sometimes nearby lymph nodes. The clinical stage is used in making treatment decisions. This is the best estimate short of surgery, but may underestimate the extent of cancer development and spread. The pathological stage determination is more thorough, and therefore more accurate in making a prognosis and indicating the need for further treatment. However, it can be determined only with patients who have had a radical prostatectomy or a biopsy of tissue confirming the presence of disease beyond the prostate (e.g. Seminal Vesicles).[9]

• T1 – Refers to a tumor that is not felt during a digital rectal exam. T1a (5% or less of specimen involved in tumor) and T1b (more than 5% tumor involved) describe cancers found incidentally during a TURP (transurethral resection of the prostate, a surgical procedure done to relieve symptoms of benign prostatic hyperplasia), where examination of the removed prostate tissue reveals cancer. T1c cancers are those detected by an elevated PSA only and which are then diagnosed with a biopsy. T1c is now the most common stage for newly diagnosed men.

• T2 – Refers to a cancer that is felt by the doctor during the digital rectal examination, or is seen with imaging studies, and is believed to be confined within the prostate gland. If the cancer is in one half or less of only one side of the prostate, the stage is T2a. If the cancer is in more than one half of only one side of the prostate, the stage is T2b. If the cancer is in both sides of the prostate, the stage is T2c.

• T3 – Refers to a cancer that has extended beyond the capsule of the prostate and/or to the seminal vesicles, as indicated by imaging studies or biopsy. If the cancer can be felt during a DRE, and extends outside the prostate on one side, but not to the seminal vesicles, the stage is T3a. If the cancer has spread to the seminal vesicles, the stage is T3b.

• T4 – The cancer has spread to other organs next to the prostate, such as the bladder's external sphincter (which helps control urination), the rectum, and/or the wall of the pelvis. Imaging tests are usually necessary to detect this more advanced tumor stage.

N Categories – N0 means the cancer has not spread to any lymph nodes. N1 or N+ indicates spread to one or more regional pelvic lymph nodes. (Nx indicates that regional lymph nodes have not been assessed.)

M Categories – M0 means the cancer has not metastasized beyond the regional nodes. M1a means metastases are present in distant lymph nodes. M1b means the cancer has spread to the bones. M1c means the cancer has spread to other distant organs such as the lungs, liver, or brain, with or without bone disease. The site(s) of the metastases may be specified. (Mx indicates that distant metastases have not been assessed.)

Staging via the Clinical States Model

This model is needed for staging more advanced disease. A shortcoming of the TNM system is its failure to account for these situations: 1 - Many men who have received local therapy such as a radical prostatectomy or radiation may develop a rising PSA without any evidence of metastatic disease; and 2 - For patients with metastatic disease, there is a significant difference between the form of the disease that is responsive to hormonal therapy (to be described later) and that which is progressing/growing despite hormonal therapy (often called hormone independent or refractory, or castration resistant prostate cancer). Thus, determining as best as possible which "clinical state" the cancer is in at a particular time – non-metastatic or metastatic; hormone responsive or hormone independent – is critical for guiding the treatment of patients with advanced disease.[9]

3-3- Diagnostics

PSA Testing

One of the most frequently used tools to diagnose prostate conditions is a blood test to check the level of prostate specific antigen (PSA). If the PSA level is too high, this suggests that the cells in the prostate are behaving unusually. This could be because of a tumour in the prostate, but also because of an infection or a benign enlargement of the prostate. Digital rectal examination Your doctor will do a rectal examination with a finger to feel the size, shape, and consistency of the prostate (Fig. 2). This test is known as digital rectal examination (DRE).

