



ISSN 3135-338X

# HINJ

## HOLISTIC NURSING — JOURNAL —

Scientific Journal in Holistic Nursing

**VOLUME 1 | ISSUE 2 | 2025**

**Research • Care • Evidence • Wellness**

Published by the  
**College of Nursing – University of Baghdad**

Legal Deposit Number  
Deposit Number at the House of Books and  
Documents in Baghdad: 2827 for the year 2025

*The Holistic Nursing Journal is published biannually in both Arabic and English.*

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## Nurses' Practices Regarding Postpartum Care of Women with Gestational Diabetes

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### Abstract

**Objective(s):** The study aimed to evaluate nurses' practices regarding postpartum care for women with GDM and to determine the relationship between these practices and socio-demographic characteristics such as age, education level, and years of experience.

**Methodology:** A descriptive cross-sectional study was conducted between November 1st, 2024 and March 1st, 2025 in five maternity teaching hospitals in Baghdad. A purposive sample of 70 nurses working in labor wards was selected. Data were collected using a structured questionnaire consisting of two parts: socio-demographic data and postpartum care practices related to GDM. Validity was ensured through expert review, and reliability was confirmed with Cronbach's alpha of 0.77. Data were analyzed using SPSS version 26.0.

**Results:** Findings showed a generally low level of postpartum care practices among nurses, particularly in follow-up and patient education. A significant association was found between practice levels and both self-learning sources and department of work, while age, education, and experience were not statistically significant factors.

**Conclusions:** There is a notable deficiency in postpartum care practices for women with GDM among nurses, despite the high use of self-directed learning.

**Recommendations:** The study recommends continuous training for nurses on postpartum care for GDM, promoting the use of reliable educational resources, developing standard patient education protocols, enhancing teamwork among healthcare providers, and using digital tools to support follow-up care.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 05/07/2025

**Accepted:** 10/09/2025

**Published:** 31/12/2025

### Keywords:

*Practices, Postpartum  
Care, Gestational  
Diabetes*

## ممارسات الممرضات المتعلقة بالرعاية ما بعد الولادة للنساء المصابات بسكري الحمل

### المستخلص:

**الأهداف:** هدفت الدراسة إلى تقييم ممارسات الممرضات حول رعاية ما بعد الولادة للنساء المصابات بسكري الحمل، وكذلك معرفة العلاقة بين هذه الممارسات وبعض الخصائص الديموغرافية مثل العمر، والمستوى التعليمي، وسنوات الخبرة.

**المنهجية:** أجريت دراسة وصفية مقطعية خلال الفترة من 1 تشرين الثاني 2024 حتى 1 آذار، 2025 في خمسة مستشفيات تعليمية للولادة في بغداد. تم اختيار عينة قصدية من (70) ممرضة يعملن في أقسام الولادة (للغرتين الصباحية والمسائية). جمعت البيانات باستخدام استبيان مكون من جزأين: المعلومات الديموغرافية وممارسات الرعاية بعد الولادة المتعلقة بسكري الحمل. تم التحقق من الصدق بعرضه على لجنة من الخبراء، وأثبتت الثباتية باستخدام معامل كرونباخ (.0.77). تم تحليل البيانات باستخدام برنامج SPSS إصدار 26.0.

**النتائج:** أظهرت النتائج أن مستوى الممارسات المتعلقة برعاية ما بعد الولادة لمرضى سكري الحمل كان منخفضاً، خاصة فيما يتعلق بالمتابعة والتعليم الصحي. وجدت علاقة معنوية بين الممارسات ومصدر التعلم الذاتي ومكان العمل، بينما لم يظهر تأثير معنوي للعمر أو التعليم أو الخبرة.

**الاستنتاجات:** أظهرت الدراسة وجود ضعف في ممارسات رعاية ما بعد الولادة لمرضى سكري الحمل لدى الممرضات، على الرغم من اعتمادهن على التعلم الذاتي بشكل كبير.

**التوصيات:** توصي الدراسة بتنظيم دورات تدريبية مستمرة لتحسين ممارسات الممرضات في رعاية ما بعد الولادة لمرضى سكري الحمل، مع اعتماد مصادر تعليمية موثوقة. كما تدعو إلى تطوير بروتوكولات موحدة للتثقيف الصحي، وتعزيز التعاون بين الفرق الصحية، واستخدام الوسائل الرقمية لدعم المتابعة.

**الكلمات المفتاحية:** ممارسات، عناية ما بعد الولادة، سكري الحمل

### Introduction

Gestational Diabetes (GD) is a global health issue and one of the most common complications during pregnancy. The prevalence of GD increases significantly with age, ranging from 8% to 26% in women aged 45 years or older. Globally, an estimated 204 million women had GD, and this number is expected to rise to 308 million by 2045 <sup>(1)</sup>.

Diabetes mellitus is an endocrine disorder where the pancreas cannot produce enough insulin to regulate blood glucose levels. The disorder affects 3% to 5% of all pregnancies and is one of the most common medical conditions during pregnancy. Before the synthetic production of insulin in 1921, women with type 1 diabetes, or diabetes acquired in childhood, often died before reaching childbearing age or had spontaneous miscarriages. With advancements in diabetes management, type 2 diabetes is now more commonly diagnosed in young adults <sup>(2)</sup>.

Gestational diabetes mellitus (GDM) is a significant concern due to its potential short-term and long-term adverse effects on both maternal and fetal health. Previous studies have investigated the role of exercise during pregnancy in reducing the risk of developing GDM among normal-weight pregnant women <sup>(3)</sup>.

There are several risk factors for GD, including excessive body weight, multiparity, advanced maternal age, personal and family history of GD, infertility treatments, recurrent urinary tract infections (UTIs), macrocosmic babies, unexplained neonatal death, prematurity, and preeclampsia <sup>(1)</sup>. Early screening, diagnosis, and management of gestational diabetes are essential to prevent or minimize complications during and after

pregnancy for both mother and child. Several guidelines exist to assist nurses and midwives in the screening, diagnosis, and management of GDM <sup>(4)</sup>.

Reproductive planning is another concern for women with diabetes. Oral contraceptives are not typically recommended for diabetic women, as progesterone interferes with insulin activity and increases blood glucose levels. Estrogen in contraceptives may also elevate lipid and cholesterol levels, affecting blood coagulation. Intrauterine devices (IUDs) are associated with higher rates of pelvic inflammatory disease, and since women with diabetes have a weakened immune response, they are not commonly advised. Subcutaneous implanted or intramuscular injections of progestin may offer a safer option <sup>(2)</sup>.

The growing prevalence of GD and its serious consequences make it one of the most urgent health challenges of this century. Raising awareness and managing the harmful effects of GD is crucial once diagnosed. However, there is limited evidence on successful intervention strategies for women with GD, and there seems to be no consistent approach to treating the disease. This study focuses on increasing women's awareness, personal beliefs, and the importance of GD self-management <sup>(1)</sup>.

Early screening and diagnosis of GDM are essential for reducing complications during and post-pregnancy. Most countries adopt selective screening based on known risk factors, though this method may miss some cases of GDM. Selective screening can help prioritize health resources for women with the highest risk of complications, particularly in areas with limited resources. Additionally, screening for pre-existing diabetes early in pregnancy through fasting glucose testing is justified, especially with the increasing prevalence of type 2 diabetes in young women, which often remains undiagnosed <sup>(6)</sup>.

Once gestational diabetes mellitus (GDM) is identified, its management focuses primarily on nutritional therapy and physical activity, aiming to maintain normal blood glucose levels. Dietary recommendations typically include meals rich in whole grains, fruits, and vegetables, while minimizing high-glycemic foods. When lifestyle changes are insufficient, pharmacologic therapy such as insulin or oral hypoglycemic agents may be initiated to reduce the risk of adverse maternal and neonatal outcomes <sup>(6)</sup>.

The first step in managing long-term risks for women with GDM is postpartum glucose tolerance testing. Organizations like the American College of Obstetricians and Gynecologists (ACOG) and the American Diabetes Association (ADA) recommend that women with GDM receive care 6-12 weeks after delivery to assess blood pressure, body mass index, and metabolic health, in addition to routine postpartum concerns. Women are also advised to visit their primary care provider (PCP) within a year of delivery for further metabolic testing, pharmacologic therapy, and lifestyle interventions to promote weight loss,

which has been shown to reduce the onset of diabetes, as demonstrated in the Diabetes Prevention Program <sup>(7)</sup>.

In the weeks following childbirth, women face numerous challenges. They must recover from labor, care for themselves and their newborn, and cope with fatigue, mood changes, and chronic health conditions. In addition to these common issues, the number of maternal deaths in the United States continues to rise, and racial disparities in outcomes persist. One-third of pregnancy-related deaths occur between one week and one year after delivery, with a growing proportion due to cardiovascular disease. Additionally, deaths from self-harmed or substance misuse are increasing at an alarming rate. Rising maternal mortality and morbidity, along with significant disparities, highlight the need for targeted interventions to improve safety and well-being during the fourth trimester, the period from birth to the comprehensive postpartum visit. Targeted support for families during this transition can improve health outcomes across generations <sup>(8)</sup>.

## **Methods and materials**

### **Design of the study:**

A descriptive study design is carried out throughout the present study from the period 1<sup>st</sup> of November 2025 up to 1<sup>st</sup> of March 2025.

### **Setting of the study:**

The study has been conducted in Baghdad Maternity Teaching Hospitals at (Al-Yarmouk Teaching Hospital, Kadhimiya Teaching Hospital, Al-Elwyia Maternity Teaching Hospital, Baghdad Teaching Hospital and Ibn Al-Balady Hospital) for the nurse-midwives who are working in maternity ward (Morning and Evening staff).

### **Sample of the Study:**

The study included a purposive sample of 70 nurses working in the labor unit, regardless of their age, educational background, or years of experience, if they were directly involved in delivering nursing care to post-partum women. Nurses who held administrative positions only, such as head nurses, were not included in the sample.

### **Study Instrument:**

Data were collected using a structured questionnaire developed by the investigators based on an extensive review of relevant literature, particularly the study by Ko et al. (2013) titled "*Gestational Diabetes Mellitus and Postpartum Care Practices of Nurse-Midwives.*"

The questionnaire consisted of two main sections. The first section included items related to nurses' demographic characteristics. The second section focused on postpartum care practices of nurses concerning gestational diabetes and contained seven questions adapted from the study.

These questions assessed nurses' postpartum screening and care practices using a 5-point Likert scale. Responses of “always” and “most of the time” were categorized as positive practices, while “sometimes,” “rarely,” and “never” were considered negative. Practice scores were then classified into two levels: poor practice ( $\leq 50\%$ ) and good practice ( $>50\%$ ). Data collection was conducted over a period extending from January 5<sup>th</sup> to February 6<sup>th</sup>, 2025.

### Ethical consideration

The first step to meet the ethical criteria was obtaining official approval from the College of Nursing at the University of Baghdad to initiate the research process. In addition, permissions were secured from the administrations of the selected maternity teaching hospitals in Baghdad, namely: Al-Yarmouk Teaching Hospital, Kadhimiya Teaching Hospital, Al-Elwyia Maternity Teaching Hospital, Baghdad Teaching Hospital, and Ibn Al-Balady Hospital. Participants were informed of their right to voluntarily withdraw from the study at any stage without any negative consequences. These ethical considerations were essential to ensure the protection of both participants' and the researcher's rights throughout the study.

### Data Analyses

IBM-Statistical Package for Social Sciences (SPSS) version 26 was used to analyse the data, and both descriptive and inferential statistical measures, were

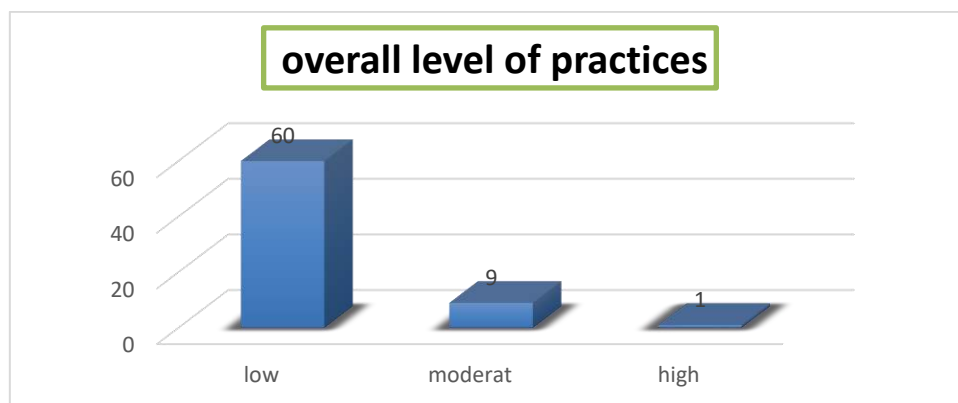
### Results

**Table (1):** Distribution of the Socio-demographic Characteristics for the study sample

Variables	Groups	(N=70)	
		Freq.	%
Age Groups (Per Years)	Less than 20 years old	0	0.00
	20-24 Years	14	20.0%
	25-29 Years	21	30.0%
	30-34 Years	10	14.3%
	35-39 Years	9	12.9%
	40-44 Years	3	4.3%
	45 and more	13	18.6%
Educational level	Nursing Secondary School	33	47.1%
	Institution	29	41.4%
	College	8	11.4%
	Higher studies	0	00
Marital Status	Mired	18	25.7%
	widow	46	65.7%
	Divorced	6	8.6%
Years of service in nursing	Less than five years	24	43.3%
	6-10	24	43.3%
	11-15	14	20.0%
	16 and more	8	11.4%
Years of service in the maternity Department	Less than five years	40	57.1%
	6-10	22	31.4%
	11-15	5	7.1%
	16 and more	3	4.3%
Are you developing your knowledge about practices (for postpartum care related to diabetes) on your own?	Yes	66	94.3%
	No	4	5.7%
	The Internet (social media)	36	54.5%

If the answer is yes, specify the sources of self-learning:	The Internet (reputable academic websites)	11	16.7%
	Libraries	4	6.1%
	Other	15	22.7%
Type of primary practice and patient's primary residence	General ward	67	95.7%
	Private ward	3	4.3%
	Total	70	100%

Table (1) presents the demographic of the study sample. The findings indicate that 30.0% of participants belong to the 25-29 years age group. Regarding educational background, 47.1% of the participants have completed nursing secondary education. The marital status distribution shows that 65.7% of them are widows. In terms of professional experience, 43.3% of the study samples have between five to ten years of experience in nursing, while 57.1% have less than five years of experience in the maternity department. Furthermore, 94.3% of the participants report actively developing their knowledge about proper practices. Regarding self-learning sources, 54.5% rely on the internet and social media platforms for educational purposes. Lastly, the majority (95.7%) of the participants are currently working in a general ward.



**Figure (1):** Overall Level of Practices of Study Sample Toward Gestational Diabetes

This figure indicates that most of the samples demonstrate a low level of practices about gestational diabetes, accounting for 60 participants (85.7%). Additionally, 9 participants (12.9%) exhibit a moderate level of practice, while only 1 participant (1.4%) possesses a high level of practice.

**Table 2: The Relationship between the participants Practices and their age group, educational level, marital Status, service in nursing, and service in the maternity Department**

Chi-squarer	age	Educational level	Marital Status	service in nursing	service in the maternity Department	sources of self-learning	Hospital type
df	15.371	15.457	70.457	10.686	51.029	54.914	8.286
Asymp.sig.	5	2	3	3	3	4	1
	.009	.000	.000	.014	.000	.000	.082

NS: Non-Significant, HS: High Significant df: degree of freedom

Table 2 found statistically significant relationships between participants' practices and the following variables: age group, educational level, marital status, years of service in nursing, years of service in the maternity department, and sources of self-learning. These findings indicate that both demographic and professional characteristics significantly influence clinical practices. However, no significant association was found between practices and hospital type, suggesting that the hospital setting does not affect participants' practices.

## Discussion

**Age Distribution:** 30.0% of participants belong to the 25-29 age group. This differs from the study by Sayakhov et al. (2016), which reported the mean age of participants as 31.7 years. This difference in age could be influenced by cultural or geographical factors, as socio-economic elements often affect the age range of participants in different region <sup>(9)</sup>. **Educational Background:** 47.1% of participants have completed secondary nursing education. This aligns with findings from Charandabi et al. (2017), where more than half of participants (54%) had completed secondary education. The educational level of the participants in this study is consistent with previous studies, reflecting the general educational background of many nurses in the healthcare system in this context.

**Marital Status:** 65.7% of participants are widows. This differs from the study by Gindriūnas et al. (2023), where most patients were married. The difference in marital status may be attributed to regional or cultural factors, as certain communities may have a higher proportion of widows in the same age group. Therefore, local factors should be examined more comprehensively <sup>(11)</sup>. **Nursing Experience:**

43.3% of the study sample have between 5 to 10 years of nursing experience, while 57.1% have less than 5 years of experience in the maternity department. This reflects findings from prior research that indicate that many nurses in maternity care settings are relatively new to the field. Transitioning into maternity nursing is crucial, requiring both clinical expertise and emotional resilience. Newer nurses may face stress or inadequacy when handling high-pressure situations in maternity care. This suggests a need for additional support and mentorship for those with fewer years of experience to boost their skills and confidence.

**Self-Learning Sources:** The current study found that 54.5% of participants rely on the internet and social media for educational purposes, reflecting the growing trend of digital learning. This aligns with the study by Sakhieva et al. (2024), where students reported using social media to organize their studies. However, other studies indicate that 61.2% of women received educational support directly from healthcare providers, highlighting the importance of combining digital education with professional guidance to ensure the accuracy of health information <sup>(12)</sup>. **Work in General Ward:** 95.7% of participants work in a general ward. This

differs from the findings of Jean Y. Ko et al. (2013), where less than half of Certified Nurse Midwives (CNMs) worked in private practice (48%). The difference may be due to variations in healthcare systems across countries or institutions. Some countries or healthcare systems may have a more centralized nursing structure, leading to a larger proportion of nurses working in general wards as opposed to private practice settings.

Figure (2) indicates a low level of practices about gestational diabetes, these results are consistent with previous studies, which have shown that despite increased awareness about gestational diabetes, many pregnant women still exhibit poor practices regarding its management. A study <sup>(1)</sup> found that women with gestational diabetes often lack adequate knowledge and follow-up care, leading to suboptimal management of the condition. Furthermore, research by <sup>(7)</sup>. Demonstrated that inadequate management of gestational diabetes can result in long-term health issues, including a significantly increased risk of developing type 2 diabetes postpartum.

These findings emphasize the need for increased educational efforts targeting pregnant women, as well as healthcare providers, to ensure better management of gestational diabetes. Moreover, interventions focused on lifestyle modifications, including proper diet, exercise, and blood glucose monitoring, are crucial for improving outcomes and preventing complications associated with gestational diabetes <sup>(3)</sup>. Regarding association between the participants, practices and their age group, educational level, marital Status, service in nursing, and service in the maternity Department. The study found statistically significant relationships between participants' practices and the following variables: age group, educational level, marital status, years of service in nursing, years of service in the maternity department, and sources of self-learning. These findings indicate that both demographic and professional characteristics significantly influence clinical practices. However, no significant association was found between practices and hospital type, suggesting that the hospital setting does not affect participants' practices. These findings are consistent with the study conducted by Bobo et al. (2021), which indicated that knowledge and workplace environment play a more prominent role in shaping clinical practices than demographic characteristics. This highlights the importance of continuous professional development and structured workplace training in improving postpartum care practices among healthcare providers, rather than relying solely on individual background factors <sup>(13)</sup>.

## **Conclusion**

According to the present study, there is a significant gap in postnatal care practices for women with gestational diabetes mellitus (GDM) among healthcare providers. Most participants demonstrated low adherence to essential practices, including postpartum follow-up, patient education on the risk of developing type 2 diabetes, and the encouragement of

breastfeeding. Although a high percentage engaged in self-directed learning, many relied primarily on social media and the internet, which may not always provide accurate, evidence-based information. Notably, self-learning and the department of work were significant factors influencing practice levels, whereas demographic factors such as age, education, and years of experience showed no significant impact.

### **Recommendation**

To improve postpartum care for women with GDM, it is recommended to implement targeted professional development programs, promote the use of evidence-based educational resources, and standardize patient counseling protocols. Strengthening interprofessional collaboration and utilizing digital tools can also enhance care coordination and support follow-up adherence.

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## Assessment of Post - Abortion Women's Attitude Regarding Using of Family Planning Methods

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### Abstract

**Objective(s):** This study aims to assess the attitudes of post-abortion women toward using family planning methods in Baghdad teaching hospitals.