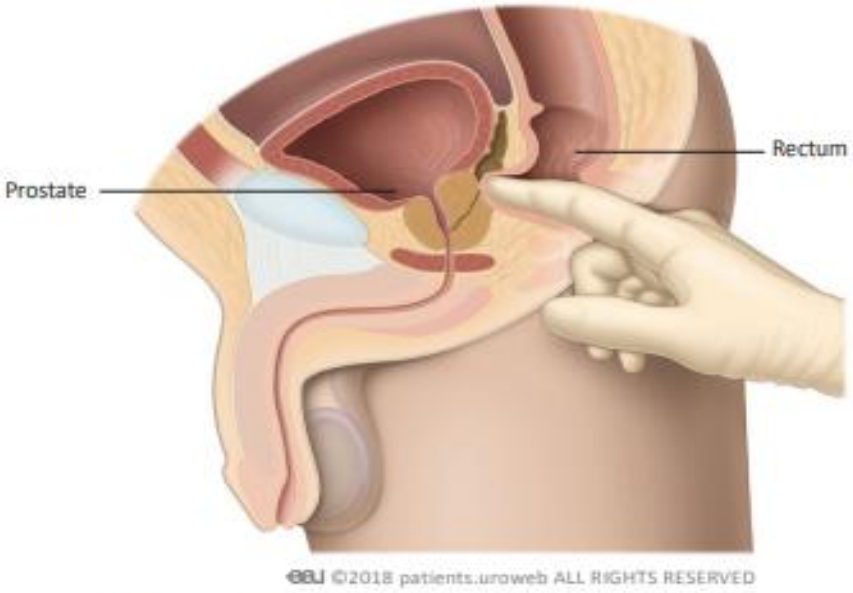


Fig. 2: Digital rectal examination to feel the size, shape, and consistency of the prostate.

• Your age.
• The kind of treatment available at your hospital .
• Your personal preferences and values.
• The support network available to you.

Localised Prostate Cancer

If you are diagnosed with localised prostate cancer, your doctor can recommend treating the cancer with conservative management, radical prostatectomy, radiation therapy, or new experimental techniques: ablation therapy.

Conservative management

Conservative management is a type of treatment where the progress of your disease is closely monitored. In prostate cancer, this can be done through active surveillance or watchful waiting.

Radical prostatectomy

Radical prostatectomy is a surgical treatment option for localised prostate cancer. The aim is to remove the entire prostate and the seminal vesicles.

Radiation therapy

Your doctor could also recommend radiation therapy. This therapy damages and kills cancer cells. You may be treated with external beam radiation therapy or brachytherapy.[10]

Your doctor may suggest brachytherapy if you have a low Gleason score and no urinary symptoms.

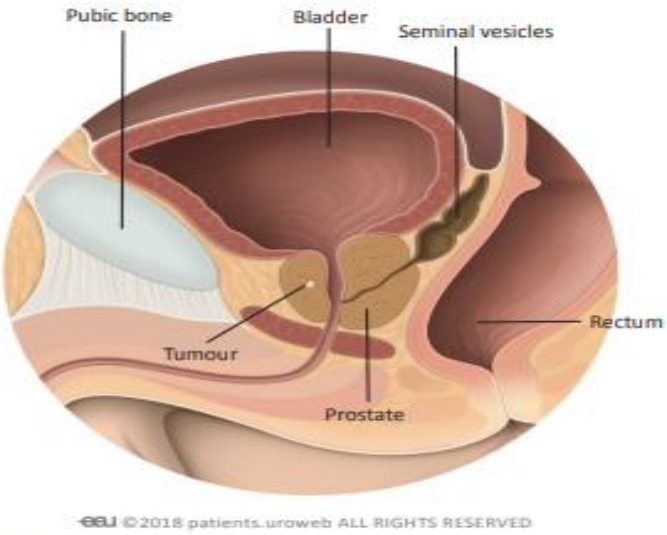


Fig. 3: A T1 prostate tumour is too small to be felt during a digital rectal examination or seen on a scan.