**Methods:** A descriptive study was used and an assessment approach has been applied for the purpose of achieving the earlier stated objective. The study was conducted from January 9th, 2025 to February 13th, 2025. A non-probability (purposive) sample of 100 post-abortion women in the obstetric and gynecological departments of three Baghdad teaching hospitals: Al-Yarmouk, Al-Alwiya, and Baghdad Teaching Hospital. Data were collected using scale (Contraceptive Attitude Scale) after reviewing related literature and validated by experts. The questionnaire included two parts: demographic and reproductive data, and attitudes toward using of family planning methods. Data were collected through the use of the questionnaire and the process of the self-administrative report as means for data collection. Data were analysed through the application of descriptive and inferential statistical approaches by using statistical package for social science (SPSS) version 22 and Excel software.

**Results:** The findings showed that the majority of women were aged 15–25 years and resided in urban areas. Most participants were housewives, had secondary school education. While 82% had used family planning methods previously, only 59% were willing to use them post-abortion. Oral contraceptives were the most preferred method. A considerable proportion (43%) expressed refusal to use contraception after abortion. The overall attitude was moderately negative, though misconceptions and lack of knowledge persisted. No significant association was found between attitudes and socio-demographic or reproductive variables.

**Conclusions:** The study concluded that most women have a negative or hesitant attitude toward using family planning methods post-abortion.

**Recommendations:** There is a need for enhanced education and counselling through media and healthcare providers, especially nurses, to improve awareness and acceptance of post-abortion contraception.

### IRAQI

Academic Scientific Journals

#### Article info:

Article history:

**Received:** 12/07/2025

**Accepted:** 18/09/2025

**Published:** 31/12/2025

#### Keywords:

*Attitudes, post-abortion women, family planning methods*

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DOI: <https://doi.org/>

## تقييم توجهات النساء بعد الإجهاض فيما يخص طرق منع الحمل

### المستخلص:

**الاهداف:** يهدف هذا البحث إلى تقييم اتجاهات النساء اللاتي تعرضن للإجهاض نحو استخدام طرائق تنظيم الأسرة في المستشفيات التعليمية بمدينة بغداد.

**المنهجية:** أجريت دراسة وصفية وتم تطبيق المنهج لتحقيق الاهداف المذكورة سابقا. نُفّذت الدراسة خلال الفترة من 9 كانون الثاني 2025 إلى 13 شباط 2025 على عينة غير احتمالية (غرضية) مكونة من 100 امرأة ممن تعرضن للإجهاض، وذلك في أقسام النسائية والتوليد في ثلاث مستشفيات تعليمية ببغداد، وهي: مستشفى اليرموك، مستشفى العلوية، ومستشفى بغداد التعليمي. تم جمع البيانات باستخدام مقياس ( التوجهات حول طرائق تنظيم الأسرة) ، وتمت المصادقة عليه من قبل مجموعة من الخبراء. تضمن الاستبيان جزأين: البيانات الديموغرافية والتناسلية، التوجهات حول طرائق تنظيم الأسرة. وتم جمع البيانات من خلال استخدام الاستبيان وتقرير الملئ الذاتي كوسيلة لجمع البيانات. تم تحليل البيانات من خلال تطبيق الأحصاء الوصفي و الأحصاء التطبيقي و بأستخدام برنامج الحزمة الإحصائية للعلوم الاجتماعية النسخة 22 و برنامج اكسل..

**النتائج:** أظهرت النتائج أن غالبية المشاركات كن في الفئة العمرية من 15 إلى 25 سنة ويُقمن في المناطق الحضرية. معظمهن كن ربوات بيوت ويمتلكن مستوى تعليمي في حدود المرحلة الثانوية. وقد استخدمت 82% من النساء طرائق تنظيم الأسرة سابقاً 59% فقط أبدین رغبتهن في استخدام هذه الطرائق بعد الإجهاض. ا، في حين أن كانت حبوب منع الحمل هي الوسيلة المفضلة لدى معظم المشاركات. كما أعربت نسبة كبيرة (43%) عن رفضهن الاستخدام لطرائق تنظيم الأسرة بعد الإجهاض. أظهرت النتائج وجود اتجاه عام سلبي معتدل تجاه طرائق تنظيم الأسرة بعد الإجهاض، مع بروز مفاهيم خاطئة ونقص في المعرفة. ولم يُسجل ارتباط معنوي بين التوجهات والمتغيرات الديموغرافية أو الإنجابية

**الاستنتاجات:** خلصت الدراسة إلى أن غالبية النساء لديهن اتجاهات سلبية أو مترددة نحو استخدام طرائق تنظيم الأسرة بعد الإجهاض. التوصيات: اوصت الدراسة بتعزيز جهود التثقيف والإرشاد، لا سيما من خلال وسائل الإعلام ومقدمي الرعاية الصحية، وخاصة الممرضات، بهدف رفع مستوى الوعي وتحسين تقبل استخدام وسائل منع الحمل بعد الإجهاض

## Introduction:

Immediate post abortion family planning methods are effective safe methods and are becoming a standard practice in many countries, yet it is not widely used in Iraq. <sup>(1)</sup> Post-abortion family planning (PAFP) is the initiation and use of family planning methods at the time of management of an abortion or before fertility returns after the abortion. Using PAFP reduces unintended pregnancies and repetitions of abortions. It also reduces the risks of adverse maternal and perinatal outcomes for pregnancies following induced abortion. Unintended pregnancies were the vast majority cause of abortions. <sup>(2)</sup>

Post-abortion family planning is the initiation and use of family planning methods immediately after and within 48 h of an induced or spontaneous abortion or treatment of complications before fertility returns. <sup>(3)</sup> The provision of family planning is important for women in the post-abortion period because fertility can return surprisingly quickly after having an abortion. Even if a woman wants to have a child immediately after an abortion, the World Health Organization (WHO) and Federation of International Gynaecology and Obstetrics (FIGO) guidelines recommend she should wait at least 6 months before getting pregnant again. <sup>(4, 5, 6, 7)</sup>

Everyone has the right to decide on the number and timing of children without discrimination, violence and oppression, to have the necessary information and facilities for it, to access sexual and reproductive

health services at the highest standard. Deficient or incorrect family planning methods, wrong attitudes and behaviors toward the methods and consequent unplanned pregnancies, increased maternal and infant mortality rates are the main health problems in most countries. Individuals' learning modern family planning methods and having positive attitude for these methods may increase the usage of these methods and contributes to the formation of healthy communities. It is considered important to examine the current attitudes and determinants in order to spread the choice of effective methods. <sup>(8)</sup>

## **Methods and materials**

### **Design of the Study:**

Descriptive design was conducted upon post- abortion women in Baghdad teaching hospitals /obstetric and gynaecological department by questionnaire to identify level of attitude about using of family planning post-abortion.

### **Setting of the Study:**

The study was conducted at three Baghdad teaching hospitals which it (Al-Yarmouk Teaching Hospital, Al-Alwiya Teaching Hospital and Baghdad Teaching Hospital). These hospitals have been selected due to their high patient income and the availability of post-abortion care services

### **Sample of the Study:**

Nonprobability (purposive sample) used to collect the data from (100) post- abortion women in obstetric and gynecological department, Baghdad teaching hospitals. This study was conducted during the period of 9th January 2025 to 13th February 202 3.1. Material and methods 3.1.1 Design of the Study Descriptive design was conducted upon post- abortion women in Baghdad teaching hospitals – obstetric and gynecological department by questionnaire to identify level of attitude about using of family planning post-abortion.

### **Study instruments:**

Questionnaire format about attitude of post- abortion women attitude toward using family planning methods were designed and developed by the researcher after reviewing related articles, Contraceptive attitude scale Urdu and previous studies. It was reviewed by the supervisor and experts, who suggested changes in some items, all their opinions were taken into consideration for modifying the items. The study instrument consisted of two main parts, which contain Part I This part consisted of: demographic information and the following variables: Part I This part is reproductive variables. Part II This part represents attitudes about using of family planning – post abortion and consist of 31 questions. Statistical Analysis Data is analyzed using SPSS (Statistical Process for Social Sciences) version 22 And Excel packages. Data was analyzed through the use of the following statistical approach.

**Data Analysis:**

Summary Statistics tables including Frequencies, Percentage, Mean and Standard deviation. Rating and scoring of scale 1- The assessment of attitudes items were rated and scored to three items. Likert scale is used for rating the items as shown in table (1)

**Table (1) Demonstrate Rating and scoring of scale for assessment attitude about using of family planning – post abortion:**

Agree	Uncertain	Disagree
3	2	1

$$\text{Cut off point} = \frac{15}{5} = 2$$

**Ethical Considerations:**

Prior to actual collection of data, formal administrative approval was obtained to conduct the study from Baghdad Health Directorate - Al- Karkh, Al-Rusafa and Baghdad Health Directorate Medical city

**Results:**

**Table (1): Distribution of women According to the Demographical Characteristics**

Variables	Classes	No. %	
<b>Age group</b>	15 - 25	43	<b>43%</b>
	26 - 36	40	40%
	37 – 47	15	15%
	48 - over	2	2%
<b><math>\bar{x} \pm SD</math></b>		<b>1.3± 0.63</b>	
<b>Address</b>	City	86	<b>86%</b>
	Urban	14	14%
<b>Level of education ( husband )</b>	Don't read , don't write	7	7%
	Read and write	5	5%
	Primary	20	20%
	Intermediate	19	19%
	Secondary	17	17%
	Institute and over	32	<b>32%</b>
<b>Level of education ( wife )</b>	Don't read , don't write	9	9%
	Read and write	8	8%
	Primary	21	21%
	Intermediate	17	17%
	Secondary	25	<b>25%</b>
	Institute and over	20	20%
<b>Occupation ( husband )</b>	Not working	1	1%
	Government employee	47	47%
	Private profession	52	52%
<b>Occupation ( wife )</b>	Not working , housewife	84	<b>84%</b>
	Government employee	13	13%
	Private profession	3	3%

Table (1) Shows that the highest percentage ( 43% ) of study was at the age group (15-25) years while the lower percentage ( 2% ) of them group age ( 48 – over ), and the highest percentage ( 86% ) of the study sample live in city and the highest percentage ( 25% ) was secondary while the lowest percentage

( 8% ) was read and write and the highest percentage ( 84% ) of the study sample was don't work / house wife while the lowest percentage ( 3% ) was private profession

**Table (2): Distribution of women According to the reproductive Characteristics**

Reproductive variables		No.	%
<b>gravity</b>	1	8	8%
	2-3	42	42%
	4 and over	50	<b>50%</b>
<b>Parity</b>	None	10	10%
	1	26	26%
	2-3	45	<b>45%</b>
	4 and over	19	19%
<b>Abortion</b>	1	60	<b>60%</b>
	2	25	25%
	3 and over	15	15%
<b>Age of abortion</b>	Less than 4 weeks	11	11%
	5-8 weeks	22	22%
	9-12 weeks	20	20%
	13 – more weeks	47	<b>47%</b>
<b>Type of abortion</b>	Incomplete	48	<b>48%</b>
	Complete	27	27%
	Missed	22	22%
	Recurrent	3	3%

Table (2) shows the highest percentage ( 50% ) of the study sample had ( 4 and over ) pregnancies , while ( 8% ) of them ( 1 ) pregnancy and the highest percentage ( 45% ) of the study sample had ( 2-3 ) deliveries while the lowest percentage ( 10% ) had none delivered and the highest percentage ( 60% ) of the study sample had 1 abortion while the lowest percentage ( 15% ) of them had ( 3 and over) abortion and the highest percentage ( 47% ) of the study sample for the age ( 13 – more ) weeks and the lowest percentage ( 11% ) of them for ( less than 4 ) weeks and the highest percentage ( 48% ) of the study sample for incomplete type of abortion while the lowest percentage ( 3% ) of them is recurrent

**Table (3): Distribution of Women According to The Family Planning Methods**

Variables		No.	%
<b>Did the husband like this gestation</b>	Yes	82	<b>82%</b>
	No	18	18%
<b>If no, why?</b>	Enough children	9	9%
	Low economy	4	4%
	Not ready	3	3%
	Effect on reproductive health	2	2%
	She use contraceptive	82	<b>82%</b>
<b>Do you like use FP</b>	Yes	59	<b>59%</b>
	No	41	41%
<b>If yes, which type?</b>	Tablet	28	28%
	Implant	9	9%
	IUD	7	7%
	Condom	4	4%
	Coitus interruptus	8	8%
	Injection	3	3%
	Not use	41	<b>41%</b>
<b>If yes, when?</b>	Immediately after discharge	42	<b>42%</b>
	After seeing the doctor	14	14%
	After one month	1	1%
	Not use	43	<b>43%</b>
<b>If No, why?</b>	No answer	22	22%
	Want to be pregnant	16	16%
	Fear	2	2%
	Disagree of husband	2	2%
	She use	58	<b>58%</b>
<b>Do You Know After 6 Month Must Use FP After Abortion?</b>	Yes	39	39%
	No	61	<b>61%</b>
<b>Do you know benefits of FP ?</b>	Yes	71	<b>71%</b>
	No	29	29%

Table (3): shows the highest percentage ( 82% ) of the study sample is YES while the lowest percentage ( 18% ) of them is NO. **and** the highest percentage ( 82% ) of the study sample is she use contraceptives while the lowest percentage ( 2% ) of them is for ( effect on reproductive health ) and the highest percentage ( 59% ) is YES while the lowest percentage ( 41% ) is NO. and highest percentage of the types ( 28% ) are Tabs while the lowest percentage ( 3% ) of them is injection. And the highest percentage ( 42% ) of the study sample immediately after discharge while the lowest percentage ( 1% ) after one month and the highest percentage ( 22% ) of the study sample is no answer while the lowest percentage ( 2% ) is fear. And the highest percentage ( 61% ) is NO while the lowest percentage ( 39% ) is YES. And the highest percentage ( 71% ) is YES while the lowest percentage ( 29% ) is NO.

**Table (4): Women's Attitude toward Using Family Planning Methods Post-Abortion**

NO.	Items	Agree		Undefined		Disagree		Mean Score
		F	%	F	%	F	%	
1.	I believe that it is wrong to use contraceptives.	20	20%	65	65%	15	15%	1.95
2.	Contraceptives reduce the sex drive.	21	21%	58	58%	21	21%	2
3.	Using contraceptives is much more desirable than having an abortion.	67	67%	13	13%	20	20%	1.53
4.	Males who use contraceptives seem less masculine than males who do not.	6	6%	75	75%	19	19%	2.13
5.	I encourage my friends to use contraceptives.	72	72%	16	16%	12	12%	1.4
6.	I would not become sexually involved with my spouse if she didn't accept contraceptive responsibility.	46	46%	32	32%	22	22%	1.76
7.	Contraceptives are not really necessary unless a couple has engaged in intercourse more than once.	30	30%	49	49%	21	21%	1.91
8.	Contraceptives make sex seem less romantic.	24	24%	54	54%	22	22%	1.98
9.	Females who use contraceptives are promiscuous.	8	8%	82	82%	10	10%	2.02
10.	I would not have intercourse if no contraceptive method available.	30	30%	53	53%	17	17%	1.87
11.	I do not believe that contraceptives actually prevent pregnancy.	33	33%	45	45%	22	22%	1.87
12.	Using contraceptives is a way of showing that you care about your partner.	43	43%	35	35%	22	22%	1.89
13.	I do not talk about contraception with my friends.	26	26%	60	60%	14	14%	1.79
14.	I would feel embarrassed discussing contraception with my friends.	27	27%	60	60%	13	13%	1.88
15.	One should use contraceptives regardless of how long one is married.	35	35%	39	39%	26	26%	1.86
16.	Contraceptives are difficult to obtain.	16	16%	58	58%	26	26%	1.91
17.	Contraceptives can make intercourse seem more pleasurable.	26	26%	51	51%	23	23%	2.1
18.	Using contraceptives is only my partner's responsibility	24	24%	61	61%	15	15%	1.97
19.	I feel more relaxed during intercourse if a contraceptive method is used.	45	45%	23	23%	32	32%	1.91
20.	I prefer to use contraceptives during intercourse.	48	48%	27	27%	25	25%	1.87
21.	In the future, I plan to use contraceptives anytime I have intercourse.	52	52%	29	29%	19	19%	1.77
22.	I would practice contraception even if my partner did not want me to.	41	41%	46	46%	13	13%	1.67
23.	It is no trouble to use contraceptives.	71	71%	12	12%	17	17%	1.72
24.	Using contraceptives makes a relationship seem too permanent.	46	46%	31	31%	23	23%	1.46
25.	Sex is not fun if a contraceptive is used.	19	19%	59	59%	22	22%	1.77
26.	Contraceptives are worth using, even if the monetary cost is high.	42	42%	44	44%	14	14%	2.03
27.	Contraceptives encourage promiscuity.	26	26%	26	26%	48	48%	1.72
28.	Couples should talk about contraception before having intercourse.	63	63%	16	16%	21	21%	2.22
29.	If I or my partner experienced negative side effects from a contraceptive method, we would use a different method.	65	65%	16	16%	19	19%	1.58
30.	Contraceptives make intercourse seem too planned.	60	60%	14	14%	26	26%	1.54
31.	I feel better about myself when I use contraceptives.	66	66%	17	17%	17	17%	1.66

Table (4) shows that mean score of study sample were lower than cut-off-point regarding Women's attitude toward using family Planning Methods Post-Abortion.

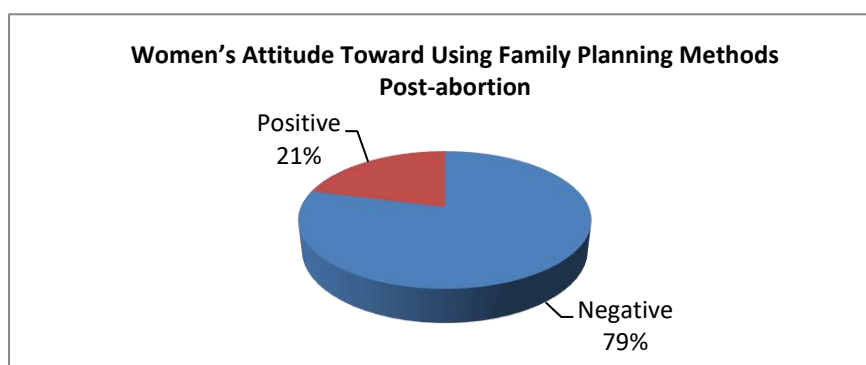


Figure (1): Women's Attitude toward Using Family Planning Methods Post-abortion

Table (5) Association between Women's attitude toward using family Planning Methods Post-Abortion and the Socio-demographic Characteristics

Studied variable		Level of attitude				X <sup>2</sup>	p-value	Sig
		Negative		Positive				
		No.	%	No.	%			
Age /year	15-25	30	30%	13	13%	5.949	0.114	NS
	26-36	34	34%	6	6%			
	37-47	14	14%	1	1%			
	48 and over	1	1%	1	1%			
Level of education of women	Unable to read and write	6	6%	1	1%	4.264	0.512	N.S
	Read and write	3	3%	2	2%			
	Primary school	16	16%	4	4%			
	Intermediate school	14	14%	5	5%			
	Secondary school	16	16%	1	1%			
	Institute and over	24	24%	8	8%			
Occupation Of wife	House wife	66	66%	18	18%	0.841	0.657	N.S
	Employee	10	10%	3	3%			
	Free work	3	3%	0	0%			
Number Of Abortion	1	45	45%	14	14%	0.803	0.669	N.S
	2	20	20%	5	5%			
	3 and more	13	13%	2	2%			
Did your husband like Current Gestation	Yes	62	62%	20	20%	3.156	0.076	N.S
	No	17	17%	1	1%			
Did you like to use Family planning methods	Yes	51	51%	8	8%	4.802	0.028	N.S
	No	28	28%	13	13%			

Table (5) shows that there was no statistically significant between Women's attitude toward using family Planning Methods Post-Abortion and the Socio-demographic Characteristics

### Discussion:

This study aimed to assess the attitudes of women post-abortion toward the use of contraception. The results of the study provided important insights into the socio-demographic characteristics, reproductive history, causes of abortion, and contraceptive behavior among the participants. The majority of the women were within the age group of 15–25 years (43%), indicating that the younger reproductive age group is more frequently experiencing abortion. This could suggest early initiation of reproductive activities and potential gaps in effective family planning methods use among young

women. Only a small proportion (2%) were aged 48 years and above, highlighting that abortion occurrence decreases with increasing age.