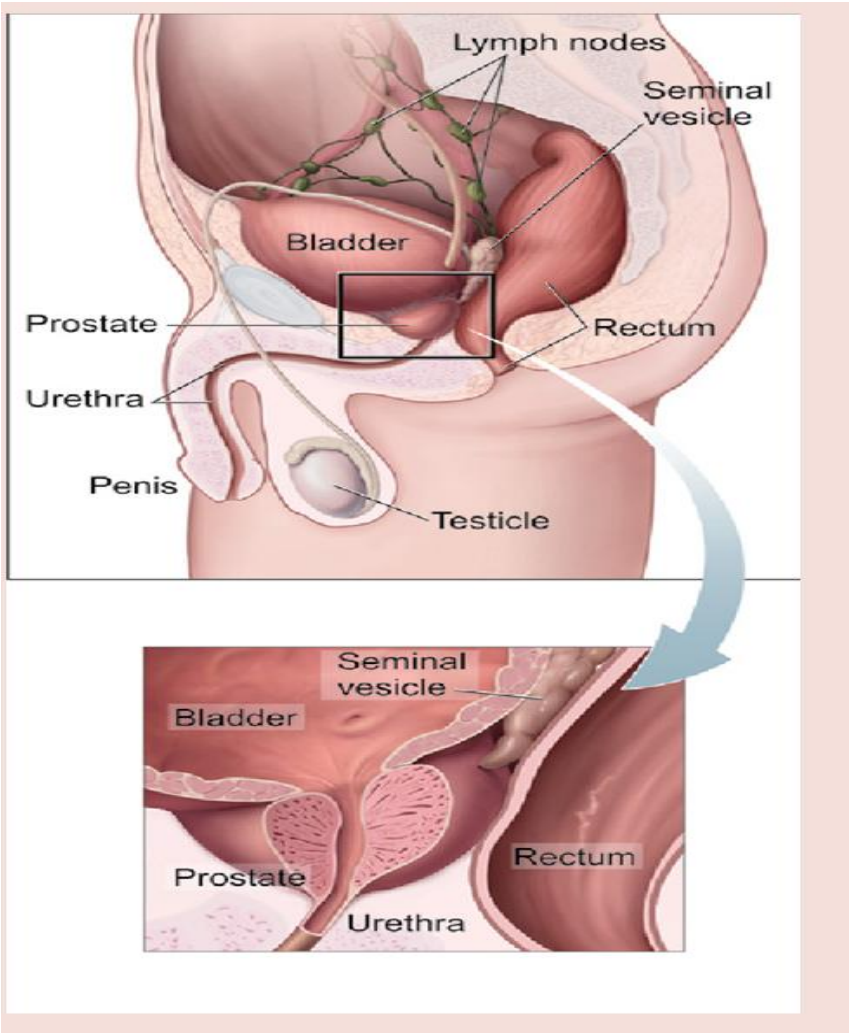
New experimental techniques: Ablation therapy Besides surgery, radiation, and conservative management there is also ablation therapy (also referred to as focal therapy) as treatment options for localised prostate cancer, such as: • Cryosurgical ablation of the prostate (CSAP) • High Intensity Focussed Ultrasound (HIFU) Because the tumour cells are targeted directly, there is not much damage to other tissue in the prostate or the lower urinary tract.[11]

Cancer Cells

Cancer begins in **cells**, the building blocks that make up all tissues and organs of the body, including the prostate.

Normal cells in the prostate and other parts of the body grow and divide to form new cells as they are needed. When normal cells grow old or get damaged, they die, and new cells take their place.

Sometimes, this process goes wrong. New cells form when the body doesn't need them, and old or damaged cells don't die as they should. The buildup of extra cells often forms a mass of tissue called a growth or **tumor.**



The first picture shows the prostate and nearby organs. The second picture shows how the prostate surrounds the urethra.

Growths in the prostate can be **benign** (not cancer) or **malignant** (cancer):

Benign growths (such as **benign prostatic hypertrophy**):

- Are rarely a threat to life
- Don't invade the tissues around them
- Don't spread to other parts of the body
- Can be removed and usually don't grow back

Malignant growths (prostate cancer):

- May sometimes be a threat to life
- Can invade nearby organs and tissues (such as the bladder or rectum)
- Can spread to other parts of the body

- Often can be removed but sometimes grow back

Prostate cancer cells can spread by breaking away from a prostate tumor. They can travel through **blood vessels** or **lymph vessels** to reach other parts of the body. After

spreading, cancer cells may attach to other tissues and grow to form new tumors that may damage those tissues.

When prostate cancer spreads from its original place to another part of the body, the new tumor has the same kind of abnormal cells and the same name as the primary

(original) tumor. For example, if prostate cancer spreads to the bones, the cancer cells in the bones are actually prostate cancer cells. The disease is **metastatic** prostate cancer, not bone cancer. For that reason, it's treated as prostate cancer, not bone cancer.