Regarding place of residence, most participants (86%) lived in urban areas. This urban predominance might reflect easier access to medical services, family planning resources, and healthcare counselling after abortion events compared to those residing in rural areas. The educational level varied among participants. The highest percentage of women's educational attainment was at the secondary school level (25%), suggesting a moderate level of literacy that may impact their health-seeking behavior and family planning methods knowledge. Similarly, husbands' educational levels showed that a significant portion (32%) had completed institute education or higher, which could potentially influence family planning decisions within households.

In terms of occupation, the vast majority of women (84%) were housewives, with only 16% engaged in governmental or private jobs. This high percentage of unemployment among women might contribute to limited empowerment in making independent decisions regarding reproductive health and family planning methods use. Reproductive history showed that half of the women (50%) had experienced four or more pregnancies, while 45% had two to three deliveries. This finding suggests a trend of high fertility.

Reproductive history showed that half of the women (50%) had experienced four or more pregnancies, while 45% had two to three deliveries. This finding suggests a trend of high fertility within the study population. Concerning abortion history, 60% of participants had undergone one abortion, and 25% had two abortions, indicating that the majority had limited experience with recurrent pregnancy loss. The gestational age at the time of abortion was most commonly above 13 weeks (47%), pointing toward late abortions, which could increase the risk of complications. The type of abortion was predominantly incomplete (48%), followed by complete abortions (27%). A smaller proportion had missed abortions (22%) or recurrent abortions (3%).

Analysing the causes of abortion, the leading factor was fetal death (23%), followed by urinary tract infections (16%) and bleeding (14%). Less common causes include chronic diseases, uterine adhesions, and unknown reasons. The findings underscore the importance of early and effective antenatal care to prevent complications leading to pregnancy loss. Most women reported that their husbands favoured the continuation of the pregnancy (82%), reflecting positive partner attitudes toward pregnancy in the majority of cases. However, among those whose husbands did not favour the pregnancy (18%), the main reasons were having enough children (9%), low economic status (4%), or lack of readiness (3%).

Regarding family planning practices, 82% of the women had used family planning methods previously, indicating a reasonable level of exposure to family planning methods. After abortion, 59% expressed willingness to use family planning methods, while 41% were unwilling. Among those who

were willing, oral contraceptive pills were the most preferred method (28%), while injectable methods were the least preferred (3%).

Regarding the timing of starting family planning methods, 42% of women preferred immediate use after hospital discharge, showing awareness about the need for early contraceptive protection.

However, 43% indicated that they would not use family planning methods after abortion, reflecting a potential gap in post-abortion contraceptive counselling. Among women who refused to use family planning methods, the primary reasons included a desire to become pregnant again (16%) or not providing an answer (22%). A small percentage expressed fear (2%) or husband's disagreement (2%). Knowledge about post-abortion contraceptive use was found to be suboptimal. Only 39% of the participants knew that family planning methods should be initiated within six months following an abortion. In contrast, 61% were unaware, suggesting a need for better educational interventions. However, awareness about the general benefits of family planning was relatively high, with 71% reporting positive knowledge.

The attitude toward contraceptive use was assessed through a set of statements. The majority of women showed moderate agreement with positive attitudes, such as believing that family planning methods prevent unwanted pregnancies, feeling better when using family planning methods, and seeing family planning use as an act of caring for the partner. However, a noticeable proportion expressed discomfort with family planning methods, reporting feelings that contraceptives make sex less romantic or make relationships feel too planned.<sup>(10)</sup>

Overall, the mean attitude scores indicated a generally moderate acceptance toward family planning methods use post-abortion but revealed areas of hesitation and misconceptions that could be addressed through targeted education and counselling.

Statistical analysis revealed that there was no significant association between women's attitudes and socio-demographic variables such as age, education level, occupation, or the number of abortions.

This suggests that other personal, psychological, or cultural factors might play a more important role in shaping women's attitudes toward family planning methods use post-abortion<sup>(9,11,12)</sup>

In conclusion, while a considerable number of women demonstrated a positive attitude and willingness to use contraception post-abortion, there remains a significant portion of women who lack adequate knowledge or harbour misconceptions that could hinder effective family planning. Addressing these gaps through improved education and counselling services is essential to enhance post-abortion care and reproductive health outcomes.

## **Conclusions**

Based on study results and critical interpretation of the findings, the study concludes the following: most study sample have a negative attitude toward using family planning methods post-abortion.

There are no statistically significant between women's attitudes toward using family planning methods of post-abortion. and socio – demographic and reproductive variable)

### **Recommendations**

According to study results Women need to give them information about important of family planning methods after abortion the researchers recommended the following conducting frequent education programs about of family planning methods after abortion by using mass media (e.g. television, radio, and internet) and newspaper to provide scientific information it. Activate nurses' role in hospitals and primary health care to be as women's educator and counsellor for post- abortion care especially related to family planning methods.

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## Mother`s Information about Effect of Baby Walker on Child Development at Primary Health Care Centers

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### Abstract

**Objective(s):** To determine the level of mother`s information about effect of baby walker on child development and to find out relationship between sociodemographic characteristic of mother`s and level of mother`s Information about effect of baby walker on child development.

**Methods:** A descriptive study was conducted on 100 mothers from Baghdad Al-Karkh Health Directorate, (Al-Rahmaniyah Health Center, Al-Salihiyah Health Center) and Baghdad Al-Rusafa Health Directorate, (Bab Al-Muadham Model, Sheikh Omar Model), who have children aged between 6 to 18 months. The study started from the period of November 10, 2024, to April 15, 2025, in order to assess the level of mother's information about the effect of baby walkers on child development, by using a constructed questionnaire. Data were analyzed with SPSS version (27).

**Results:** Most mothers were housewives aged 34–38. Baby walkers were mainly used for entertainment and calming. 62% of children used walkers after 12 months. Mothers showed moderate knowledge, especially about motor development risks.

**Conclusion:** The study showed that mothers` information about the effects of baby walkers on child development was varied; information of accident risks was high, while it was moderate regarding the impact on the child`s movement and physical structure. This indicates a lack of information in these areas. Overall, the mothers' level of information was fair.

**Recommendations:** The study recommends increasing mothers` awareness of baby walker risks, encouraging natural walking without devices, and promoting health education through media and health centers. Further studies with larger, diverse samples are suggested.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 20/07/2025

**Accepted:** 25/09/2025

**Published:** 31/12/2025

### Keywords:

*Baby Walker, child Development, Mothers` information, Primary Health Care, Motor Skills.*

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## معلومات الامهات حول تأثير مشاية الطفل على التطور الحركي للطفل في مراكز الرعاية الصحية الاولية المستخلص:

**الأهداف:** تهدف الدراسة إلى تحديد مستوى معرفة الأمهات بتأثير المشايات على نمو الأطفال، ومعرفة العلاقة بين الخصائص الاجتماعية والديموغرافية للأمهات ومستوى معرفتهن بتأثير المشاية على نمو الطفل .

**المنهجية:** أجريت دراسة وصفية على 100 أم من دائرة صحة بغداد الكرخ (مركز صحي الرحمانية، مركز صحي الصالحية) ودائرة صحة بغداد الرصافة (المركز الصحي النموذجي باب المعظم وشيخ عمر)، ممن لديهن أطفال تتراوح أعمارهم بين 6 إلى 18 شهرًا. بدأت الدراسة في الفترة من 15 نوفمبر 2024 وحتى 15 أبريل 2025، بهدف تقييم مستوى معرفة الأمهات بتأثير المشايات على نمو الطفل وذلك باستخدام استبيان معد لهذا الغرض. تم تحليل البيانات باستخدام برنامج احصائي الاصدار 27.

**النتائج:** أظهرت النتائج أن أغلب الأمهات كنّ من ربات البيوت وتتراوح أعمارهن بين 34 و38 سنة. وقد استُخدمت المشايات بشكل أساسي لغرض الترفيه وتهنئة الطفل. استخدم 62% من الأطفال المشاية بعد عمر 12 شهرًا .

**الاستنتاجات:** أظهرت الدراسة أن معرفة الأمهات بتأثيرات المشايات على نمو الطفل كانت متفاوتة؛ حيث كان الوعي بمخاطر الحوادث مرتفعًا، في حين كان متوسطًا فيما يتعلق بتأثيرها على حركة الطفل وبنيتة الجسدية. وهذا يشير إلى وجود نقص في الوعي في هذه الجوانب. بشكل عام، كان مستوى معرفة الأمهات مقبولًا .

**التوصيات:** توصي الدراسة بزيادة وعي الأمهات بالمخاطر المرتبطة باستخدام المشايات، وتشجيع المشي الطبيعي للأطفال دون الاعتماد على الأجهزة، وتعزيز التنقيف الصحي من خلال وسائل الإعلام والمراكز الصحية. كما يُقترح إجراء دراسات إضافية تشمل عينات أكبر وأكثر تنوعًا.

## Introduction:

The physical and motor development of children between 6 and 18 months is a critical stage that lays the foundation for future cognitive and social abilities <sup>(1)</sup>. During this period, children typically begin to develop key motor skills such as sitting, crawling, standing, and walking. These abilities allow them to interact with their surroundings, promoting both mental and physical growth <sup>(2)</sup>.

Walking is considered a major developmental milestone, with most children beginning to walk independently between 12 and 14 months <sup>(3)</sup>. However, this timeline varies, as some may walk earlier from 9–11 months or later up to 18 months <sup>(4)</sup>. Children who have not begun walking by 18 months may require medical evaluation to rule out developmental delay <sup>(5)</sup>. Baby walkers are often used by parents to support early movement and exploration. While they are designed to offer mobility and independence, their use is controversial. Pediatric experts, including the American Academy of Pediatrics, have raised concerns about potential delays in natural walking and increased risks of accidents, recommending safer alternatives instead <sup>(6)</sup>.

Baby walkers can hinder a child's natural motor development, such as crawling, walking, and balance, negatively affecting early developmental stages. By increasing mothers' awareness, they can be encouraged to make informed decisions using safe and developmentally appropriate tools, such as interactive toys and tummy time, which promote motor and cognitive skills. Moreover, these studies help design targeted health intervention programs by primary healthcare centers, strengthening mothers' roles as primary caregivers. Thus, such research contributes to improving child developmental outcomes and reducing health risks associated with baby walkers <sup>(7)</sup>.

The beliefs surrounding the use of baby walkers focus on parents' understanding of the risks and benefits of this tool, which is used to assist babies in learning how to walk <sup>(8)</sup>. The absence of health education and awareness programs in primary healthcare centers contributes to the prevalence of this practice, as many families rely on unscientific advice from relatives or friends. Moreover, some view baby walkers as a safe tool for children without considering potential risks such as delayed motor development and increased accident rates. The desire to provide an environment that helps the child interact more easily with their surroundings also drives mothers to use them, despite the availability of safer and more effective alternatives. <sup>(9)</sup>

For that, the current study aims to assess the level of mothers' information regarding the effect of baby walkers on their children's development

## **Methods and materials**

### **Design of the Study:**

A descriptive study design was conducted on mothers attending primary healthcare centers, this type of design was used to explore the information of the participants concerning one subject. The study started from the period of November 15, 2024, to April 15, 2025, in order to assess the level of mother's information about the effect of baby walkers on child development.

### **Setting of the study:**

The study was carried out at Baghdad Al-Karkh Health Directorate, (AlRahmaniyah Health Center, Al-Salihiyah Health Center) and Baghdad Al-Rusafa Health Directorate, (Bab Al-Muadham Model, Sheikh Omar Model Health Center), who have children aged between 6 to 18 months.

### **Study Sample and Sampling:**

A non-probability purposive sample consisting of 100 mothers was selected to participate in the study. The sample was equally distributed among four selected primary health care centers affiliated with two main health directorates in Baghdad (Al-Karkh and Al-Rusafa). Each center contributed 25 mothers, accounting for 25% of the total sample.

The criteria of sample include mothers who can read and write, and have children aged between 6 to 18 months. While the exclusion criteria include mothers with children older than 18 months or younger than 6 months, and who have children having motor disabilities from birth.

### **Studying instruments**

The questionnaire was developed to gather data from mothers regarding their information about the use of baby walkers and their potential negative effects. The questionnaire was developed by researchers based on reviewing relevant literature to ensure its validity and comprehensiveness. The design was adapted from a similar study conducted in Riyadh, Saudi

Arabia, which assessed parental information and reasons related to baby walker use <sup>(10)</sup>. The questionnaire consists of two main parts:

Part I: Sociodemographic characteristics of Mother`s. This section includes data concerning mother's ( Mother's age ,Mother's educational level ,Mother's occupation ,Number of children , Presence of genetic or chronic disease in the child , How many hours did the mother use the baby walker for her child, What is the main reason for the mother to use the baby walker, The age at which the baby walker was used ) .

Part II: Information of Mothers about Baby Walker. This part assess mothers' information about the negative effects of baby walkers, focusing on their impact on child development. The questionnaire consists of 29 questions distributed across three main domains. Mother information is score at Poor (29-48.33), Fair (48.34), High (67.67-87).

**Data Collection:**

The data were collected with a constructed questionnaire through the application of semi-structure interviews as a means of data collection from January 2<sup>nd</sup>, 2025, to April 1<sup>st</sup>, 2025.

**Ethical Considerations:**

Data collection was done by researchers, who kept confidentiality and anonymity of the data. The form of data collection was applied without mentioning the name of the mothers, their address, or any other information. All mothers who participated in the study signed a consent form for human subjects' rights.

**Statistical Data Analysis:**

Data were analyzed using the Statistical Package for Social Sciences (IBM SPSS Statistics, version 27.0). Descriptive Statistics: Frequencies, percentages, and mean scores were used to summarize and provide a clear description of the data. While inferential Statistics: The K-S test be employed to ascertain the normal or non-normal distribution of the data, and Pearson correlation coefficient, Independent Sample test, and One way ANOVA were used to analysis the data (non-normal distribution of the data)

**Result:**

**Table (1): Distribution of mothers and children According to their socio demographic data**

Data Characteristics	(N=100)			MS±SD
	Groups	F.	%	
Mothers` age	19-23 years	14	14%	
	24-28 years	19	19%	
	29-33 years	20	20%	
	34-38 years	<b>36</b>	<b>36%</b>	
	39-44 years	11	11%	
Number of children				2.77±1.399
	1	20	20.0	
	2	27	27.0	
	3	27	27.0	
	4	14	14.0	

	5	6	6.0
	6	6	6.0
	Total	100	100.0
<b>Level of Education</b>	Read and write	14	14%
	Secondary School	19	19%
	Tertiary School	20	20%
	Institute or college	<b>36</b>	<b>36%</b>
	Postgraduate	11	11%
<b>Child diseases</b>	Nervous System Diseases	2	2%
	Blood Diseases	2	2%
	Digestive System Diseases	4	4%
	Respiratory System Diseases	16	16%
	Not have	<b>76</b>	<b>76%</b>
<b>Mothers Employment</b>	Employee	35	53%
	housewives	<b>65</b>	<b>65%</b>
<b>Duration of use walker</b>	Less than one hour	6	6%
	1-2 hours	22	22%
	3-4 hours	<b>44</b>	<b>44%</b>
	More than 4 hours	28	28%
<b>Reasons of use walker</b>	Encourage walking	7	7%
	More time for rest	13	13%
	Reduce crying	23	23%
	Other reasons	<b>62</b>	<b>62%</b>
<b>Age with walker</b>	Less than 6 months	17	17%
	6-9 months	4	4%
	10-12 months	17	17%
	More than 12 months	<b>62</b>	<b>62%</b>

f=frequencies, %=Percentages, M = Mean of score, S.D = Standard Deviation, Min= minimum and Max= maximum

In Table 1 the results show that 36% of mothers were with age range from 34-38 years, with a mean number of children of 2.77. 36% of them were graduate from institute or college, 76% not have diseases, and 65% of them were housewives. Children using walker for 3-4 hours among 44%, 62% of children were used the walker for other reasons, with the age of more than 12 months among 62% of them.

**Table (2): Distribution of Mothers Awareness about Effect of Baby Walker on Child Development**

Level	Range	F	%	Mean	SD
Low	29 – 48.33	17	17.0	60.24	11.262
Fair	48.34 – 67.66	54	<b>54.0</b>		
High	67.67 - 87	29	29.0		
<b>Total</b>	<b>29 - 87</b>	100	100.0		

F= frequency %= percentage

In table 2 the result showed the level mothers information about effect of baby walker on child development at most (54%) were fair with mean 60.24 (Min- Max 29 - 87).

**Table (3): The Relationship between Socio Demographic of Mothers and Level of Mothers Information about Effect of Baby Walker on Child Development**

Data	Subgroup	Mean	Analysis	P. value
<b>Mothers age</b>	19-23 years	2.07	.056	.577
	24-28 years	2.12		
	29-33 years	2.04		
	34-38 years	2.07		
	39-44 years	2.25		
<b>Number of children</b>	1	2.12	-.087-	.392
	2	2.17		
	3	2.03		
	4	2.05		
	5	2.01		
	6	2.11		
<b>Level of Education</b>	Read and write	2.06	.495	.739
	Secondary School	2.02		
	Tertiary School	2.13		
	Institute or college	2.13		
	Postgraduate	1.88		
<b>Child diseases</b>	Nervous System Diseases	2.08	.105	.894
	Blood Diseases	2.08		
	Digestive System Diseases	2.08		
	Respiratory System Diseases	2.08		
	Not have	2.10		
<b>Mothers Employment</b>	Employee	2.15	.871	.316
	housewives	2.07		
<b>Duration of use walker</b>	Less than one hour	2.00	.065	.520
	1-2 hours	2.05		
	3-4 hours	2.12		
	More than 4 hours	2.10		
<b>Reasons of use walker</b>	Encourage walking	2.62	1.883	.138
	More time for rest	2.11		
	Reduce crying	2.16		
	Other reasons	2.05		
<b>Age with walker</b>	Less than 6 months	1.95	.154	.126
	6-9 months	2.05		
	10-12 months	2.14		
	More than 12 months	2.12		

**P=probability value, NS: Non-Significant at P ≥ 0.05**

In Table 4 the results shown there were non-significant statistical relationship between socio demographic of Mothers and level of Mothers information about effect of baby walker on child development at P > 0.05.

### Discussion

Throughout the present study table (1), in regarding age group the majority of the participants between (34-38) years old. This finding disagree with study done by Alquraini M,et al., which found that more than half of the mothers are between (21-30) year old. The study found that majority percentage of mothers were graduates of institutes or colleges. This finding

is consistent with the study by Alquraini et al. <sup>(11)</sup>, which found that more than half of mothers were graduates of institutes or colleges.

The research found that more than half of mothers were housewife. This finding is disagree with the study by Alquraini et al. <sup>(11)</sup> that found that the majority of mothers are employee. From the researcher's point of view, this result may be due to the lack of job opportunities at the present time. In addition to that, social norms prevail in the geographical area in which our research was concerned which prevent women from being employees and having independent financial income.

The study shows that the more than half of children are not suffer from any chronic disease, which disagree with study conducted by Nada Pop- Jordanova et. al <sup>(12)</sup> That estimated that about 30% of children worldwide are affected by chronic conditions. The study shows that the majority of mothers using the baby walker for their children for (3-4) hours per day. These finding consistent with the study done by Bezgin <sup>(13)</sup> that shows the majority of children use the baby walker for more than 2 hours per day.

This study shows that more than half of mothers use the baby walker for their children to other reasons like keeping the child busy. These finding are disagree with study done by Alquraini et al. <sup>(11)</sup>, that found that half of mothers using the baby walker for their children to do house work . From the researcher's point of view, some mothers may resort to using baby walkers as a means of saving time and effort, by keeping the child occupied and allowing them some mobility, which enables the mother to carry out household tasks or take a rest for a while. The study found that more than half of children using baby walker after 12 months. These findings disagree with Alquraini et al. <sup>(11)</sup>, that found that half of children use baby in age of (10-11) month. The study that the majority number of children per family was (2-3) child. These finding is consists with study, which found that more than half of families have (2-3) children.

Table (2) revels to asses mothers' information the first domain is about mothers' information about the child motor development effects of baby walkers indicate fair information in which the mean of score of items are refer to fair information. The second domain is about mothers' information of the safety risks associated with baby walker use indicate high information in which mean of score of items are refers to high information among most.

The third domain is about mothers' information about the physical effects of baby walkers use indicate fair information in which mean of score of items are refers to high information among all items. The researchers present that the mothers inadequate or fair level of information was because many factors such as, most mothers get their information from unprofessional sources and the lack of information campaigns for mothers about

using the baby walker for their children and how to deal with it, or educating mothers about the negative effect of baby walker on children

In the table (3) the result showed there were non- significant statistical relationship between socio-demographic of mothers` and level of mothers' information about effect of baby walker on child development. This study consistent with the study done by Yaghini<sup>(14)</sup> that showed there was no significant associated between level of information and socio-demographic.

## **Conclusion**

The study revealed that most participating mothers were institute or college graduates, and the majority of their c hildren had no chronic diseases. Baby walkers were commonly used for prolonged periods (3– 4 hours daily), mainly due to personal beliefs and family traditions. Mothers demonstrated fair overall knowledge regarding the effects of baby walkers on child development, with moderate awareness of their impact on motor development and physical health, but higher awareness of potential safety risks and injuries.

## **Recommendations**

The study recommends enhancing mothers' awareness about the potential risks associated with baby walker use, including delayed motor development and increased injury risk. Mothers should be encouraged to support natural walking development by providing a safe environment that promotes independent movement. Furthermore, health education programs through healthcare centers and media platforms are recommended to increase knowledge regarding the negative effects of baby walkers. Future studies with larger and more diverse populations are also suggested to further investigate this issue.

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## The Relationship between Social Media Addiction and Communication Skills among Students in the University of Baghdad

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### Abstract

**Objective(s):** This study aimed to assess the levels of social media addiction and communication skills among students at the University of Baghdad. It also sought to determine the correlation between social media addiction and communication skills and to identify associations between communication skills and students' sociodemographic characteristics (gender, academic grade, study type, and college specialty).

**Methods:** A quantitative design, correlational study was used and an assessment approach has been applied for the purpose of achieving the earlier stated objective. The study was initiated from November 22, 2024 to April 1, 2025. A convenient (non-probability) sample of 200 undergraduate students from four colleges at University of Baghdad which were selected by simple random sampling. Data were collected through the use of the questionnaire and the process of the self – administrative report as means for data collection. Data were analyzed through the application of descriptive and inferential statistical approaches by using statistical package for social science (SPSS) version 26.0.

**Results:** The study found that higher proportion of students (57%) exhibited a moderate level of social media addiction ( $M \pm SD = 17.66 \pm 4.965$ ), and 92% showed a moderate level of communication skills ( $M \pm SD = 95.32 \pm 11.118$ ). A small but statistically significant positive correlation was found between social media addiction and communication skills ( $r = 0.176$ ,  $p = 0.013$ ). No statistically significant associations were found between communication skills and any of the sociodemographic variables.

**Conclusions:** The study concludes that students at the University of Baghdad generally show moderate levels of both social media addiction and communication skills. A slight positive correlation suggests that increased use of social media may be mildly associated with better communication skills, although the effect is minimal. Sociodemographic factors do not appear to significantly influence communication skills in this population.

**Recommendations:** The study recommended developing intervention program to help students manage their social media use and implementing training program to enhance communication skills across all student groups.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 28/07/2025

**Accepted:** 02/10/2025

**Published:** 31/12/2025

### Keywords:

*Social media addiction,  
Communication skills,  
University students*

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## العلاقة بين إدمان مواقع التواصل الاجتماعي ومهارات التواصل بين طلبة جامعة بغداد المستخلص:

**الاهداف:** هدفت هذه الدراسة إلى تقييم مستويات إدمان وسائل التواصل الاجتماعي ومهارات التواصل لدى طلبة جامعة بغداد. كما سعت إلى تحديد العلاقة الارتباطية بين إدمان وسائل التواصل الاجتماعي ومهارات التواصل، بالإضافة إلى فحص العلاقة بين مهارات التواصل والخصائص الاجتماعية والديموغرافية للطلبة (الجنس، المرحلة الدراسية، نوع الدراسة، وتخصص الكلية).

**المنهجية:** دراسة كمية تم من خلالها استخدام النمط الارتباطي وتم تطبيق منهج التقييم لغرض تحقيق الاهداف المذكورة سابقاً. بدأت الدراسة في الفترة من 22 نوفمبر 2024 إلى 1 أبريل 2025. استخدمت عينة ملائمة (الغير احتمالية) مكونة من 200 من الطلبة الجامعيين في اربع كليات ضمن جامعة بغداد والتي تم اختيارها بالطريقة الاحتمالية البسيطة. وتم جمع البيانات من خلال استخدام الاستبيان وتقرير الملئ الذاتي كوسيلة لجمع البيانات. تم تحليل البيانات من خلال تطبيق الأحصاء الوصفي و الأحصاء التطبيقي و بأستخدام برنامج الحزمة الأحصائية للعلوم الاجتماعية النسخة 26.0.

**النتائج:** أظهرت نتائج الدراسة أن نسبة كبيرة من الطلبة (57%) أبدت مستوى متوسطاً من إدمان وسائل التواصل الاجتماعي (المتوسط  $\pm$  الانحراف المعياري =  $4.965 \pm 17.66$ )، وأن 92% منهم أظهروا مستوى متوسطاً من مهارات التواصل (المتوسط  $\pm$  الانحراف المعياري =  $11.118 \pm 95.32$ ). كما تم التوصل إلى وجود علاقة ارتباطية إيجابية ضعيفة ولكن ذات دلالة إحصائية بين إدمان وسائل التواصل الاجتماعي ومهارات التواصل ( $r = 0.176$ ,  $p = 0.013$ ). ولم تُظهر النتائج أي علاقات ذات دلالة إحصائية بين مهارات التواصل وأي من المتغيرات الاجتماعية والديموغرافية المدروسة.

**الاستنتاجات:** خلصت الدراسة إلى أن طلبة جامعة بغداد يظهرون عمومًا مستويات متوسطة من إدمان وسائل التواصل الاجتماعي ومهارات التواصل. وتشير العلاقة الارتباطية الإيجابية الطفيفة إلى أن الاستخدام المتزايد لوسائل التواصل الاجتماعي قد يرتبط بدرجة بسيطة بتحسين مهارات التواصل، إلا أن هذا التأثير يُعد محدودًا. كما أظهرت الدراسة أن العوامل الاجتماعية والديموغرافية لا تؤثر بشكل معنوي في مهارات التواصل لدى هذه الفئة من الطلبة.

**التوصيات:** أوصت الدراسة بضرورة تطوير برامج تدخلية لمساعدة الطلبة على إدارة استخدامهم لوسائل التواصل الاجتماعي، إضافة إلى تنفيذ برامج تدريبية تهدف إلى تعزيز مهارات التواصل لدى جميع فئات الطلبة، بغض النظر عن خلفياتهم الديموغرافية.

## Introduction

In the age of digital communication, social media has become a dominant force in shaping how university students interact, learn, and engage with the world. Platforms such as Instagram, WhatsApp, and YouTube are now essential parts of students' daily routines. However, the widespread and often excessive use of these platforms has raised concerns about social media addiction, a condition characterized by compulsive use, preoccupation with online interactions, and withdrawal symptoms when not connected<sup>(1)</sup>. Such behaviors may interfere with students' academic performance, emotional regulation, and most notably, their ability to communicate effectively in real-life situations.

Communication skills are a vital aspect of students' academic and social development. They encompass verbal and non-verbal expression, active listening, empathy, and the ability to convey ideas clearly in various contexts<sup>(2)</sup>. Strong communication skills are not only crucial for academic success but also prepare students for future professional roles that require collaboration, leadership, and interpersonal effectiveness. However, as students increasingly rely on digital platforms, face-to-face interactions may decrease, potentially weakening their ability to engage in meaningful conversations. A meta-analysis by Polat<sup>(3)</sup> found that excessive use of social media is moderately associated with reduced communication skills, as it tends to replace direct human interaction with brief, less personal exchanges.

Although some studies highlight positive aspects of online communication, such as increased confidence or ease of expression in digital environments <sup>(4)</sup>, the overall effect of social media addiction on communication remains a concern. Within the context of Iraq, and particularly at the University of Baghdad, limited research has examined this dynamic. While social media use is prevalent among students, there is a noticeable gap in understanding how it may influence their communication competence. This raises an important question for educators and health professionals: does the frequent use of social media enhance or hinder students' real-world communication skills? Addressing this issue is essential for developing strategies to balance digital engagement with the cultivation of effective interpersonal skills.

The current study aims to assess the level of social media addiction and communication skills among students, find out the correlation between social media addiction and communication skills among Baghdad university students, and identify the significant association among students' communication skills and their socio-demographic characteristics of sex, academic stage, study type, and college specialty.

## **Methods and materials**

### **Design of the study:**

A quantitative design, correlational study was used and an assessment approach has been applied for the purpose of achieving the earlier stated objective. The study was initiated from November 22, 2024 to April 1, 2025.

### **Setting of the study:**

The study has been conducted in four colleges at the University of Baghdad; College of Nursing, College of Arts, College of Sciences, and College of Engineering. The permission has been granted from Students' affairs at College of Nursing, University of Baghdad. These consents facilitated the researchers' entrance to the colleges and meeting the students.

### **Sample of the study:**

The target population of the study includes all the undergraduate students. A convenient sample was used for this study which includes 200 students who are participated and filled the questionnaire with exception of 20 participants who participated in pilot study. The Colleges mentioned above were selected by simple random sampling (Lottery). A confidence level of 95% and a power of 80% were applied to determine the appropriate sample size, ensuring that the results would be both valid and generalizable to the broader population of students.

### **Study Instrument:**

The questionnaire consisted of three parts: the first part contained the covering letter of participation to obtain students' agreement to participate in the study and socio – demographic characteristic of the students.

The second part is concerned with the scale of social media addiction scale <sup>(5)</sup> which composed of six items and rated into 6-Likert scale and scored as follow: Rarely (1), Seldom (2), Sometimes (3), Almost (4), and Always (5). The total score of addiction was calculated by summation of total score of mean and rated into three levels as follow: Low= 6 – 14.33, Moderate= 14.34 – 22.67, and High= 22.68 – 30. The higher score indicate high addiction .

The third part include the communication skills scale <sup>(6)</sup> which consist of 30 items and rated into 6-Likert scale and scored as follow: Rarely (1), Seldom (2), Sometimes (3), Almost (4), and Always (5). The total score of addiction was calculated by summation of total score of mean and rated into three levels as follow: Poor= 30 – 70, Moderate= 70.1 – 110, and Good= 110.1 – 150.

### **Validity and Reliability:**

The validity and reliability of the questionnaire were ensured through several processes. Content validity was established by a panel of experts who reviewed the instrument for clarity, relevance, and adequacy to meet the study objectives. Based on their feedback, modifications were made to finalize the questionnaire. The original scale’s validity, with a content validity ratio of over 0.7, was also considered. Additionally, translation validity was ensured through forward and back translation methods, focusing on conceptual and cultural equivalence. A pilot study was conducted with 60 students to test the instrument, and the reliability was confirmed with a Cronbach’s alpha of 0.90, indicating a high level of internal consistency.

### **Data analysis:**

The data were analyzed by application of descriptive and inferential statistics through the Statistical Program for Social Sciences (IBM-SPSS, version 26.0).

### **Ethical Considerations**

The instrument’s content of this study was reviewed by “Institutional Review Board (IRB)” in Nursing Faculty at Baghdad University before conducting a study. In expansion, the participants’ agreement was obtained before engagement in this study. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

## **Results**

**Table 1: Distribution of the Students according to their Demographic and Academic Characteristics**

No.	Characteristics	f	%
1	Gender	Male	45
		Female	55
	<b>Total</b>	<b>200</b>	<b>100</b>
2	Academic grade	First	21
		Second	29
		Third	32.5

		Fourth	35	17.5
		<b>Total</b>	<b>200</b>	<b>100</b>
3	Study type	Morning	156	78
		Evening	44	22
		<b>Total</b>	<b>200</b>	<b>100</b>
4	Specialty of college	Scientific	88	44
		Humanistic	44	22
		Medical	68	34
		<b>Total</b>	<b>200</b>	<b>100</b>

Table (1) shows that 55% of the students are females and 45% are males, the higher proportion of them seen in third academic grade (32.5%) and second grade (29%), 78% of them are from morning studies. The specialty of college refers to scientific (44%) as higher proportion, medical group (34%), and humanistic (22%).

**Table 2: Distribution of the Students according to Variables related to Use of Social Media Account**

No.	Variables		f	%
1	Having Laptop	No	122	61
		Yes	78	39
		<b>Total</b>	<b>200</b>	<b>100</b>
2	Having smartphone	No	0	0
		Yes	200	100
		<b>Total</b>	<b>200</b>	<b>100</b>
3	Having Account	No	1	.5
		Yes	199	99.5
		<b>Total</b>	<b>200</b>	<b>100</b>
4	Hours of using account	3 hours	46	23
		4 – 6 hours	111	55.5
		7 – 9 hours	43	21.5
		<b>Total</b>	<b>200</b>	<b>100</b>

The Table (2) reveals that only 39% of students have laptop, and all of the students having smartphones (100%), 99.5% of the students having accounts on different platforms (100%). (55.5%) of the students are spending 4 – 6 hours of their time through using these applications.

**Table 3: Distribution of the Students according to Type of Social Media Account (N=200)**

	Type of social media	No	Yes
		f (%)	f (%)
1	Facebook	63 (31.5)	137 (68.5)
2	Twitter	143 (71.5)	57 (28.5)
3	Instagram	13 (6.5)	187 (93.5)
4	Google Plus	47 (23.5)	153 (76.5)
5	YouTube	12 (6)	188 (94)
6	WhatsApp	22 (11)	178 (89)
7	Pinterest	100 (50)	100 (50)

The Table (3) indicates that most of the students using various platforms, the highly frequent use is Instagram (93.5%), YouTube (94%), WhatsApp (89%), Google Plus (76.5%), and Facebook (68.5%). Twitter where less frequently use (28.5%) and Pinterest were used by 50% of the students.

**Table 4: Overall Assessment of Social Media Addiction among Students**

Social Media Addiction	f	%	M	SD	Assessment
Low	50	25	17.66	4.965	Moderate
Moderate	114	57			
High	36	18			
<b>Total</b>	<b>200</b>	<b>100</b>			

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation for total score  
 Low= 6 – 14.33, Moderate= 14.34 – 22.67, High= 22.68 – 30

The Table (4) reveals that undergraduate students demonstrate moderate level of social media addiction as reported by 57% of them ( $M \pm SD = 17.66 \pm 4.965$ ), while 18% of them demonstrate high addiction

**Table 5: Overall Assessment of Communication Skills among Students**

Communication Skills	f	%	M	SD	Assessment
Poor	3	1.5	95.32	11.118	Moderate
Moderate	184	92			
Good	13	6.5			
<b>Total</b>	<b>200</b>	<b>100</b>			

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation for total score  
 Poor= 30 – 70, Moderate= 70.1 – 110, Good= 110.1 – 150

The Table (5) indicates that majority of undergraduate students (92%) demonstrate moderate level of communication skills with mean score ( $M \pm SD = 95.32 \pm 11.118$ ).

**Table 6: Correlation between Social Media Addiction and Communication Skills among Students**

Correlations		(SMA)	(CSs)
Social Media Addiction (SMA)	Pearson Correlation	1	.176*
	Sig. (2-tailed)		.013
	N	200	200
Communication Skills (CSs)	Pearson Correlation	.176*	1
	Sig. (2-tailed)	.013	
	N	200	200

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 6 indicates a positive correlation ( $r = 0.176$ ,  $p = 0.013$ ) between social media addiction and communication skills among students. While the correlation is statistically significant ( $p < 0.05$ ), its small effect size suggests that increased social media addiction is only slightly associated with higher communication skills.

**Table 7: The Relationships among Communication Skills among Students with their Sociodemographic Characteristics**

Variable	Chi-square	df	P-value	Sig.
Gender	43.936	2	.559	N.S
Academic grade	166.114	6	.052	N.S
Study type	36.263	2	.848	N.S
College specialty	102.463	4	.214	N.S

Table 7 reveals that there is no significant relationship among communication skills showing by undergraduate students with their sociodemographic characteristics; gender, academic grade, study type, and college specialty.

## **Discussion**

The descriptive analysis of students reveal that more than half of the students are females and remaining are males, such finding suggests a gender imbalance in the student population, with a higher representation of females. Globally, the ratio of women to men in higher education reached 1.14 by 2020, indicating that women outnumber men in higher education settings <sup>(7)</sup>.

The academic grade of undergraduate students' indicated that the higher proportion of them seen in third academic grade and second grade suggesting a higher enrollment or retention rate in these levels compared to other grades. Generally, persistence and retention rates in higher education have seen modest increases since 2020. The national persistence rate for students who started college in the fall of 2022 rose to 76.5 percent, and the national retention rate was 68.2 percent. These rates are higher than they have been at any point in the last decade. <sup>(8)</sup>

It has shown out of findings in table (1) that more of the students are from morning studies. The specialty of college revealed to scientific as higher proportion followed medical group, and humanistic colleges, suggesting a preference or higher availability of morning classes. Additionally, the largest proportion of students belongs to scientific colleges, followed by those in medical fields, and lastly, those in humanistic colleges. This distribution may reflect trends in student interest, admission policies, or workforce demands in these fields. Research on enrollment patterns suggests that students generally prefer classes in the middle of the day, with some preference for evening classes as well <sup>(9)</sup>.

The findings indicate that about half of students have laptop, while all of the students having smartphones, the majority of the students having accounts on different platforms that are spending 4 – 6 hours of their time through using these applications. The highly frequent uses are Instagram, YouTube, WhatsApp, Google Plus, and Facebook. The findings suggest that while

only about half of the students own a laptop, all students have smartphones, highlighting the widespread accessibility of mobile technology. Additionally, the majority of students actively use various social media platforms, spending an average of 4 to 6 hours on these applications. The most frequently used platforms include Instagram, YouTube, WhatsApp, Google Plus, and Facebook, indicating their prominence in students' daily digital engagement.

The Table (4) revealed that undergraduate students demonstrate moderate level of social media addiction as reported by more than half of them, while a small proportion demonstrate high addiction. The findings from Table 4 indicate that the majority of undergraduate students exhibit a moderate level of social media addiction, suggesting frequent but controlled usage. However, a small proportion of students experience high addiction, which may indicate excessive or problematic engagement with social media platforms. This trend highlights the need for awareness regarding balanced social media use to prevent potential negative impacts on academic performance and well-being. A study involving undergraduate students reported that 49% of participants exhibited a moderate to high level of social media addiction <sup>(10)</sup>.

The Table (5) indicated that majority of undergraduate students demonstrate moderate level of communication skills. This suggests that while they have a functional ability to communicate effectively, there may still be room for improvement in areas such as verbal expression, active listening, and interpersonal interactions. Enhancing these skills could further support their academic and professional development. A study on nursing students revealed that more than three-quarters (84.6%) had a moderate level of communication skills <sup>(11)</sup>.

It has known out of correlation analysis that there was a positive correlation between social media addiction and communication skills among students with small effect size suggesting that increased social media addiction is only slightly associated with higher communication skills. This suggests that as social media usage increases, there is a slight improvement in communication skills, possibly due to frequent online interactions. However, the small effect size implies that this association is minimal and may not have a strong practical impact. Other factors likely play a more significant role in shaping students' communication abilities .

The statement that there is a positive correlation between social media addiction and communication skills among students with a small effect size is not supported by the majority of the available research. Most studies suggest a negative relationship between social media addiction and communication skills. However, some studies highlight potential benefits of social media in enhancing communication skills, particularly when used responsibly. For example, social media can facilitate communication between students and instructors, and provide opportunities for networking and collaboration <sup>(4)</sup>.

Table 6 reveals that there is no significant relationship among communication skills showing by undergraduate students with their sociodemographic characteristics; gender, academic grade, study type, and college

specialty. This suggests that communication abilities remain relatively consistent across different student groups, implying that factors beyond demographics, such as personal experiences, social interactions, or educational training, may play a more crucial role in shaping these skills .

While there is no direct evidence in the provided search results that specifically supports the claim in Table 6 regarding the lack of a significant relationship between communication skills and sociodemographic characteristics (gender, academic grade, study type, and college specialty), some studies suggest that sociodemographic factors can influence communication skills and attitudes towards them. A study at the University of Baghdad found that students' communication skills are influenced by their age and education stage, suggesting that sociodemographic factors can play a role in communication skills <sup>(12)</sup>.

Research has shown that students in different fields of study (e.g., health education) may exhibit higher communication skills, suggesting that the type of study or college specialty could influence communication skills <sup>(13)</sup>.

## **Conclusions**

The study concluded that most students at the University of Baghdad exhibit a moderate level of social media addiction and moderate communication skills. A slight but statistically significant positive correlation was found between social media addiction and communication skills. However, sociodemographic variables (such as gender, academic grade, study type, and college specialty) did not significantly affect communication skills.

## **Recommendations**

Develop intervention programs to help students manage their social media usage. Implement training programs to improve communication skills for all student groups. Conduct further research to explore factors influencing the relationship between social media use and communication skills.