Treatment Decision-Making

1. Factors to Consider

Deciding how to treat prostate cancer can be a confusing process. Each treatment has its own mix of benefits, risks and impacts on quality of life. The good news is that several treatments are very successful for many prostate cancer patients, either in providing a cure or keeping the cancer under

control for many years. However, your physician cannot always tell you specifically which treatment to choose, because for most men, the choice is significantly influenced by personal preferences.

While the stage and grade of the cancer, as well as the serum PSA level, are key factors in choosing the treatment that is right for you, that choice is also influenced by other factors such as:[12]

- Your age and life expectancy
- Your general health and specific medical conditions
- Cost and practical considerations
- Attitudes about cure and/or living with cancer
- Your needs, concerns, values and social relationships
- Your feelings about specific side effects

2. A Critical Question – Is the Cancer Confined to the Prostate?

It is not possible to determine with absolute certainty whether or not the cancer is confined to the organ. The probability of spread increases in cases where the cancer is at a higher stage (T2b or above), and/or has a Gleason score of 7 or more, and/or has a pre-treatment PSA above 10. One way to determine the likelihood of cancer spread is to use a risk assessment instrument that is based on diagnostic information. Three of the most commonly used instruments are:

- The Kattan nomogram (www.nomograms.org)[13]

• The Partin tables (http://urology.jhu.edu/prostate/partintables.php)

• The UCSF-CAPRA score (http://urology.ucsf.edu/CAPRA.html)

Although helpful, these tables represent results for large numbers of men; therefore, they may not reflect your specific condition and should be interpreted with caution. The following general guidelines apply:

• If the cancer appears to be confined to the organ, then a localized treatment that attempts a cure may be considered. Options here include: a radical prostatectomy that removes the organ; one of the forms of radiation therapy; or cryosurgery, which uses extreme cold to kill cancer cells.

• If the cancer appears to have spread, either locally to nearby lymph nodes or more distantly to bones or other organs, then the goal of treatment may be to control the cancer rather than to cure it. Hormone therapy is often considered as an initial treatment in such circumstances, either by itself or combined with other treatments. Hormonal therapies alone may control the cancer for many years in many patients, depending on a variety of factors.

3. Assessing Degree of Risk of Cancer Recurrence

Determining what risk category you fall into is important in your treatment decision-making. The following three risk factors are the main ones used to classify your level of risk:[14]

• Pre–treatment PSA score

• Clinical stage

• Gleason score

Low Risk – The PSA is under 10, and the clinical stage is T1c or T2a, and the Gleason score is 6 or below. The likelihood of cancer recurrence is relatively low after treatment, and any one of the

approaches attempting a cure of the cancer can be considered as the sole primary treatment method to be undertaken.

Intermediate Risk – The PSA is between 10 and 20, or the clinical stage is T2b, or the Gleason score is 7. The probability of a cancer recurrence after a single treatment method is somewhat higher, and a combination of two or more treatment methods might be considered.

High Risk – The PSA is over 20, or the clinical stage is above T2b, or the Gleason score is between 8 and 10. The probability of a cancer recurrence is substantially higher, and the initial treatment approach very likely may include two or more treatment methods, including hormone therapy with radiation therapy, or surgery followed by additional treatment based upon post-surgical findings.[15]

These risk categories are not precise, especially in the intermediate and high risk groups, where there is considerable overlap. A very high elevation of any of the basic risk factors could significantly

increase the likelihood of an early treatment failure or recurrence of the cancer. Other factors that may influence this risk assessment are:

• The number and percentage of positive biopsy samples. Thirty three percent or more may indicate a higher level of risk.

• The percentage of cancer in any individual sample. More than 50% may indicate a higher level of risk.

• For a Gleason 7, whether it is 3+4 (lower risk) or 4+3 (higher risk), and the percentage of Gleason grade 4 in such samples.

• Pre-treatment "PSA velocity," or change in PSA over time. An increase of 2 ng/ml or higher a year, prior to the formal diagnosis of prostate cancer, may be associated with a higher mortality rate from the disease but this belief has recently been called into question.