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## Nursing Students' Perceptions about Artificial Intelligence in Education: A Qualitative Study

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### Abstract

**Objective(s):** This study aimed to determine Nursing students' perceptions about artificial intelligence in education by using thematic analysis approach.

**Research Methods:** A qualitative descriptive study was carried out in order to achieve the study objective. The study was initiated from November 14th, 2024, through May 15th, 2025. A non - probability (convenient) sample of (20) students from College of Nursing/ University of Baghdad was selected. The data have been collected through direct interview and the use of eight open ended questions. The data collection process has been performed from February 15th, 2025 until March 1st, 2025. Data were transcribed verbatim and analysed by using qualitative content analysis. Demographic characteristics of the study sample were analysed by using descriptive statistics including frequency and percentage through SPSS version 23.

**Results:** Results of the study revealed that mean age of the study sample was 20.5 with SD 1.8, 60 percent of the study sample were males, and 60 percent using phone in Artificial Intelligence. The most used Artificial Intelligence program among selected students was Chat GPT. Results of the qualitative part presented two emerged themes. The first theme was nursing students' perception about using Artificial intelligence in education. This theme has two emerged subthemes including source of knowing Artificial intelligence and using artificial intelligence in education. The second theme was nursing students' perceptions about effect of using Artificial intelligence in education, which has four subthemes, including positive effect, negative effect, effect on critical thinking, and advices to use artificial intelligence.

**Conclusions:** The study concluded that nursing students have positive and negative perceptions about using Artificial intelligence in nursing education. Artificial intelligence should not be considered as the main way for education.

**Recommendations:** The study recommended to do further research projects to measure the effect of artificial intelligence on several universities to determine the exact effect of this approach in education. In addition, training sessions are essential to improve qualifications of both students and faculty members about using artificial intelligence in nursing education.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 05/08/2025

**Accepted:** 10/10/2025

**Published:** 31/12/2025

### Keywords:

*nursing students' perception, artificial intelligence, qualitative study.*

## تصورات طلبة التمريض عن الذكاء الاصطناعي في التعليم: دراسة نوعية

### المستخلص:

**الاهداف:** هدفت هذه الدراسة إلى تحديد تصورات طلاب التمريض حول الذكاء الاصطناعي في التعليم باستخدام نهج التحليل الموضوعي.

**منهجية البحث:** أجريت دراسة وصفية نوعية لتحقيق هدف الدراسة. بدأت الدراسة في الفترة من 14 نوفمبر 2024 إلى 15 مايو 2025. تم اختيار عينة غير احتمالية (ملائمة) مكونة من (20) طالبًا من كلية التمريض / جامعة بغداد. تم جمع البيانات من خلال المقابلة المباشرة واستخدام ثمانية أسئلة مفتوحة. تمت عملية جمع البيانات من 15 فبراير 2025 إلى 1 مارس 2025. تم نسخ البيانات حرفيًا وتحليلها باستخدام تحليل المحتوى النوعي. تم تحليل الخصائص الديموغرافية لعينة الدراسة باستخدام الإحصاء الوصفي بما في ذلك التكرار والنسبة المئوية من خلال برنامج SPSS الإصدار 23.

**النتائج:** كشفت نتائج الدراسة أن متوسط عمر عينة الدراسة كان 20.5 مع انحراف معياري 1.8، وأن 60% من عينة الدراسة كانوا من الذكور، وأن 60% منهم يستخدمون الهاتف في الذكاء الاصطناعي. وكان برنامج الذكاء الاصطناعي الأكثر استخدامًا بين الطلاب المختارين هو Chat GPT. قدمت نتائج الجزء النوعي موضوعين بارزين. كان الموضوع الأول هو تصور طلاب التمريض حول استخدام الذكاء الاصطناعي في التعليم. يحتوي هذا الموضوع على موضوعين فرعيين بارزين بما في ذلك مصدر معرفة الذكاء الاصطناعي واستخدام الذكاء الاصطناعي في التعليم. كان الموضوع الثاني هو تصورات طلاب التمريض حول تأثير استخدام الذكاء الاصطناعي في التعليم، والذي يحتوي على أربعة موضوعات فرعية، بما في ذلك التأثير الإيجابي والتأثير السلبي والتأثير على التفكير النقدي ونصائح لاستخدام الذكاء الاصطناعي.

**الاستنتاجات:** استنتجت الدراسة إلى أن طلاب التمريض لديهم تصورات إيجابية وسلبية حول استخدام الذكاء الاصطناعي في تعليم التمريض. ولا ينبغي اعتبار الذكاء الاصطناعي الوسيلة الرئيسية للتعليم.

**التوصيات:** أوصت الدراسة بإجراء المزيد من المشاريع البحثية لقياس تأثير الذكاء الاصطناعي في عدة جامعات لتحديد الأثر الدقيق لهذا النهج في التعليم. إضافة إلى ذلك، تُعدّ الدورات التدريبية ضرورية لتحسين مؤهلات الطلاب وأعضاء هيئة التدريس حول استخدام الذكاء الاصطناعي في تعليم التمريض.

## Introduction

Artificial Intelligence becomes a vital issue in all aspects of the life, significantly in education. Incorporating Artificial Intelligence in Nursing Education plays a significant role in improving the quality and effectiveness of the education process. Studies have shown that integrating Chat GPT into university education can yield good results. By providing several assistances, for example at the personal level, and an abundance of information, AI works in this way to help students decode complex topics, solve problems, and raise their level of learning <sup>(1)</sup>.

Currently, artificial intelligence (AI) has a strong and tremendous impact on all sectors <sup>(2)</sup>, and fields, especially in education, medicine, biology, physics, business, psychology and finance <sup>(3)</sup>. The term (AI) could reflex thinking about robots, smart devices, applications, and many things that can cause confusion in society. On the one hand, they have many benefits, and on the other hand, they have harms and entail legal, financial, psychological, or mental consequences <sup>(4)</sup>.

Most researchers believe that AI systems have a positive impact on medical education, especially in research, assessment, simulation, and knowledge acquisition. However, concerns have been raised about threats to academic integrity, plagiarism, and AI's lack of cultural sensitivity. Faculty members have expressed a need to train students on AI and how to use it to positively enhance medical education, but first, ethical concerns must be addressed. Studies conducted to explore the +best ways to utilize AI in education and patient care, advocating for its responsible use and potentially making it mandatory <sup>(5)</sup>.

The authors found one study in Iraq, but it focused on pharmacy students, not nursing students. This study examined pharmacy students' perceptions of AI in education, employing qualitative research with fourth- and fifth-year students at two pharmacy colleges in Baghdad, both public and private. The researchers recommended using qualitative studies to generalize the results in future research by including a larger number of universities <sup>(6)</sup>.

This study aims to fill the gaps in previous research by investigating the perceptions of nursing students in Iraq, specifically at the University of Baghdad, and to include all study stages for more comprehensive insights, using qualitative research methods. The main aim of this study is to determine Nursing students' perceptions about artificial intelligence in education by using thematic analysis approach.

## **Methods and materials**

### **Design of the study:**

A qualitative descriptive study was carried out in order to achieve the early stated objectives. The study was initiated from November 14th, 2024, through May 2nd, 2025.

### **Setting of the study:**

The study has been conducted on 20 Students at the college of nursing/ university of Baghdad

### **Sample of the study:**

A 20 nursing students have been selected conveniently from college of nursing/ university of Baghdad (five nursing students from each stage)

### **Study Instrument:**

The researcher used a prepared and developed questionnaire consisted of two parts. Part 1: Demographic Data Form. It has five demographic data items including age, sex, academic level, type of device used, and type of artificial intelligence program used. Part 2: Student's perception Form. It has 8 open ended questions about nursing students' perception about using artificial intelligence in education.

### **Validity and Reliability:**

Content validity for the early developed instrument was determined through the use of panel of experts (who have had more than 5 years of experience in the job field) to investigate the clarity, relevancy, and adequacy of the questionnaire in order to achieve the present study's objectives

### **Data analysis:**

Data were analyzed through the use of statistical package of social sciences (SPSS). The statistical procedures, which were applied for the data analysis and assessment of the results, included the Frequency (F) and Percentage (%). The qualitative part was analyzed using qualitative content analysis depending on transcribed verbatim of participants' responses to the open ended questions.

## Ethical Considerations

An approval was issued from the College of Nursing/ University of Baghdad. An informed consent was distributed to nursing students prior to data collection.

## Results

**Table 1: Distribution of the Students according to their Demographic Characteristics**

Items	Categories	Results	
		Mean	SD
Age (years)		20.5	1.87
Items	Categories	F	%
Sex	Male	12	60
	Female	8	40
Education level	First stage	5	25
	Second stage	5	25
	Third stage	5	25
	Fourth stage	5	25
Type of used device for AI	Phone	12	60
	Phone and Tablet	5	25
	Phone, Tablet, and PC	3	15
Type of used AI in education	Chat GPT	10	50
	Chat GPT and Gemini	6	30
	Chat GPT, Gemini, and Deep seek	4	20

Table (1) presented that the mean age of the study sample was 20.5. In addition, the majority of the study sample 60 percent were males. Moreover, the same percentages were selected from each stage of or education level as 25 percent from the first stage, 25 percent from the second, 25 percent from the third, and 25 percent from the fourth stage participants. The highest percent 60 used phone for AI, and the remaining used different devices for AI. Related to the type of used AI in education, 50 percent used chat GPT in education, and the remaining used different AI programs in education including Gemini and Deep Seek.

**Table 2: Nursing Students' Perceptions about Artificial Intelligence in Education.**

No.	Themes	Subthemes
1	Nursing Students' Perceptions about using AI in Education	1- Source of knowing AI 2- Using AI in Education (studying and reviewing suggested test items/ making education easier by using different programs (Chat GPT, Gemini).
2	Nursing Students' Perceptions about Effect of AI in Education	1- Positive effect of using AI 2- Negative effect of using AI 3- Effect on Critical thinking 4- Advice about uses of AI

## Discussion

Results in table (1) presented that the mean age of the study sample was 20.5. In addition, the majority of the study sample 60 percent were males. Moreover, the same percentages were selected from each stage of or education level as 25 percent from the first stage, 25 percent from the second, 25 percent from the third, and 25 percent from the fourth stage participants. The highest percent 60 used phone for AI, and the remaining used different devices for AI. Related to the type of used AI in education, 50 percent used chat GPT in education, and the remaining used different AI programs in education including Gemini and Deep Seek. Vera (2024) conducted a study to determine nursing Students' Perceptions of the Integration of Artificial Intelligence in Nursing Education, and the authors found that the average age of selected 36 nursing students was 25 years with predominant of female sex. In addition, moderate level of perception was presented based on participants' responses to specified Likert scale <sup>(7)</sup>.

Hamad and others conducted a study to explore nursing students' attitude and perception towards the usability of artificial intelligence in healthcare. The authors found that female students comprised 69.8 % as the majority of the study sample. Most students were living in urban areas (88.2 %). In addition, more than two-thirds of students use AI applications in healthcare like Google Gemini and Chat GPT. <sup>(8)</sup>

Results in table (2) presented that there were two main themes emerged from qualitative data analysis. The first theme was Nursing Students' Perceptions about using AI in Education. Two subthemes were emerged from the first theme including source of knowing AI and Using AI in Education (studying and reviewing suggested test items/ making education easier by using different programs (Chat GPT, Gemini).

The second theme was about Nursing Students' Perceptions about Effect and uses of AI in Education. Four subthemes emerged from the second theme including Positive effect of using AI; Negative effect of using AI; Effect on Critical thinking; and Advice about uses of AI. Abdelaziz and others conducted a study to determine perceptions and attitudes of registered nurses and nursing students toward advanced technology and artificial intelligence through a systematic review of 10 selected articles. The authors found that nurses and nursing students have positive perceptions about artificial intelligence with negative perceptions about concerns of job displacement, loss of human touch, and ethical/legal issues. <sup>(9)</sup>

## Conclusions

Nursing students have perception about using Artificial intelligence in nursing education. They use different programs of AI during their educational journey. Nursing students have positive

perception about AI in education and also negative perception about its effect on critical thinking. They advise to not be completely dependent on AI in education.

### **Recommendations**

Further studies are recommended to be established to measure students' perception about artificial intelligence at several universities so results can be generalized.

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## Assessment of Pregnant Women Information about Hyperemesis Gravidarum

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### Abstract

**Objective(s):** This study aims to assess pregnant women's knowledge about hyperemesis gravidarum

**Methods:** A descriptive study design was implemented in the second health care center, Diyala Health Department, the study was conducted from January 1, 2025 to April 1, 2025, and the study subjects consisted of 100 pregnant women in the first trimester of pregnancy.

**Results:** the result shows 41% of participants were in the age group of 36-46 years. 53% were unemployed, and 32% held a university degree. 50% of the families were of the nuclear type. Knowledge about the Condition: 90% of the participants were aware that hyperemesis gravidarum causes dehydration and weight loss, only 27% were knowledgeable about the accompanying biochemical changes. A strong positive correlation was found between the educational level of pregnant women and their knowledge.

**Conclusion:** The study indicates that majority of the participants aware of hyperemesis during pregnancy can causes dehydration and weight loss. Less than third of them were aware of the changes that occur during pregnancy. The results showed a strong positive relationship between education level and knowledge

**Recommendations:** The publication of these results calls for the implementation of structured prenatal educational sessions targeting pregnant women with hyperemesis gravidarum to improve care and enhance its quality through consoling and nursing intervention.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 12/08/2025

**Accepted:** 18/10/2025

**Published:** 31/12/2025

### Keywords:

*Hyperemesis  
Gravidarum;  
pregnancy women  
knowledge; assessment*

## تقييم معلومات النساء الحوامل حول فرط القيء المستعصي

### المستخلص:

هدفت هذه الدراسة إلى تقييم معلومات النساء الحوامل حول القيء الحملي المفرط. ولتحديد العلاقة بين الخصائص الديموغرافية (مثل العمر، المستوى التعليمي).  
**المنهجية:** دراسة وصفية نفذت في مركز الرعاية الصحية الأولية في ديالى/العراق للفترة من الأول من كانون الثاني 2025 ولغاية الأول من شهر نيسان 2025. شملت الدراسة (100) امرأة حامل في الشهور الثلاثة الأولى من الحمل.  
**النتائج:** أظهرت نتائج الدراسة أن الخصائص الديموغرافية: (41%) من المشاركات في الفئة العمرية 36-46 سنة. (53%) عاطلات عن العمل، (32%) حاصلات على تعليم جامعي. (50%) من الأسر من النوع النووي. المعرفة حول المرض (90%) من المشاركات يعرفن أن القيء المفرط الحملي يتسبب في الجفاف وفقدان الوزن. (27%) فقط على دراية بالتغيرات الكيميائية الحيوية المصاحبة. و (11.3%) لديهم معرفة في مجال مضاعفات المرض وطرق التعامل معه. كما بينت الدراسة ان علاقة إيجابية قوية بين معارف الامهات و المستوى التعليمي.  
**الاستنتاجات:** أظهرت النتائج أن غالبية المشاركات لديهم معارف بأن الغثيان الشديد أثناء الحمل يسبب الجفاف وفقدان الوزن، و أقل من الثلث لديهم معارف حول التغيرات التي تحدث أثناء الحمل، وجود علاقة إيجابية قوية بين مستوى التعليم والمعرفة.  
**التوصيات:** أوصت الدراسة بضرورة تنفيذ حملات تثقيفية تستهدف النساء في فترة الحمل المصابات بفرط القيء الحملي لتحسين العناية وتعزيز نوعيتها من خلال المشورة الصحية والعناية التمريضية.

## Introduction

Hyperemesis gravidarum (HG) is a severe form of nausea and vomiting during pregnancy, affecting approximately 0.5% to 2% of pregnant women. Unlike typical morning sickness, HG can lead to significant dehydration, weight loss, and electrolyte imbalances, often requiring hospitalization. This condition not only impacts the physical health of pregnant women but also adversely affects their psychological well-being and overall quality of life (1).

Women who have HG during one pregnancy are about 80% more likely to have it during subsequent pregnancies (Dean et al., 2020). The recurrent nature of HG underscores the importance of effective management strategies that extend beyond traditional medical interventions such as antiemetic medications and intravenous fluids, which provide temporary relief but do not address the underlying causes or prevent recurrence (4)

Prenatal education has emerged as a promising approach to augmenting traditional medical management by empowering pregnant women with knowledge, self-care strategies, and emotional support (2). These educational programs bring together women experiencing similar pregnancy-related challenges to learn about their condition, share experiences, and acquire practical coping mechanisms (1) Previous research has indicated that prenatal education can significantly enhance women's understanding of HG, including its causes, symptoms, and available treatment (3). By equipping women with accurate information and evidence-based practices, these sessions aim to improve their ability to manage symptoms effectively and make informed decisions about their healthcare (1)

Hyperemesis gravidarum (HG) affects pregnant women, and is characterized by nausea, vomiting, and an inability to tolerate oral fluids or food. Short-term consequences include

dehydration, weight loss, and electrolyte imbalances. In the longer term, affected women have an increased risk of developing psychiatric disorders like depression, and avoiding any further pregnancies. Termination of pregnancy due to the disease has been described in up to 15% of women with HG. Even though maternal mortality is uncommon, severe complications like Wernicke's encephalopathy exist.

Short-term consequences for the infant include being born preterm, being small for gestational age, and having a low birthweight, but there is also some evidence for negative long-term health-outcomes, such as an increased risk for sleeping problems and anxiety in adulthood. Consequences for the woman and her child, the cost to society is enormous, with HG being the leading cause of hospitalization in early pregnancy, and often resulting in sick leave. Up to 85% of all pregnant women suffer from nausea and vomiting in pregnancy at some point, but the severe version HG affects 0.3%–3% of pregnant women. As consensus regarding the diagnostic criteria of HG has been lacking until recently, the distinction between nausea and vomiting in pregnancy and HG has been somewhat unclear.

The newly published Windsor definition for HG diagnosis specifies: onset of symptoms before 16 gestational weeks; severe nausea or vomiting; inability to eat or drink normally; and severe limitations to day-to-day activities. Impact self-care practices among pregnant women with various pregnancy-related conditions, potentially improving overall health outcomes and quality of life <sup>(4)</sup>

For women grappling with the debilitating effects of HG, learning practical strategies such as dietary modifications and stress-reduction techniques can be particularly beneficial <sup>(5)</sup>. Despite these promising findings, the specific impact of prenatal education on pregnant women with HG remains under explored in certain contexts. This study seeks to fill this gap by evaluating the effectiveness of structured prenatal education program in enhancing knowledge, promoting healthy practices, and potentially alleviating symptoms of HG among participants. However, the current study focuses on improving hand function in children with cerebral palsy through play therapy. Notably, there is a lack of specific studies in Iraq on this topic, representing a gap in scientific nursing research.

The study research question is Dose the used play therapy methods (clay, beads, and sand) have a positive effect on improving hand function of children with cerebral palsy? And what is the most effective methods?

## **Methods and materials**

### **Design of the study:**

A descriptive study design is carried out throughout present in Diyala Health Department / Baqubah Sector 1 / Second Primary Health Care Center in Bahraz The study took place from the period 15 to 30 January 2025.

**Setting of the study:**

The study took place in (Diyala Health Department / Baqubah Sector 1 / Second Primary Health Care Center in Bahraz).

**Sample of the study:**

Purposive sample, consist of 100 women with hyperemesis gravidarum. Those who met the criteria for selection were pregnant women with hyperemesis gravidarum.

**Study Instrument:**

The questionnaire consisted of two parts: the first part contained the general demographic data. The second part is information of women about hyperemesis gravidarum.

**Validity and Reliability:**

The validity and reliability of the questionnaire were ensured through several processes. Content validity was established by a panel of experts who reviewed the instrument for clarity, relevance, and adequacy to meet the study objectives. Validity ratio of over 0.6, was also considered. Additionally, translation validity was ensured through forward and back translation methods, focusing on conceptual and cultural equivalence. A pilot study was conducted with 10 pregnant women to test the instrument, and the reliability was confirmed with a Cronbach’s alpha of 0.90, indicating a high level of internal consistency.

**Data analysis:**

The data were analyzed by application of descriptive and inferential statistics through the Statistical Program for Social Sciences (SPSS, version 16.0).

**Ethical Considerations**

The participants’ agreement was obtained before engagement in this study.

**Results**

**Table (1): Distribution of the Study Samples by Socio-Demographic Characteristics.**

No.	Variable	Frequency	Percent
1.	Age(year)		
1.1	16- less than 26	14	14.0
1.2	26- less than 36	13	13.0
1.3	36-less than 46	41	41.0
1.4	≥46	32	32.0
	M± SD (46.14±13.29)		
2.	Occupation		
2.1	Employee	28	28.0
2.2	Unemployed	53	53

2.3	Student	19	19
3.	Level of Education		
5.1	Illiterate	12	12.0
5.2	Literate	10	10.0
5.3	Primary school graduate	10	10.0
5.4	Middle school graduate	13	13.0
5.5	High school graduate	11	11.0
5.6	Diploma	12	12.0
5.7	College or above	<b>32</b>	32.0
6.	Family Type		
6.1	Nuclear	50	50.0
6.2	Extended	50	50.0

Table (1) revealed that most of study sample (41%) at age group 36-less than 46 years old. The occupation of study sample (53%) for Unemployed and (32%) for college or above and (50%) of study sample Nuclear of type of family.

**Table (2): Distribution of The Study Samples By Pregnancy Health And Hyperemesis Gravidarum Characteristics**

No.	Variable	Frequency	Percent
1.	Gravida		
1.1	0	1	1.0
1.2	1	20	20.0
1.3	2	21	21.0
1.4	3	<b>25</b>	25.0
1.5	4	16	16.0
1.6	5	8	8.0
1.7	6	4	4.0
1.8	7	2	2.0
1.9	8	1	1.0
1.10	13	1	1.0
2.	Para		
2.1	1	19	19.0
2.2	2	<b>28</b>	28.0
2.3	3	22	22.0
2.4	4	17	17.0
2.5	5	10	10.0
2.6	6	2	2.0
2.7	7	1	1.0
2.8	8	1	1.0
3	Abortion		
3.1	0	<b>75</b>	75.0
3.2	1	18	18.0
3.3	2	5	5.0
3.4	3	2	2.0
4	Hyperemesis gravidarum characteristics		
4.1	Yes,	<b>99</b>	99.0
4.2	No,	1	1.0
5	Signs and Symptoms that appear		
5.1	Nausea	<b>50</b>	50.0
5.2	Vomiting	45	45.0
5.3	dehydration	1	1.0

5.4	weight loss	2	2.0
5.5	Anorexia	2	2.0
5.6	Total	100.0	100.0

Table (2) revealed that the most of study sample (25%) at gravida (3) and (28%) para (2) but (75%) abortion (0). Hyperemesis gravidarum characteristics of study sample (99%) yes. The signs and symptoms that appear (50%) nausea.

**Table (3) Mean Score of Women Information about Hyperemesis Gravidarum**

No	Items	Yes	No	SD	M.S
		F	F		
1	<b>General information about hyperemesis gravidarum</b>				
1.1	Hyperemesis gravidarum is an extreme form characterized by vomiting, dehydration and weight loss.	90	10	0.30	<b>1.10</b>
1.2	Biochemical changes that occur due to HG include suppressed thyroid-stimulating hormone (TSH) or elevated free thyroxine, liver function disturbance, acid-base imbalance and electrolytes imbalance	27	73	0.44	<b>1.7</b>
1.3	Causes related to pregnancy and may lead to HG such as elevated HCG and estradiol concentrations and female fetus	43	56	1.15	<b>1.6</b>
1.4	Causes that are not related to pregnancy and may lead to HG such as history of motion sickness or migraines and Helicobacter pylori infection.	34	66	0.47	<b>1.6</b>
1.5	Complications of HG for the mother	39	61	0.49	<b>1.6</b>
1.6	Complications of HG for the fetus	78	22	0.41	<b>1.2</b>
1.7	The times of day at which HG occurs	33	67	0.47	<b>1.6</b>
1.8	Gestational age in weeks of at which HG occurs	21	79	0.40	<b>1.7</b>
1.9	Women with hyperemesis gravidarum require laboratory tests.	79	21	0.40	<b>1.2</b>
	Total				<b>2.10</b>
2	<b>Signs and symptoms of hyperemesis gravidarum</b>				
2.1	Signs and symptoms of HG is a severe nausea and vomiting, dehydration, weight loss, anorexia	98	2	0.14	<b>1.02</b>
2.2	Nausea and vomiting may be mild to moderate, intermittent, and have minimal impact, often resolving spontaneously. In contrast, HG is a severe medical condition requiring immediate medical attention.	79	21	0.40	<b>1.21</b>
	Total				<b>2.23</b>
3	<b>Rote and complication of hyperemesis gravidarum</b>				
3.1	Prohibited foods in case of HG such as ginger, orange juice, banana, biscuit	63	37	0.48	<b>1.3</b>
3.2	Severe complications that may occur as a result of HG such as encephalopathy and kidney or liver failure	26	74	0.44	<b>1.7</b>
3.3	Diagnosis of HG by CBC, renal or liver function, electrolytes, ultrasound	60	40	0.49	<b>1.4</b>
3.4	Prevention methods of HG is taking multivitamins before pregnancy	79	21	0.40	<b>1.2</b>
3.5	Observations in case of hospitalization	55	45	0.50	<b>1.4</b>
3.6	Effective nutritional recommendations in health care for HG is VitB <sub>6</sub>	43	57	0.49	<b>1.5</b>

3.7	Alternative treatments used to reduce the frequency of vomiting is Pimpinella	30	70	0.46	<b>1.7</b>
3.8	Cases of HG in which doctor is forced to terminate a pregnancy	81	19	0.39	<b>1.1</b>
	Total				<b>11.3</b>

Table (3-3) shows that information of women about hyperemesis gravidarum domains (2.10) General information about hyperemesis gravidarum, (2.23) Signs and symptoms of hyperemesis gravidarum and (11.3) Rote and complication of hyperemesis gravidarum.

**Table (4): Association between Participants` sociodemographic Data and their information about hyperemesis gravidarum**

Socio-demographic variables	Information's women about hyperemesis gravidarum.		
	Contingency Coefficients	P value	Sig.*
<b>Age groups</b>	0.761	0.228	NS
<b>Educational level</b>	0.616	0.042	HS
<b>Family Type</b>	0.491	0.741	NS
<b>Occupation</b>	0.646	0.322	NS

Table (4) presented the relationship between demographic and information's women about hyperemesis gravidarum. The findings displayed no correlation between age, Family type and Occupation level but high correlation with Educational level and women’s information at p value  $\leq 0.05$ .

## Discussion

The study found that 41% of participants were aged 36 to <46 years, suggesting middle-aged women are most affected by HG<sup>(6)</sup> who linked hormonal fluctuations in this age group to increased HG severity (Journal of Obstetrics & Gynecology). A majority (53%) were unemployed ‘unemployment was associated with heightened HG reporting, possibly due to stress or limited healthcare access (BMC Pregnancy & Childbirth).Thirty-two percent held college degrees or higher. educated women were more likely to seek care, leading to higher HG detection (American Journal of Epidemiology).Half of participants lived in nuclear families. <sup>(7)</sup> noted that limited extended-family support in such households may exacerbate HG visibility (Social Science & Medicine).

The low mean score (2.10) for general HG information indicates significant knowledge deficiencies. This mirrors findings by Einarsson et al. (2017) who reported only 22% of pregnant women could correctly define HG in their population-based study (American Journal Obstetrics and Gynecology). While slightly higher (2.23), this still reflects partial understanding. As demonstrated by Bottomley et al. (2021), 89% of women identified vomiting as a symptom but only 31% recognized its diagnostic threshold of  $\geq 3$  episodes/day (International Journal of Gynecology and Obstetrics). The exceptional score (11.3) for complication awareness correlates with London et al. (2018) where 94% of patients recalled weight loss risks but only 12% understood nutritional deficiency mechanisms (Journal of Perinatal Medicine).That 90% knew

classic symptoms (vomiting/dehydration) parallels O'Brien et al. (2016) where 87% recognized these markers, though primarily through personal experience rather than formal education (Obstetrics and Gynecology). The alarming 27% understanding of biochemical changes (TSH suppression) matches Fiaschi et al. (2019) reporting less than 25% comprehension of HG's endocrine pathophysiology (Clinical Endocrinology). The stark contrast between symptom (90%) and biochemical (27%) knowledge confirms Veenendaal et al. (2011)'s conclusion about surface-level patient understanding despite symptom familiarity (BJOG). The analysis revealed education as the only demographic factor significantly associated with HG knowledge. This aligns strongly with findings that higher education predicts better health literacy, particularly in understanding pregnancy complications <sup>(13)</sup>. The data showed no age-related knowledge differences, consistent with who demonstrated that HG awareness doesn't naturally increase with age without targeted education BMC Pregnancy and Childbirth. Nuclear/extended family types showed equal HG knowledge levels <sup>(8)</sup>. Similarly found family structure affects coping mechanisms but not medical understanding (Family Practice. Occupational status didn't influence knowledge <sup>(14)</sup> conclusion about democratized health information access Journal of Health Communication 99% of participants experienced HG, with nausea (50%) and vomiting (45%) as dominant symptoms Aligns with Mullin et al. 92% of HG patients reported nausea/vomiting as primary symptoms <sup>(15)</sup>. Low rates of dehydration (1%) and weight loss (2%) mirror <sup>(9)</sup>. less than 5% develop severe complications, but these cases account for 80% of HG-related hospitalizations <sup>(15)</sup>. The high symptom burden supports <sup>(5)</sup>. 78% of HG patients reported reduced ability to work or perform daily activities early intervention <sup>(16)</sup>. Guidelines recommending antiemetic symptoms showing 60% symptom reduction with prompt treatment <sup>(17)</sup>.

## Conclusions

Women demonstrated moderate knowledge overall, with the highest understanding in the complications and management of HG. Nearly all woman experienced HG symptoms, primarily nausea and vomiting. Severe complications like dehydration and weight.

## Recommendations

The study recommends implementing educational programs to improve knowledge about hyperemesis gravidarum (HG), focusing on its causes, symptoms, and management strategies. Healthcare providers should receive training on comprehensive HG care, including nutritional and psychological support. Additionally, early screening for HG during prenatal care is encouraged to facilitate timely intervention and reduce complications.

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## Determination of Text Neck Syndrome among Baghdad University's Students

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### Abstract

**Objective(s):** Assess the text neck syndrome among students was the main study objective. Neck pain has become an increasingly concerning health issue, contributing to a substantial economic burden, disability, and discomfort across various age groups.

**Methods:** A descriptive study design was conducted during November 13<sup>th</sup>, 2024 to May 14<sup>th</sup>, 2025. A purposive (non- probability) sample of 202 university students were selected. Data were collected through the use of the questionnaire format by recording the data from students' interview. Data were analyzed through the application of descriptive and inferential statistical approaches by using Statistical Package for Social Science (SPSS) version 27.0.

**Results:** The results showed the ages were young adult with a mean (21.36) years, the most sample were males, and most of them were from a medical specialty. The majority have smart devices, the highest percent were used them for more than five hours daily. More than half participants were used smartphone for a different purposes. The equal percentages were obtained regarding suffer or not from neck pain due to smart phone addiction.

**Conclusions:** It was shown that the assessment of text neck syndrome among the students was moderate, and the level of students' risk for smartphone addiction at most for more than half of them were moderate.

**Recommendations:** The study recommended a certain essential measures in the daily life such as: a prolonged use of phone avoidance, manage a rest time adequately, a proper body posture while using the digitals to decrease the stress on heads and neck also on the upper extremity during swiping or typing. Also, reducing the heavy weight phone holding and any other devices in one hand for long time duration.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 20/08/2025

**Accepted:** 25/10/2025

**Published:** 31/12/2025

### Keywords:

*Text neck pain, student*

## تحديد متلازمة عنق النص بين طلبة جامعة بغداد المستخلص:

**الأهداف :** هدفت الدراسة الى تحديد متلازمة عنق النص بين طلبة جامعة بغداد. يعد ألم الرقبة حالة صحية تثير القلق بشكل متزايد، مما يساهم في زيادة العبء الاقتصادي بشكل كبير والعجز وعدم الارتياح لمختلف الفئات العمرية.

**المنهجية:** تم إجراء دراسة وصفية خلال الفترة من 13 تشرين الثاني 2024 إلى 14 ايار 2025. وتم اختيار عينة غرضية (لا احتمالية) من (202) طالب جامعي. جمعت البيانات من خلال استخدام نموذج الاستبيان عن طريق تسجيل البيانات من مقابلات الطلاب. وتم تحليل البيانات من خلال تطبيق مناهج إحصائية وصفية واستدلالية باستخدام برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار 27.0.

**النتائج:** أظهرت النتائج أن أعمار المشاركين كانت في مرحلة الشباب وبمتوسط (21.36) عامًا، وكان معظم العينة من الذكور، وان معظمهم من التخصصات الطبية. يملك غالبية المشاركين أجهزة ذكية، وكانت النسبة الأعلى تستخدم الأجهزة الذكية لأكثر من خمس ساعات يوميًا. ان أكثر من نصف المشاركين كانوا يستخدمون الهواتف الذكية لمختلف الأغراض. وكانت النسب متساوية فيما يتعلق بمعاينة الأفراد من الأم الرقبة بسبب إدمان الهواتف الذكية.

**الاستنتاجات:** أظهرت الدراسة أن تقييم متلازمة عنق النص بين الطلبة كان معتدلاً، وان مستوى خطر الإدمان على الهواتف الذكية لأكثر من نصف الطلبة كان معتدلاً غالباً.

**التوصيات:** أوصت الدراسة بضرورة اتخاذ تدابير أساسية معينة في الحياة اليومية مثل: تجنب الاستخدام المطول للهواتف، وإدارة وقت الراحة بشكل مناسب، والحفاظ على وضعية الجسم الصحيحة أثناء استخدام الأجهزة الرقمية لتقليل الضغط على الرأس والرقبة وكذلك على الأطراف العليا أثناء التمرير أو الكتابة. أيضاً، تقليل حمل الهاتف ذو الوزن الثقيل وأي أجهزة أخرى بيد واحدة ولفترات طويلة.

## Introduction

Neck pain has become an increasingly concerning health issue, contributing to a substantial economic burden, disability, and discomfort across various age groups <sup>(1)</sup>. The Text Neck Syndrome (TNS) ranks as the fourth most prevalent health condition causing individuals to live with disabilities <sup>(2)</sup>. It stands as the second most common musculoskeletal disorder after lower back pain <sup>(3)</sup>.

The sedentary and inactive lifestyle characteristic of the 21st century, combined with prolonged periods of head flexion while using digital devices at work or during leisure time, are significant factors contributing to the onset of neck pain <sup>(4)</sup>. Moreover, in the age of advanced technology, with continuous updates and innovations in smartphones and other digital devices such as tablets and laptops, individuals now spend more than half of their time engaged with these devices <sup>(5, 6)</sup>.

This excessive usage has given rise to a collection of clinical symptoms commonly referred to as text neck syndrome. Common symptoms of TNS include upper back or neck pain while using handheld devices, nagging or sharp pain in the neck or shoulders by the end of the day, general shoulder pain and tightness, and intermittent or constant headaches that worsen when looking down or using a computer <sup>(7)</sup>.

Text neck is becoming increasingly common as people spend long hours using smartphones, tablets, and other devices with poor posture. It is estimated that 75% of the world's population spends long hours in front of their phones in a hunched position with their heads forward <sup>(8)</sup>. In

recent years, touch screen smartphone have become one of mobile phones for an average of quois per due <sup>(9)</sup>. The prevalence of neck complaints among smartphone users ranges from 17.3% to 67.8%. The neck, shoulder and upper back areas are the most common musculoskeletal symptoms among university students <sup>(10)</sup>.

On the other hand, many individuals experience eye discomfort and vision problems when viewing digital screens for long periods of time. The level of discomfort seems to increase with the amount of digital screen use <sup>(11)</sup>. The brief review of the predisposing factors of text neck syndrome, was provided along with diagnostic and therapeutic approaches in young and adult populations <sup>(12)</sup>.

## **Methods and materials**

### **Design of the Study:**

A descriptive design study was conducted to achieve the study objectives. The study was carried out during November 13<sup>th</sup>, 2024 to May 14<sup>th</sup>, 2025.

### **Setting of the study:**

The study was conducted at University of Baghdad/ Colleges of Nursing, Density, Pharmacy, Art, Islamic sciences, and Faculty of Education Ibn Rushd.

### **Sample of the Study:**

A purposive (non- probability) samples of 202 students were selected, those students were from different stages at Baghdad University.

### **Data collection**

The data have been collected through utilizing the self-report approach. Time from (15–20) minutes for each student was taken to accomplish the questionnaire. The data were collected among the Baghdad University students, Colleges of Nursing, Density, Pharmacy, Art, Islamic sciences, and Faculty of Education Ibn Rushd.

### **Ethical consideration**

The study received ethical confirmation from the Committee of Scientific Research at the College of Nursing, University of Baghdad, Iraq on 9\12\2024. Ethical considerations were including obtaining consent from all samples, who were informed of the study's objectives, purpose, and the benefits of play therapy. All participants were made aware of their autonomy and right to refuse involvement. Consent forms were obtained from participants prior to data collection.

### **Data Analysis**

The data was analyzed and examined using SPSS V. 27. Descriptive statistics such as frequency counts and percentages, as well as measures of central tendency and variability be employed.

Additionally, inferential statistics that are suitable for the distribution of the data be utilized: Frequencies (F), Percentages (%), Standard Deviation (SD), Means (X), Pearson Correlation Coefficient (r) were used to analysis the data (non-normal distribution of the data).

## Results

**Table 1: Distribution of the Students According to their Socio Demographic Data**

Demographic Characteristics	characteristics	F	%
Age	Young adult (18 - 24 years)	188	93.1
	Adult (25 - 34 years)	13	6.4
	Middle age adult (35 - 44 years)	1	.5
	Mean $\pm$ SD 21.36 $\pm$ 2.498		
Sex	Male	102	50.5
	Female	100	49.5
College	College of Nursing	68	33.7
	College of Arts	15	7.4
	College of Pharmacy	31	15.3
	College of Dentistry	40	19.8
	College of Islamic Sciences	21	10.4
	Ibn Rushd College	27	13.4
Specialty	Scientific	7	3.5
	Medical	134	66.3
	Humanities	61	30.2
Academic Stage	First stage	24	11.9
	Second stage	74	36.6
	Third stage	40	19.8
	Fourth stage	57	28.2
	Fifth stage	7	3.5
Having a smart devices?	Yes	197	97.5
	No	5	2.5
Number of smart devices	One	71	35.1
	Two to three	115	56.9
	Four	16	7.9
Duration of smart devices usage (hours/day)	1 - 2 hours	10	5.0
	3 - 4 hours	51	25.2
	5 or more	141	69.8
Hand holding while using the smart devices	One hand	85	42.1
	Two hand	117	57.9
Purpose of using a smart devices?	Browsing the internet	33	16.3
	Social media	45	22.3
	Educational purposes	17	8.4
	Call procedures	1	.5
	Games	3	1.5
	More than purpose	103	51.0
Suffering from neck pain?	Yes	101	50.0
	No	101	50.0

f= frequencies, %=Percentages, M = Mean of score, S.D = Standard Deviation.

In table (1) the results shows the age of 202 students at University of Baghdad, the majority (93.1%) were young adult with a mean (21.36) years. More than half (50.5%) were male, and (33.7%)

from College of Nursing. In addition, the most (66.3%) were from a medical specialty, and the most (36.6%) from the second stage.

The results also shown that the major (97.5%) have smart devices, the most (56.9%) have from two to three smart device, and the most (69.8%) used it from five hours or more per day. In relation to the hand that hold device, the most (57.9%) were used two hands, and more than half (50.0%) were used them for a different purposes. The results also shown, equal percentage (50%) between suffer or not from neck pain due to smart phone addiction.