Treatment Options

Because there is no consensus on what is the best form of treatment, your choice among the different options will be based on several factors, including but not limited to:[16]

• Your knowledge about the pros and cons of each treatment option, especially effectiveness and side effect profile, but also such factors as cost and convenience.

• Your age, general health, and specific medical conditions

• The grade and stage of your disease

• Your values, concerns, life goals, and family/social situation

• The recommendations of your physicians.

As appropriate, you and your physicians may choose a combination of treatments.

1. Active Surveillance

In the past, men who were diagnosed with prostate cancer were almost automatically presented with more aggressive treament approaches, often with a cure as the goal of the treatment. With increased screening for this disease, more men have been diagnosed with earlier forms of the cancer that are smaller in size, relatively less aggressive, and possibly not becoming life-threatening in nature. There is increasing concern that such men may be overtreated by the surgical, radiation, and hormonal therapies (to be described later), experiencing the side effects that such treatments can bring. This has led to the growing interest in and use of Active Surveillance as a treatment option in such cases.[17]

Active Surveillance is an approach where treatment for cure is delayed in men who are a) low risk,

b) have a low likelihood of rapid disease progression, c) agree to close monitoring, and d) are comfortable with this approach. The goal of this treatment option is to prevent overtreatment of prostate cancer and defer

side effects of disease in men who do not require immediate treatment, but also to preserve the ability to cure the prostate cancer if and when the time comes for treatment. Active Surveillance is an active process where continued monitoring is required and lifestyle changes are encouraged. It should be distinguished from what has been called Watchful Waiting, which tended to be more passive in nature, involved less systematic monitoring of a man's prostate cancer

status, and treated metastatic or symptomatic disease rather than attempting to cure prostate cancer.[18]

You are most likely to be a candidate for Active Surveillance if the disease is in its early stages, namely:

• PSA is 10 or less and has not changed much over time

• Ultrasound results indicate the cancer has not spread beyond the prostate i.e. Stage T1 or T2

• Minimum 12-needle biopsy indicates:

➤Gleason Score equal or less than 6

➤Cancer is present in no more than one-third of the core samples

➤No single sample shows more than 50% of any single core is cancerous

If regular measurement indicates no progression in the cancer then no active treatment is called for. Some men also opt to change lifestyle factors such as diet, exercise, stress reduction and use of supplements, but this is not a required aspect of active surveillance. Men on Active Surveillance can elect for treatment for cure at any time if the psychological stress of living with the cancer becomes too great, or may continue on surveillance as long as disease specific parameters do not change. These parameters include PSA levels, ultrasound imaging, and biopsy results. If any of these variables increase, or suggest disease progression, the man is advised to select a treatment option for cure.[19]

Active Surveillance is suitable for men of any age but if it is elected, it must be accompanied by periodic and regular monitoring and observation supervised by your treating physician. If you

qualify for, and are considering Active Surveillance, UCSF offers an ongoing clinical trial that has been following men who opt for this choice for more than 10 years and has over 500 participants. Participation requires the following:

• Monitor free and total PSA every three months.

• Repeat the transrectal ultrasound every 6 –12 months.

• Repeat the DRE every 3 months.

• Repeat the prostate needle biopsy every 12 – 24 months, depending on the results of the imaging studies, and changes in either the absolute level or velocity of increase in your PSA.[20]

Consider active treatment when

• A repeat biopsy shows an increase in volume, grade, or stage.

• There is a rapid velocity of increase in your PSA i.e. the value climbs steeply and quickly even if your previous PSA value was low.

• The imaging studies show a significant increase in size of the cancer tumors(s).

• Your physician suggests the stage of your disease has worsened (see Section lV.3)

Approximately 20% of the men in UCSF's trial have received treatment, usually 2 – 3 years after initial diagnosis and with similar results as would have been expected had they not waited. Some men, particularly those who are older and/or with a life expectancy of 10 years or less, may choose not

to undertake more active treatment. It is still important that their disease parameters be monitored. Often, hormonal therapy may be started when there is test evidence of disease progression or actual symptom production. Any patient who chooses this approach must also have the mindset and mental strength to accept the continued existence of cancerous cells within his body.[21]

2. Radical Prostatectomy (Surgery)

)For more detailed information, see the UCSF document, "Radical Prostatectomy: A Patient Guide," available at http://urology.ucsf.edu/patientGuides/uroOncPt_Doc.html(

This operation removes the entire prostate gland plus some surrounding tissue, and it is used when the cancer is thought to be confined to the prostate or not to have spread far outside the gland.