**Table 2: Assessment of the Text Neck Syndrome among Baghdad University's Students:**

Items	Mean	Ass
1. Missing planned work due to smartphone use	4.37	H
2. Having a hard time concentrating in class, while doing assignments, or while working due to smartphone use	4.11	M
3. Experiencing lightheadedness due to excessive smartphone use	4.00	M
4. Feeling pain in the wrists or at the back of the neck while using a smartphone	4.03	M
5. Feeling tired and lacking adequate sleep due to excessive smartphone use	4.02	M
6. Feeling calm or cozy while using a smartphone	4.33	M
7. Feeling pleasant or excited while using a smartphone	4.38	H
8. Feeling confident while using a smartphone	3.95	M
9. Being able to get rid of stress with a smartphone	4.07	M
10. There is nothing more fun to do than using my smartphone.	3.87	M
11. My life would be empty without my smartphone.	3.94	M
12. Feeling most liberal while using a smartphone	4.15	M
13. Using a smartphone is the most fun thing to do.	4.07	M
14. Won't be able to stand not having a smartphone	4.63	H
15. Feeling impatient and fretful when I am not holding my smartphone	4.16	M
16. Having my smartphone in my mind even when I am not using it	3.81	M
17. I will never give up using my smartphone even when my daily life is already greatly affected by it.	3.67	M
18. Getting irritated when bothered while using my smartphone	4.06	M
19. Bringing my smartphone to the toilet even when I am in a hurry to get there	3.54	M
20. Feeling great meeting more people via smartphone use	3.91	M
21. Feeling that my relationships with my smartphone buddies are more intimate than my relationships with my real-life friends	3.57	M
22. Not being able to use my smartphone would be as painful as losing a friend.	3.59	M
23. Feeling that my smartphone buddies understand me better than real friends	3.37	M
24. Constantly checking my smartphone so as not to miss conversations between other people on Twitter or Facebook	4.00	M
25. Checking SNS (Social Networking Service) sites like Twitter or Facebook right after waking up	4.30	M
26. Preferring talking with my smartphone buddies to hanging out with my real-life friends or with the other members of my family	3.26	M
27. Preferring searching from my smartphone to asking other people	4.34	H
28. My fully charged battery does not last for one whole day.	4.55	H
29. Using my smartphone longer than I had intended	4.26	M
30. Feeling the urge to use my smartphone again right after I stopped using it	4.26	M

31. Having tried time and again to shorten my smartphone use time	4.05	M
32. Always thinking that I should shorten my smartphone use time	4.50	H
33. The people around me tell me that I use my smartphone too much.	3.79	M
Overall	4.03	M

Ass. = Assessment items, L = low risk for smartphone addiction (1 – 2.66), M = Moderate risk for smartphone addiction (2.67-4.33) and H= High risk for smartphone addiction (4.34-6).

The results in Table (2) shows that the assessment of text neck syndrome among Baghdad University's students was moderate, with a mean of 4.03 (Min - Max 1 - 6). The higher percentage that showed in the item number 14, with a mean 4.63 and the lower percentage showed in the item number 2 and 23 with a mean of 3.37.

**Table 3: Distribution of Students Risk for Smartphone Addiction Level TextNeck Syndrome:**

Level	Range	F	%	Mean	SD
Low	33 – 88	18	8.9	132.92	29.070
Moderate	88.01 - 143	109	54.0		
High	143.01 - 198	75	37.1		
Total	33 - 198	202	100.0		

F= frequency, %= percentage

Table (3) shows that the levels of students’ risk for smartphone addiction at most (54%) were moderate with mean 132.92 (Min- Max 33 - 198).

## Discussion

Table (1) showed that the total sample was (n= 202) participants. The results showed the age of the Baghdad University students’ was from (18 - 24 years) represented the majority (93.1%), they were young adult with a mean (21.36) years. These results are similar to the study findings of Kumari <sup>(9)</sup> that presented the most percent (73.4%) was the age group of (18-24) years.

While the study of Shin <sup>(2)</sup> reported that the ages from (45-70) years represented the most prevalence age group for smart phone using. Regarding the sex, the most percent (50.5) were male students rather than female, this results is disagree with study result of Salameha <sup>(10)</sup> which showed that the female student formed the highest percent (65.2%) of the sample. The study of Shin <sup>(2)</sup> revealed that a burden of neck pain due to smart phone addiction was higher in females rather than males.

The study showed a highest percent (33.7%) were from Nursing College, the most percent (66.3%) were from a medical specialty who agree to participate in the study, and the second stage students represented the most percent (36.6%), respectively. The study findings of Kamalakannan <sup>(11)</sup> was involved a six medical colleges and reported a (428) medical students. Also the outcomes showed that more students were from the 4<sup>th</sup> academic stage as a percent of (29%). This refers to that the medical specialty students need a smart technology tools and digitals to perform their assignment and duties.

In relation to have smart devices among the students, the results also showed that the majority (97.5%) of them have the smart devices according the demands of their studies that require the smart phone and digitals usage. In addition to, more than half percent (56.9%) have from two to three smart device. The study done by Jahre<sup>(3)</sup> who mentioned that an excessive usage of the smartphone had a psychological and negative effects on the physical health as general.

The highest percent (69.8%) of the sample were used the smart devices or phone from five hours and more daily. The study results are similar to study of Kamalakannan<sup>(11)</sup> that revealed the percent of (70%) were stay on the phone for more than 5 hours.

In regard to the hand that hold device, more than half (57.9%) of the participants were used both hands when holding the smart phone, this finding is not corresponding with a result that performed by Salameha<sup>(10)</sup> who revealed that the right hand was used as the major percent (84.7%) among the participants rather than both hands.

The percent (51.0%) of the sample were used the smart devices for more than a particular purposes. The study results of Kumari<sup>(9)</sup> who reported the smartphones were needed for a various daily duties like educational purposes, music listening, gaming, and a many other actions. Also, a lot of people were spending much more time on their smartphone that had risen the addiction level.

Table (1) also revealed an equal percentage (50%) between suffer or not from a neck pain due to smart phone dependence, and that lead to increase the risk of text neck syndrome among the colleges students. The results of Kamalakannan<sup>(11)</sup> study reported that the neck pain with increased the intensity occur in (73%) of the sample in spite of the major (90%) of them have an awareness about the text neck pain.

The results in table (2) shown that the assessment of text neck syndrome level among the Baghdad University's students was moderate, with a mean of (4.03). This give a rise to increase the risk of getting the text neck syndrome.

The study of Salameha<sup>(10)</sup> suggested that the prevalence of text neck syndrome among medical students complained from slight neck disorders, and found many risk factors that lead to this overuse syndrome which resulting from a repetitive neck flexion forward due to number of used digital devices, physical activity level, and spending long time while sitting position.

In regard to the distribution of risk for smart phone and digitals usage, table (3) demonstrated a moderate level of students' risk that lead to text neck syndrome and disability with more than half of the participant (54%) and mean of (132.92). The study of Kumari<sup>(9)</sup> findings revealed that a percent of (62.92%) of the sample have no disability risk for text neck syndrome.

## **Conclusions**

Based on the results, the study concluded that the text neck syndrome is caused by a prolonged time on the smart devices and digitals such as cell phones, computers, tablets, and others. Which

cause pain, discomfort, neck posture deformity and further complications. The results of this study showed that the neck disability among the participants was moderate level as compared to the previous studies' outcomes.

More than half of the participants have a risk to text neck syndrome and disability.

### **Recommendations**

The study recommended that the prevention is the main step to avoid the text neck syndrome, through a certain essential measures in the daily life such as: a prolonged use of phone avoidance, manage a rest time adequately, a proper body posture while using the digitals to decrease the stress on heads and neck also on the upper extremity during swiping or typing. Also, reducing the heavy weight phone holding and any other devices in one hand for long time duration.

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## Diabetes Self- Care Activities of Pregnant Women with Gestational Diabetes at Maternity Hospitals

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### Abstract

**Objectives:** To Assess Self-Care Activities of Gestational Diabetes for pregnant women. To find out the association between Self-Care Activities with women's demographic and reproductive variables.

**Methods:** Descriptive study was conducted between December 2024 and April 2025 at the maternity hospitals in Baghdad city. Non-probability (purposive sample) was used to collect the data from (100) pregnant women. A questionnaire was adopted and prepared by the students based on the previous studies. Content validity was used by a panel of (8) experts. The Arabic version of the adapted tool revealed adequate content validity, satisfactory internal consistency (Cronbach's alpha = 0.74), and test-retest reliability (Pearson correlation coefficient = .67). Data were analyzed through the use of SPSS version 26.

**Results:** The highest percentage (29%) of women's age is (20-29) years. Graduated from primary school (24%). The highest percentage of them (64%) have previous family history of diabetes. The majority of women have poor diabetes self-care activities except for glucose monitoring was good to half of them (50%). There are highly statistically significant differences between pregnant women's Diabetes Self-Care Activities/ Blood Sugar Testing subdomain with women's educational level, occupation, HbA1C, gravidity, and parity at p. value (0.000). Also, there are significant association with family history of gestational diabetes, gestational age at gestational diabetes diagnosis, routine prenatal care visits.

**Conclusion:** This study shows that the majority of women have poor diabetes self-care activities except for glucose monitoring subdomain was good. There are also highly statistically significant differences between self-care activities and demographic, reproductive health, and gestational diabetes data.

**Recommendations:** Nurses play essential role in providing knowledge, improving skills, or adherence to diabetes self-care activities of the pregnant women that could impact maternal and neonatal health outcomes.

**IRAQI**

Academic Scientific Journals

### Article info:

Article history:

**Received:** 28/08/2025

**Accepted:** 05/11/2025

**Published:** 31/12/2025

### Keywords:

*Practices, Postpartum Care, Gestational Diabetes*

## انشطة العناية الذاتية لداء السكري لدى النساء الحوامل المصابات بسكري الحمل في مستشفيات الولادة المستخلص:

**الأهداف:** تقييم أنشطة الرعاية الذاتية لسكري الحمل لدى النساء الحوامل. معرفة العلاقة بين أنشطة الرعاية الذاتية والمتغيرات الديموغرافية والإنجابية للمرأة.

**المنهجية:** أجريت الدراسة الوصفية بين ديسمبر 2024 وأبريل 2025 في مستشفيات الولادة في مدينة بغداد. تم استخدام عينة غير احتمالية (عينة هادفة) لجمع البيانات من (100) امرأة حامل. وقد تم اعتماد وإعداد الاستبيان من قبل طلبة البحث بناء على الدراسات السابقة. تم استخدام تقويم الاستبانة من قبل لجنة مكونة من (8) خبراء. أظهرت النسخة العربية من الأداة المُعتمدة صحةً محتوى كافية، واتساقاً داخلياً مُرضياً (ألفا كرونباخ = 0.74)، وموثوقية إعادة الاختبار (معامل ارتباط بيرسون = 0.67). وتم تحليل البيانات باستخدام برنامج SPSS الإصدار 26.

**النتائج:** أظهرت النتائج الرئيسية أن أعلى نسبة (29%) لعمر النساء هي (20-29) سنة. تخرجن من المدرسة الابتدائية (24%). أعلى نسبة منهن (64%) لديهن تاريخ عائلي سابق للإصابة بالسكري. غالبية النساء لديهن أنشطة رعاية ذاتية ضعيفة لمرض سكري الحمل باستثناء مراقبة الجلوكوز التي كانت جيدة لنصفهن (50%). توجد فروق ذات دلالة إحصائية عالية بين أنشطة الرعاية الذاتية لمرض سكري الحمل/ فحص سكر الدم لدى النساء الحوامل مع المستوى التعليمي للمرأة، والمهنة، ومستوى الهيموغلوبين السكري (HbA1C)، وعدد مرات الحمل، وعدد مرات الولادة عند مستوى معنوية (0.000). كما يوجد ارتباط كبير مع التاريخ العائلي للإصابة بسكري الحمل، وعمر الحمل عند تشخيص سكري الحمل، وزيارات الرعاية الروتينية قبل الولادة.

**الاستنتاجات:** تُظهر هذه الدراسة أن غالبية النساء يعانين من ضعف في أنشطة الرعاية الذاتية لمرض سكري الحمل، باستثناء الجزء المتعلق بمراقبة الجلوكوز الذي كان جيداً. وكما ان هناك فروق ذات دلالة إحصائية عالية بين أنشطة الرعاية الذاتية والبيانات الديموغرافية والصحة الإنجابية وبيانات الإصابة بمرض سكري الحمل.

**التوصيات:** الممرضات لديهن دوراً أساسياً في توفير المعرفة وتحسين المهارات والالتزام بأنشطة الرعاية الذاتية لمرض سكري الحمل لدى النساء الحوامل، مما قد يؤثر على صحة الأم والوليد

**الكلمات المفتاحية:** أنشطة العناية الذاتية ؛ مرض السكري ؛ سكري الحمل ؛ النساء الحوامل؛ مستشفيات الولادة.

## Introduction

Gestational diabetes is the most prevalent and harmful pregnancy complication. It is a common complication in pregnancy affecting one in six pregnancies. The maternity services are under significant strain managing the increasing number of complex pregnancies. This has an impact on pregnancy outcomes. Therefore, there is a clear need to address pregnancy care and prenatal education. One possible solution is to use self-care activities to reduce complication and improve pregnancy outcomes <sup>(1)</sup>. Gestational diabetes is one of the most common health problems during pregnancy, and can lead to serious complications for the mother and fetus if not managed properly. Assessing self-care activities helps determine how well women are adhering to treatment plans, which contributes to preventing these complications and improving health outcomes <sup>(2)</sup>.

Self-care activities significantly reduce maternal and fetal complications associated with gestational diabetes, as evidenced by studies showing improved outcomes in women who engaged in self-care programs. Providing women knowledge and positive attitude is essential, the educational interventions have been shown to enhance knowledge and positive attitudes towards managing gestational diabetes, leading to better self-care practices <sup>(3)</sup>. Nurses role in improving awareness and providing health education for women with GD are important to better understand their condition and how to manage it on a daily basis by learning the importance of a low-carbohydrate diet, how to measure blood sugar levels and analyze results. Also, the nursing psychological support is essential to encourage them adherence to treatment plans <sup>(4)</sup>.

Guiding health policy by studying self-care activities, effective health strategies can be developed at the hospital level or at the national policy level. For example, developing electronic

monitoring programs for pregnant women with gestational diabetes. Allocating resources to improve health education in primary care settings <sup>(5)</sup>. Gestational diabetes leads to maternal, fetal and neonatal complications as preeclampsia, polyhydramnios, preterm labor, shoulder dystocia, infection, cesarean section, fetal demise, fetal malformation, macrosomia, hypoglycemia, hyperbilirubinemia, respiratory distress syndrome and perinatal mortality. Furthermore, in later life, other complications may develop and affect both women and their infants as obesity, type 2 diabetes mellitus, heart diseases and neuropsychological problems <sup>(6)</sup>.

The pregnant women's attitude towards gestational diabetes could directly affect their perception of the need for special training, the way they live with diabetes, the way they magnitude the short term and long-term complications and their attitude affect their autonomy in the treatment and their style or channels when communicating with the medical care team and finally their evaluation about the disease seriousness. Therefore, taking individuals' opinions and beliefs into consideration is very important for developing the strategies of managing diabetes <sup>(7)</sup>. Gestational diabetes self-care practices embrace many activities as self-monitoring of blood sugar level, controlling weight and checking one's feet. It has been significantly proven in several studies that, teaching women with diabetes or other chronic diseases about self-care practices have multiple benefits. Generally, self-care is influenced by attitudes, personal beliefs and community culture in which one lives <sup>(2)</sup>.

Preventing and reducing complications during antenatal, perinatal & postnatal periods as much as possible by teaching women about exercise, diet regimen and treatment during their pregnancy period. In addition, they should empower high risk women by raising their awareness, giving advice and support to decrease the risks of adverse perinatal Counselling before and during pregnancy along with effective management are crucial for good perinatal outcomes. The maternity nurse's key role outcomes <sup>(8)</sup>. The seriousness of GD and the dramatically increasing incidence of this disease make it one of the most urgent health challenges of this century. It is thus important to raise public awareness of this disease and to ameliorate the harmful effects of GD once diagnosed. In addition, there is a limited evidence of successful intervention studies for women with GD and seemingly, no consistent approach to treat this disease so raising women awareness, personal beliefs and the value of GD self-management is crucial to prevent adverse pregnancy outcomes <sup>(9)</sup>.

In developing countries there is inadequacy of data on the quality of health care services offered to gestational diabetic women, lack of national guidelines for the screening and management of GD, lack of knowledge about GD effect, management as well as nursing care measures to reduce complications and to educate the pregnant women self-care measures. Also, there is an imperative

need for the development of health resources to teach, motivate and empower women to self-manage and control their GD <sup>(10)</sup>.

So this study was designed to assess the effect of educational sessions on knowledge, attitude and self-care practices among pregnant women with gestational diabetes.

## **Methods and materials**

### **Design of the study:**

Quantitative study employs a descriptive cross-sectional design, which was used to assess self-care activities of gestational diabetes for pregnant women.

### **Setting of the study:**

The study was conducted at the maternity teaching hospitals in Baghdad city were chosen as two hospitals from AL- Rusafa health directorate which include, Al-Elwya Maternity Teaching Hospital (20) & Ibn Al-Balady Children & Maternity Hospital (10). Two hospitals from AL- Karkh health directorate which include, Al-Imamain Al-Kadhimain Medical City (20) & Al-Yarmook Teaching Hospital (10). Also, one hospital from Medical city directorate Baghdad teaching hospital (25).

### **Sample of the Study:**

Non probability (purposive) sample consisted of (100) pregnant women and their inclusion criteria include women at second and third trimester of pregnancy, women have singleton pregnancy, and women without any obstetric complication other than GD. Exclusion criteria include women at first trimester of pregnancy, women have multiple pregnancy, and women have any obstetric complication with GD.

### **Instrument of the study:**

#### **Data collection**

The data were collected by a questionnaire that consists of demographic data, reproductive health data, gestational diabetes data, and self-care activities for gestational diabetes which includes three sub-domain adopted scale from open access article titled "Translation and psychometric validation of the Arabic version of summary of the Diabetes Self-Care Activities (SDSCA) among pregnant women with gestational diabetes". The Arabic version was used in the study to collect the data.

### **Validity and reliability:**

Content validity was determined by a panel of specialized (7) experts in maternal and neonate nursing, one from pediatric nursing, and one from adult nursing. To ensure reliability of the questionnaire, questions were formulated according to the adopted valid and reliable scale already tested and open access published to achieve the study objectives. The Arabic version of the adapted SDSCA tool revealed adequate content validity, satisfactory internal consistency (Cronbach's alpha = 0.74), and

test-retest reliability (Pearson correlation coefficient = .67). Exploratory factor analysis revealed three factors that fit data satisfactory: diet, exercise, and blood glucose monitoring.

### Data collection

The data were collected through the utilization of the questionnaire, it was provided to the pregnant women for assess self-care activities of gestational diabetes for pregnant women, from January to March 2025. The questionnaire takes about (15-20 min) to fill out form the participants.

### Data Analysis

IBM-Statistical Package for Social Sciences (SPSS) version 26 was used to analyse the data, and both descriptive and inferential statistical measures were used. Descriptive statistics are used to analyses the demographic data.

### Ethical consideration

Ethical considerations were including obtaining consent from all women, who were informed of the study’s objectives, purpose. The women were also told that the study’s results would be used solely for research purposes, and that participation was voluntary. All participants were made aware of their autonomy and right to refuse involvement. Consent forms were obtained from participants prior to data collection.

### Result

**Table (1) Distribution of Study Sample According to Demographic Characteristics**

Demographic Characteristics	F	%
<b>Age / years</b>		
< 20	18	18.0
21-29	<b>29</b>	<b>29.0</b>
30-39	28	28.0
40-49	25	25.0
Mean= <b>30.5</b> ± SD= <b>9</b>		
<b>Women Educational Level</b>		
Read and Write	9	9.0
Primary School	<b>24</b>	<b>24.0</b>
Intermediate School	19	19.0
Secondary School	19	19.0
Institute	9	9.0
College	14	14.0
Higher Education	6	6.0
<b>Husband Educational Level</b>		
Read and Write	3	3.0
Primary School	7	7.0
Intermediate School	12	12.0
Secondary School	<b>32</b>	<b>32.0</b>
Institute	16	16.0
College	22	22.0
Higher Education	8	8.0

<b>Women's Occupation</b>		
Student	11	11.0
Work	16	16.0
Housewife	<b>73</b>	<b>73.0</b>
<b>Husband Occupation</b>		
<b>Free work</b>	<b>51</b>	<b>51.0</b>
<b>Employee</b>	23	23.0
<b>Military</b>	20	20.0
<b>Doesn't work</b>	6	6.0
<b>Family type</b>		
Nuclear	22	22.0
Extended	<b>50</b>	<b>50.0</b>
Shared	28	28.0
<b>Address</b>		
Urban	<b>64</b>	<b>64.0</b>
Rural	10	10.0
Suburbs	26	26.0

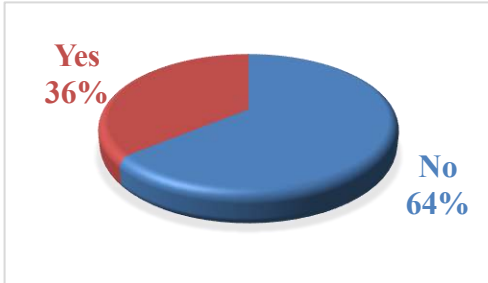
This table illustrates that the highest percentage (29%) of women's age is (21-29) years. Graduated from primary school (24%). Most of them (73%) occupation is housewives. Regarding their husband education, more than third of them (32%) are graduated from secondary school. More than half of them (51%) have free work. Regarding of the family type the higher percentage of them (50%) are living with extended family and they have somewhat sufficient income (51%).