Thus, the goal of undertaking a radical prostatectomy is complete removal of the cancer and curing the patient of the disease. The surgery is done under general anesthesia, generally takes two to four hours, and requires a hospital stay of one to three days. A urinary catheter is placed into the penis for a period of one to two weeks after the surgery, to drain the urine directly from the bladder to outside the body. There are three main types of radical prostatectomy:

Retropubic – In this procedure, the surgeon uses an incision in the lower abdomen to remove the prostate and also the lymph nodes for examination. This procedure allows for a nerve–sparing approach, which can lower, but not totally eliminate, the risk of impotence following surgery. In the nerve-sparing approach, the surgeon tries to preserve one or both of the small nerve bundles needed for unassisted erections. However, if the cancer has spread to the nerves or is close to them, nerve sparing may not be advised.[22]

Perineal – In this procedure, the prostate is removed through an incision in the skin between the scrotum and anus. The lymph nodes

can’t be removed through this incision. If the lymph nodes need to be examined, removal can be done through a small abdominal incision or by a laparoscopic procedure. Nerve sparing also can be performed perineally.[23]

Laparoscopic – In this procedure, the prostate is removed in a fashion similar to a retropubic prostatectomy, but is performed through five very small (less than 1.0 cm) incisions using probes with lighted magnifier scopes, cameras, and surgical instruments. The prostate specimen is removed in

a small bag through one of the incisions, which is expanded to 2 to 3 cm. This procedure is done in two different ways:

• Pure laparoscopic – The surgeon works directly with the surgical instruments to remove the prostate.

• Robotically – The surgeon works with a computer to robotically manipulate the instruments.[24]

Potential benefits of this procedure are less blood loss, less pain and earlier return to full activities. Nerve sparing and lymph node dissections can be performed with this technique as well. The laparoscopic procedures take about an hour longer, on the average, than the other ones, but are associated with a slightly shorter hospital stay.

Present Status of Radical Prostatectomy – The retropubic and perineal procedures have been performed successfully for many years, and for a long time, open prostatectomy was regarded as the “gold standard” of prostate cancer treatment. However, the robotic laparoscopic operation has now become a frequently used method for doing a prostatectomy. Since the laparoscopic approach is relatively new, what studies have been done do show less in the way of immediate post-operative problems. But the medium term studies show similar results for treatment outcome and side effects for the laparoscopic and non-laparoscopic techniques.

For patients with a PSA below 10, a Gleason score of 6 or less, and a prostate confined cancer, the rates of “cure” (defined as an undetectable PSA) can exceed 90% over a five or ten year period.

Also, for intermediate risk patients and even select high-risk patients with prostate cancer, radical prostatectomy can be a very effective treatment, but additional therapy may need to be used.[25]

Determining Treatment Effectiveness – Since the entire prostate is removed in these procedures, there is no tissue left to produce PSA. Therefore, the indication for a successful prostatectomy is an undetectable PSA in the tests done following the surgery (a PSA of 0.02 or less). An important value of a prostatectomy is that the primary tumor is removed and the entire prostate can be evaluated in the pathology laboratory. Studies have shown that up to 40% of cancers have been

understaged, i.e., the cancer is more aggressive and/or extensive than was estimated pre-operatively. These findings can help guide decision-making about the need for additional treatment.[25]

Main Risks and Side Effects – The most significant side effects include erectile dysfunction (a complete or partial inability to have an erection without assistance) and urinary incontinence (a loss of control over the flow of urine). The skill and experience of the surgeon are important factors in how frequently these occur, or how severe these are. Surgeons who have done large numbers (hundreds) of procedures generally have better results, but quantity doesn't guarantee quality. Patients should always ask their doctors for complete data about people they have treated. Information should be

available on erectile function and urinary continence, as well as rates of recurrence of prostate cancer. Erectile Dysfunction – All men experience some degree of erectile dysfunction during the first six months.[26]

following the surgery. Some men may start to recover their ability to have an erection within weeks of the procedure, others may require up to three years. After a non–nerve sparing radical prostatectomy, over 90 percent of men become impotent. ("Impotent" here means the inability to maintain an erection without any aids). With the nerve–sparing procedure, the impotence rate drops considerably. Besides age, other factors such as degree of potency and sexual interest prior to the surgery, and various medical conditions, can affect the extent of recovery. Even with recovery of potency, the resulting orgasms will be dry because the prostate gland and the seminal vesicles are no longer there to produce fluid for the ejaculate[27]. Men tend to get used to orgasms without the ejaculate. Those men who may want to father children after having their prostatectomy should consider sperm banking prior to the operation. All these issues should be discussed with your physician(s) and your partner.

Treatments and aids for erectile dysfunction – These can be very effective, but can also be inconvenient or bothersome. More detailed information can be found in the UCSF document, "Managing Impotence – A Patient Guide," available online in PDF format at: http://urology.ucsf.edu/patientguides/neuromale.html.[27]

• Prescription medications such as Viagra, Cialis, and Levitra can help create erections. A recent study has shown that frequent, perhaps even daily use of such a medication as soon as possible after surgery will help achieve a more effective return of potency. There are medical risks associated with their use, which should be discussed with your physician.[28]

• A penile suppository – A kit helps place a small pellet of a medication into the tip of the penis to produce an erection.

• A penile injection – A fine needle is used to inject a medication into a specific part of the penis to produce an erection. An autoinjector is available.

• A vacuum device that is placed over the penis, with a pump that draws blood into the penis to produce an erection.

• A penile prosthesis – A device surgically placed in the penis, often with an external pump, to create an erection.

It should be emphasized that whether or not such treatment aids are used, an open and cooperative relationship with your sexual partner is very important in helping restore a satisfying sexual relationship.[29]

Incontinence – Many men will experience some temporary urinary incontinence immediately after surgery. Normal bladder control usually returns within several weeks or months. Anywhere from 3 percent to 8 percent of patients have some permanent stress incontinence (passing urine after coughing, laughing, sneezing, or exercising) or general difficulty controlling urine flow. Certain

exercises known as Kegel exercises, that strengthen the urinary sphincter, may improve or restore bladder control. Biofeedback programs may be helpful, and surgical procedures that implant either a male sling or an artificial urinary sphincter, or inject collagen or carbon coated balls, all of which serve to compress the urethra, can also be considered for the approximately one percent of men who may experience severe incontinence.[30]

Chapter four : The result

4. Results

The study response rate was 98 %. Among the participating students 86.3% were female and the majority were over 23 years old (70.3%). In terms of experience in knowing the evaluation And knowledge of the students of the medical group colleges of Tikrit, Mosul, and Kirkuk for prostate cancer , 58.4% had between 1 and 2 years of experience and 21% had between 3 and 4 years. Forty-two percent had knowledge of prostate cancer.

Table 1: Socio-demographic and employment characteristics of the sample.

	Total Study Population (*n* : 75)
Work area. area	***n* (%)**
North	1 (23.7)
South	3 (33.3)
Near the sea. sea	4 (42.9)
Gender	
Woman	5 (86.3)
Age (years)	
<34	4 (29.7)
35–44	3 (26.5)
45–54	4 (20.1)
55–65	5 (23.7)
Work experience in the same care. care level. level (years)	
<5	6 (14.2)
6–10	5 (21)
11–20	5 (25.1)

Descriptive results: n (%). frequency (percentage). 95 % of the students of the medical group colleges in the universities targeted in the research have knowledge about prostate cancer, and five percent have little information about this disease.

According to the bivariate descriptive analysis, by gender, the male students studied this disease according to the curriculum set by their colleges and taught their fellow students about the danger of prostate disease, how to know the symptoms of the disease, how to prevent them, and how to treat it. (Table 2) .

Table 2: Variables related to diet, exercise, tobacco consumption, and body mass index.