**Table (2) Distribution of Study Sample According to Reproductive Characteristics**

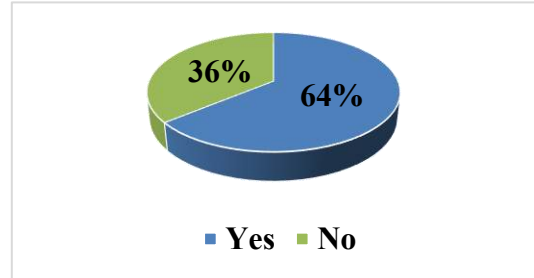
Reproductive Characteristics	F	%
<b>Planned Pregnancy</b>		
<b>Yes</b>	33	33.0
No	<b>67</b>	<b>67.0</b>
<b>Gestational Age</b>		
<b>Second Trimesters</b>	22	22.0
Third Trimesters	<b>78</b>	<b>78.0</b>
<b>Gravidity</b>		
<b>1</b>	9	9.0
2-4	<b>52</b>	<b>52.0</b>
<b>≥ 5</b>	39	39.0
<b>Parity</b>		
<b>0</b>	9	9.0
<b>1</b>	19	19.0
2-4	<b>45</b>	<b>45.0</b>
<b>≥ 5</b>	27	27.0
<b>Abortion</b>		
<b>0</b>	<b>91</b>	<b>91.0</b>
<b>1-2</b>	5	5.0
<b>≥ 3</b>	4	4.0
<b>Alive children</b>		
<b>0</b>	9	9.0
<b>1</b>	20	20.0
2-4	<b>42</b>	<b>42.0</b>

5-7	29	29.0
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This table shows that the highest percentage (67%) of pregnant women have unplanned pregnancy. the majority of them in the third trimester. The higher percentage of them have got gravida (2-4), para (2-4), and they haven't had an abortion. Regarding having alive children, more than one-third of them (42%) have (2-4) alive child.



History of Gestational Diabetes



Family History of Diabetes

Figure (1)

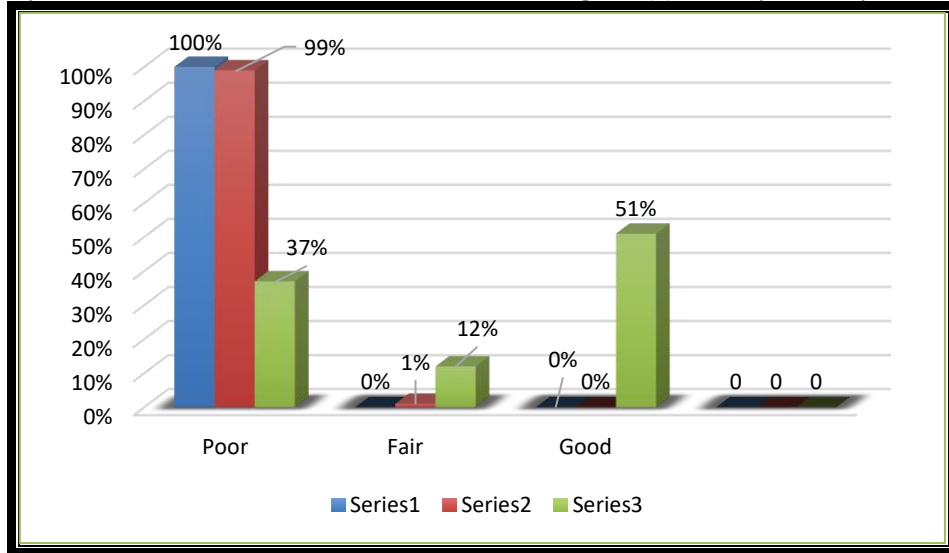


Figure (3) Diabetes Self- Care Activities for Pregnant Women

Table (2) Association between Participants' Diabetes Self- Care Activities and Study Variables

DSCA Variables	Chi square statistics							
	DSCA Exercise				DSCA Blood Sugar Testing			
	Value	Df	P-value	Sig.	Value	df	P-value	Sig.
Age / years	3.030	3	.387	NS	8.529	6	.202	NS
Women Educational Level	10.213	7	.177	NS	54.619	14	.000	HS
Women's Occupation	.374	2	.830	NS	31.174	4	.000	HS
Income Sufficiency	.970	2	.616	NS	1.815	4	.770	NS
Previous History of Gestational Diabetes	1.796	1	.180	NS	.972	2	.615	NS
Family History of Gestational Diabetes	.568	1	.451	NS	11.290	2	.004	H
Gestational Age at Diagnosis	4.602	6	.596	NS	29.977	12	.003	H
HbA1C (% , mmol/)	.151	1	.698	NS	16.920	2	.000	HS
Routien Prenatal Care visits	1.395	1	.238	NS	12.682	2	.002	H

<b>Women's Knowledge of Self- Care Activities</b>	.076	1	.783	NS	.233	2	.890	NS
<b>Gestational Age</b>	.285	1	.594	NS	3.999	2	.135	NS
<b>Gravidity</b>	1.580	2	.454	NS	30.606	4	.000	<b>HS</b>
<b>Parity</b>	1.235	3	.745	NS	28.134	6	.000	<b>HS</b>
<b>Abortion</b>	19.192	2	.000	<b>HS</b>	5.774	4	.217	NS

(df) degree of freedom, (Sig) significant Probability value ( $P < 0.05$ ), (NS) Non-Significant,

This table results shows that there are highly statistically significant differences between pregnant women's DSCA Blood Sugar Testing with women's educational level, occupation, HbA1C, gravidity, and parity at p. value (0.000). Also, there are significant association between women's DSCA Blood Sugar Testing with Family History of Gestational Diabetes, Gestational Age at Gestational Diabetes Diagnosis, Routine Prenatal Care visits at p. value (0.004), (0.003), (0.002) respectively. Moreover, there is highly statistically significant differences between pregnant women's DSCA Exercise with abortion at p. value (0.000). On the other hand, there are no statistically significant differences between pregnant women's DSCA Blood Sugar Testing and DSCA Exercise with the left-over study variables.

## Discussion

Nutrition counselling provides a critical communication channel between the patient and healthcare provider to identify the patient's nutritional problems, needs and goals, and ways to achieve them. However, the setting where the counselling is conducted may impact the effectiveness of the practice. For example, many evidence-based nutrition actions achieve the desired outcomes when women and mothers use a recommended nutrition practice at home <sup>(8)</sup>. This study result related to women's age agreed with study by Xu et al.,(2024) where was the participants were between 25 and 33 years old with an average age of 29 years <sup>(11)</sup>. But this result disagree with study by Sayakhot et al., (2016) where was the majority of mothers was 29 years <sup>(12)</sup>, and disagree with study by Saboula et al., 2018 more than half of the pregnant women with gestational diabetes (56.7%) their ages were 35 years and more, they observed that the age plays important role in getting gestational diabetes and reported that about 86.8% of women in GDM group were over 25 years. No woman under the age of 20 years was found in this study population <sup>(13)</sup>.

Regarding to the education level of mothers the majority of mothers was Graduated from primary school (24%) and Most of them (73%) occupation is housewives and these results disagree with study by Zandinava et al., (2017) where was more than half of the participants (54%) had high school education, whereas the majority of the spouses (41%) had university education. Most women (89%) were housewives and over half of husbands (54%) were employees <sup>(2)</sup>. While this result disagree with study by Sayakhot, et al.,(2016) where 27.6 % had a tertiary certificate or diploma,

and one-third of women reported working full-time (33.6 %), 17.0 % worked part-time, while the remainder reported home duties (31.0 %), no paid work (9.5 %), or unemployed (7.8 %) <sup>(12)</sup>. Also disagree with study by Saboula et al., 2018 where was the higher percentage of GDW can't read and write while the lower percentage of them was among elementary school education. Women with primary school education had an increased risk of GDM compared to women of a higher educational level reported that the higher percentage of GDW under study was among secondary school <sup>(13)</sup>.

Regarding to pregnancy trimester the majority of women was in the third trimester and this result disagree with study by El-Ansary & Fouad, (2020) where was the average gestational age of the current pregnancy was  $31.9 \pm 3.5$  with 41.2% of the women were between 24 weeks and 25 weeks and 58.8% of them were between more than 25 weeks to 27 weeks <sup>(3)</sup>. Among pregnant women and also disagree with study by Sayakhot, et al., (2016). Where the majority (63.8 %) of women was were diagnosed with GDM in the second trimester of pregnancy, with mean gestational age 24.5 weeks (range 4–37 weeks) <sup>(12)</sup>.

Investigating whether a person has a prior history of gestational diabetes is essential, as research has demonstrated a strong connection between gestational diabetes mellitus (GDM) and various long-term health consequences for both mothers and their children these results was consistent with the current study result. Evidence suggests that women who have experienced GDM face a significantly higher risk-up to seven times greater of developing type 2 diabetes later in life compared to those without such a history <sup>(14)</sup>. Recent studies have also highlighted the role of lifestyle interventions, such as diet and exercise, in reducing the incidence of type 2 diabetes in women with a history of GDM <sup>(15)</sup>. Therefore, understanding an individual's history of gestational diabetes is not only pertinent for immediate maternal and fetal health but also for long-term health trajectories.

Among women with GDM, 18.53% had a family history of diabetes, 2.12% had hypertension, 4.16% had dyslipidemia, and 12.11% had prediabetes. Women who performed regular exercise and earned a high income more often had GDM relative to those who did not <sup>(16)</sup>.

The results indicating that the diet subdomain has the highest percentage of pregnant women committed to a diet plan two days a week align with previous studies emphasizing the importance of dietary management during pregnancy. Research has consistently shown that proper nutrition is crucial for both maternal and fetal health, as inadequate dietary practices can lead to complications such as gestational diabetes and low birth weight <sup>(17)</sup>. A study by Dempsey et al. (2023) found that pregnant women who adhered to structured dietary plans reported improved health outcomes and lower rates of pregnancy-related issues. Furthermore, the commitment to a diet plan, even if only for two days a week, suggests an increasing awareness among pregnant women about the significance of nutrition <sup>(18)</sup>, which is supported by findings from a systematic review by Smith et

al. (2019) that highlighted the positive impact of dietary interventions on pregnancy outcomes <sup>(19)</sup>. Overall, these findings underscore the critical role of dietary commitment in promoting healthy pregnancies and suggest that even modest adherence to a diet plan can yield beneficial effects.

Regarding exercise subdomain the majority of them committed one day a week in the exercise plan and these results are agreed with study by Haron et al.,(2023) <sup>(20)</sup>.where the results of this study showed that exercise or physical activity had positive results and was able to modify the participants' lifestyles to become healthier. And study by (Kim et al., 2021) ensure that women who performed regular exercise and earned a high income more often had GDM relative to those who did not <sup>(16)</sup>.

This study results shows that there are highly statistically significant differences between pregnant women's DSCA blood sugar testing with women's educational level, occupation, HbA1C, gravidity, and parity at p. value (0.000). Also, there are significant association between women's DSCA blood sugar testing with family history of gestational diabetes and this result agree with study by Xu et al., (2024) where indicated that educational status (p=0.003) has significant association with women's DSCA Blood Sugar Testing <sup>(11)</sup>.

The findings regarding gestational age at the diagnosis of gestational diabetes mellitus (GDM) and the associated p-values (0.004, 0.003, and 0.002) underscore the importance of timely screening and management of GDM during routine prenatal care. These results align with previous studies that have highlighted the critical role of early diagnosis in mitigating adverse maternal and neonatal outcomes. For instance, a study by Landon et al. (2009) demonstrated that early intervention in women diagnosed with GDM significantly reduced the risk of cesarean delivery and macrosomia, reinforcing the need for routine screening as early as the second trimester <sup>(21)</sup>.

## **Conclusion**

Based on the results, the study concluded that Diabetes Self- Care Activities for Pregnant Women was poor among the majority of them regarding diet and exercise, except the subdomain blood sugar monitoring was good. There are highly statistically significant differences between pregnant women's DSCA Blood Sugar Testing with women's educational level, occupation, HbA1C, gravidity, and parity. Also, there are significant association between women's DSCA Blood Sugar Testing with Family History of Gestational Diabetes, Gestational Age at Gestational Diabetes Diagnosis, Routine Prenatal Care visits. Moreover, there is highly statistically significant differences between pregnant women's DSCA Exercise with abortion.

## **Recommendation**

Maternity hospitals serve as critical points of care where pregnant women receive education, monitoring, and support for managing gestational diabetes. Nurses play essential role in providing knowledge, improving skills, or adherence to diabetes self-care activities of the pregnant women that could impact maternal and neonatal health outcomes.

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13. تخضع جميع المخطوطات لفحص الانتحال العلمي باستخدام برامج كشف التشابه مثل Turnitin و iThenticate قبل إرسالها للتحكيم. وقد تُرفض المخطوطات أو تُعاد للمؤلفين لإجراء التعديلات اللازمة في حال وجود نسب تشابه غير مقبولة.

14. يجب على المؤلفين الإفصاح عن أي استخدام لأدوات الذكاء الاصطناعي (AI) في إعداد المخطوطة، ولا يجوز إدراج أدوات الذكاء الاصطناعي كمؤلفين.

15. تُطبق رسوم معالجة المقالات (APC) على المخطوطات المقبولة للنشر فقط. ويلتزم المؤلفون المنتسبون إلى مؤسسات داخل العراق بدفع مبلغ (100,000) دينار عراقي عند قبول المخطوطة، في حين يلتزم المؤلفون من خارج العراق بدفع مبلغ (100) دولار أمريكي عند القبول. ولا يضمن دفع رسوم النشر قبول المخطوطة، إذ تخضع جميع البحوث للتحكيم العلمي والتقييم التحريري.

16. تُنشر المقالات المقبولة وفق سياسة الوصول الحر (Open Access Policy) الخاصة بالمجلة.

17. لا تُعاد المخطوطات المقدمة إلى المؤلفين بغض النظر عن القرار التحريري المتخذ.

للاطلاع على تعليمات المؤلفين التفصيلية، وسياسات النشر، ومتطلبات التقديم، يرجى زيارة الموقع الإلكتروني للمجلة أو التواصل مع هيئة التحرير.

الموقع الإلكتروني: [hnj.uobaghdad.edu.iq](http://hnj.uobaghdad.edu.iq)

## تعليمات المؤلفين

ترحب مجلة التمريض الشامل (HNJ) بنشر البحوث الأصلية، والمقالات المرجعية، ودراسات الحالة، والأوراق العلمية في تخصصات التمريض والرعاية الصحية ذات الصلة.

1. يجب أن تكون المخطوطات المقدمة أصلية، وغير منشورة سابقاً، وغير مقدمة للنشر أو قيد النظر في مجلة أخرى. ولن تُقبل المخطوطات المنشورة سابقاً أو المقبولة للنشر أو المقدمة بالتزامن إلى مجلة أخرى.
2. تخضع جميع المخطوطات لعملية تحكيم علمي مزدوج التعمية (Double-Blind Peer Review) يجريها محكمون متخصصون من داخل العراق وخارجه؛ لضمان الجودة العلمية، والأصالة، وملاءمة البحث لنطاق المجلة.
3. يجب أن تُكتب المخطوطات بلغة إنجليزية واضحة ودقيقة ومناسبة علمياً، وأن تُعد وفقاً للقالب الرسمي للمجلة.
4. يجب أن يتضمن البحث مستخلصاً باللغة الإنجليزية لا يزيد عن (250) كلمة، إلى جانب مستخلص باللغة العربية. ويُكتب عنوان المستخلص (Abstract) بخط Times New Roman حجم 12 غامق (Bold) ، بينما يُكتب نص المستخلص بخط Times New Roman حجم 10 ومحاذاة ضبط النص. (Justified)
5. يجب على المؤلفين تقديم (3-5) كلمات مفتاحية ذات صلة بموضوع البحث، وتُكتب بخط Times New Roman حجم 10 ومائل. (Italic)
6. يجب أن تتضمن المخطوطة الأقسام الآتية:  
العنوان، المستخلص، الكلمات المفتاحية، المقدمة، المنهجية، النتائج، المناقشة، الاستنتاج، والمراجع.
- العنوان Times New Roman :، حجم 16، غامق، وفي منتصف الصفحة.  
•أسماء المؤلفين Times New Roman :، حجم 12، بمحاذاة للييسار.  
•الانتماءات المؤسسية Times New Roman :، حجم 10، بمحاذاة للييسار.  
•العناوين الرئيسية Times New Roman :، حجم 14، غامق.  
•العناوين الفرعية Times New Roman :، حجم 12، غامق ومرقمة.  
•متن البحث Times New Roman :، حجم 12، بمحاذاة ضبط النص، وتباعداً أسطر 1.5.
7. يجب إعداد المخطوطات على ورق بحجم (A4) مع هوامش مقدارها (2.5 سم) من جميع الجهات. ويجب أن يكون النص مضبوط المحاذاة، وأن تظهر أرقام الصفحات في أسفل يمين الصفحة ابتداءً من الصفحة الثانية. كما يجب ألا يتجاوز الحجم الكلي للمخطوطة (10) صفحات، بما في ذلك الجداول والأشكال والمراجع.
8. يجب على المؤلفين تزويد المجلة بأسمائهم الكاملة، وانتماءاتهم المؤسسية، وعناوين بريدهم الإلكتروني، مع تحديد المؤلف المسؤول عن المراسلات بوضوح.
9. يجب إعداد المراجع وفق أسلوب فانكوفر (Vancouver) ، مع توثيقها رقمياً داخل النص وترتيبها رقمياً في قائمة المراجع النهائية.
10. يجب ترقيم الجداول والأشكال تسلسلياً والإشارة إليها داخل متن البحث. كما يجب وضع عناوين الجداول والأشكال أعلاها، وشرح الاختصارات المستخدمة في الحواشي أسفل الجدول أو الشكل.
11. يجب أن تتضمن الدراسات التي تشمل مشاركين من البشر أو الحيوانات موافقة أخلاقية من لجنة الأخلاقيات المختصة أو مجلس المراجعة المؤسسية. (IRB) كما يجب أن يوضح قسم المنهجية إجراءات الموافقة الأخلاقية، والموافقة المستنيرة، والالتزام بالمتطلبات الأخلاقية والمؤسسية المعمول بها.
12. يجب على المؤلفين الإفصاح عن جميع مصادر الدعم المالي، والجهات الممولة، والمؤسسات الراعية، وأي تضارب محتمل في المصالح يتعلق بالعمل المقدم.

1. الأستاذ الدكتور حسين هادي عطية – تمريض / عراقي – رئيس التحرير.
2. الأستاذ المساعد الدكتورة سراب نصر فاضل – تمريض / عراقية – مدير التحرير.
3. الأستاذ المساعد الدكتور ريتشارد موتز هيد – تمريض / بريطاني – عضو هيئة التحرير.
4. الأستاذ المساعد الدكتور نسيم سمير علي صقر – تمريض / سوري – عضو هيئة التحرير.
5. الأستاذة الدكتورة غنى عبد الناصر – تمريض / مصرية – عضو هيئة التحرير.
6. الأستاذة الدكتورة عذراء حسين شوق – تمريض / عراقية – عضو هيئة التحرير.
7. الأستاذ الدكتور زاهد جاسم محمد – أحياء / عراقي – عضو هيئة التحرير.
8. الأستاذ الدكتور لويس سالمون – تمريض / أمريكي – عضو هيئة التحرير.
9. الأستاذة الدكتورة إليزابيث دينر – تمريض / أمريكية – عضو هيئة التحرير.
10. الدكتور عمار أبو هنية – تمريض / أردني – عضو هيئة التحرير.
11. الأستاذ المساعد الدكتور أحمد فالح حسن – تمريض / عراقي – عضو هيئة التحرير.
12. المدرس الدكتور صفد رياض عصام – تمريض / عراقي – عضو هيئة التحرير.
13. المدرس الدكتورة حوراء علي مخلف – تمريض / عراقية – عضو هيئة التحرير.

العنوان:

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رقم الإيداع القانوني:

رقم الإيداع في دار الكتب والوثائق في بغداد: (2827) لسنة 2025.

ISSN 3135-338X



# JN

## مجلة التمريض الشامل

مجلة علمية في التمريض الشامل

المجلد ١ | العدد ٢ | ٢٠٢٥

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دار الكتب والوثائق في بغداد: ٢٨٢٧ لسنة ٢٠٢٥