	Total Study Population (*n* : 75)
Diet	***n* (%)**
Inadequate	17 (2.0)
Adequate	30 (87.7)
Healthy	20 (5.9)
Missing values	8 (1.4)
Exercise	
Doesn't do exercise	32 (45.2)
Does exercise 1 day. day a week. week	12 (10)
Does exercise 2 days a week	25 (16.9)
Does exercise 3 days a week. week or more	6 (27.9)

Cigarette smoking	
Non- smoker	66 (86.3)
Smoker (<5 cigarettes/day)	2 (2.7)
Smoker (6–10 cigarettes/day)	1 (1.8)
Smoker (11–20 cigarettes/day)	4 (6.4)
Smoker (21–30 cigarettes/day)	2 (2.7)
Body mass index	
Underweight	7 (3.2)
Normal weight	15 (55.7)
Overweight	35 (33.7)
Obesity I	18 (7.3)

Table 5: Logistic regression considering shift work as a dependent variable stratifying by age.

Gender												
Woman	ref	ref		ref	ref		ref	ref		ref	ref	
Man	5.37	0.4–65.3	0.188	-	-	0.999	0.4	0.1-2.7	0.330	6.0	0.2-147	0.273
Exercise/We k												
No exercise/week	ref	ref		ref	ref		ref	ref		ref	ref	
1 day/week	-	0.4–69.7	1.000	0.27	0–3.1	0.288	0.3	0–2.8	0.265	6.7	0.9-50.4	0.063
2 days/week	5.26	0.4–22	0.208	3.11	0.2-49.6	0.423	-	-	0.999	0.6	0–8.2	0.677
3 or more	2.85	-	0.31	6.1	0.5	0.14	2.	0.4	0.42	0.	0–	0.45

days/week			5	7	-69.5	1	0	-11.7	2	3	5.7	2
Diet/Week *												
Saturated fats	3106.7	-	0.114	0.59	0.3-1.3	0.214	1.2	0.6-2.3	0.627	0.9	0.1-6.2	0.877
Mediterranean diet	3.41	0.8–13.9	0.088	1.49	0.7-3.3	0.337	1.1	0.4-2.7	0.849	0.6	0.2-1.4	0.217
Animal products	8.72	0.6–138.1	0.124	1.96	0.8-4.9	0.154	1.7	0.6-4.6	0.299	0.6	0.2-1.6	0.273
Smoking												
No	ref	ref		ref	ref		ref	ref		ref	ref	
Yes	4.39	0.2–84.4	0.326	0.71	0.1-6.7	0.767	0.2	0–1.3	0.088	3.4	0.3-41.4	0.334

Chapter five : Discussion of the Results

The results of the study showed that the majority Students in the colleges of the Tikrit, Mosul, and Kirkuk Prostate Cancer Medical Group who were included in the survey have knowledge of prostate disease, its effect on humans and their health, and how to know the symptoms and how to treat them. Previous studies have described that there is a small percentage of medical group students at universities and in the early stages they have little information about prostate cancer.

According to the World Health Organization, it is necessary for health workers and medical college students to have knowledge of cancer, especially prostate cancer. This fact can be explained by the low commitment of medical group students who have experience in knowing and evaluating prostate cancer . Some students lack strategies to improve adherence and student knowledge of this disease.

The logistic regression model showed that students studying at the targeted universities and colleges have knowledge in evaluating prostate cancer. These results differ from previous studies, which reported that medical group students did not know this symbol due to the lack of sources in the past and the lack of the Internet as it is at the present time. The difference between our results and those of other authors can be explained by the age of the male and female students in our survey, as most of them were younger than 25. General. In this regard, younger students tend to search and see new and up-to-date information on how to treat this disease in modern ways and innovate modern methods of treatment.

The difference in results may also be due to the difference between male and female students in the targeted universities because some male and female students have individual differences and other social and economic circumstances that necessitate them not to continue reading about prostate disease . This represents an important difference from the

majority of studies examining the assessment and knowledge of CCG in prostate cancer .

Chapter Six : Conclusions Recommendations

Conclusions

The results of the study showed that male and female students of the target groups Students of the medical group colleges of Tikrit, Mosul, and Kirkuk have the ability to evaluate and evaluate their knowledge of prostate cancer. They have a love of passion, knowledge, and discovering new information about prostate disease.

The results of the study showed that students in the medical group colleges of Tikrit, Mosul, and Kirkuk have information about this disease.

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