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Maternal and Neonatal Outcomes Associated With Unintended Pregnancy: Hasil Kehamilan dan Bayi Baru Lahir yang Terkait dengan Kehamilan yang Tidak Direncanakan

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Abstract

Unintended pregnancy remains a major public health concern worldwide, particularly in low- and middle-income countries, where its consequences on maternal and neonatal health are substantial. This study aims to examine the association between unintended pregnancy and adverse maternal and neonatal outcomes among pregnant women attending a teaching hospital in Tikrit, Iraq. A descriptive cross-sectional design was employed, involving 90 women with unintended pregnancies. Data were collected using a validated structured questionnaire and analyzed using descriptive statistics. The findings reveal high proportions of maternal complications, including anemia, urinary tract infections, gestational diabetes, and hypertension. Neonatal outcomes were similarly concerning, with notable rates of low birth weight, prematurity, respiratory distress, low Apgar scores, and neonatal mortality. The study provides novel context-specific evidence demonstrating that unintended pregnancy is closely associated with underutilization of antenatal care and increased psychosocial stress, contributing to poor health outcomes. These findings extend existing literature by highlighting the compounded maternal–neonatal risks within underserved populations. The results underscore the need for strengthened reproductive health services, improved access to family planning, and early prenatal care interventions to mitigate adverse outcomes and improve maternal and neonatal health at both clinical and policy levels.

Keywords: Unintended Pregnancy, ,Maternal Health Outcomes, Neonatal Morbidity, Reproductive Health Services, Public Health Risk

Highlights:

- Unintended pregnancy associates with high maternal medical complications
- Neonatal morbidity and mortality rates remain substantially elevated
- Improved reproductive health access is critical for outcome prevention

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Introduction

Unintended pregnancies refer to those that are either mistimed, unplanned, or undesirable at the moment of conception. Unintended pregnancies encompass unwanted pregnancies for at least one partner in the partnership [1]. Unintended pregnancy is a significant public health concern and a critical reproductive health issue, encompassing accidental pregnancies defined as those that are undesired by one or both couples. Unintended pregnancy is seen as a high-risk condition linked to elevated rates of adverse outcomes for the mother, partner, and infant [2]. These cohorts of women exhibit heightened susceptibility to suicide and depression, inadequate nutrition during gestation, mental health disorders, unstable familial relationships, exposure to physical and psychological violence, increased risk of miscarriage, and delayed initiation of prenatal care [3]. Moreover, unwanted pregnancy elevates the likelihood of forced labor and negative neonatal outcomes, including preterm birth and low birth weight. Women experiencing unexpected pregnancies undergo a challenging and contemplative decision-making process, irrespective of their choice to terminate the pregnancy or to carry it to term.[4,5]. Unwanted pregnancies have direct effect on health on women and birth which effect on psychological problems, and social, economic for families. They probably have stress, inadequate social support, and money problems, which are likely to make health disparities worse and make it harder to get the care they need [6,7]. It may be effect on family relationships, work, work, and finally lead for lasting effect for both child and mother. Evaluating these associations in modern populations would yield essential data to enhance public health initiatives, reproductive healthcare, and strategies to alleviate the consequences of unintended pregnancies [8]. The actual study attempted to compile the existing evidence for the aforementioned relationships to inform the formation of effective policies and programs designed to improve maternal and child health outcomes[9,10].

Method

Study Design:

A descriptive, cross- sectional study was enrolled from 16/12/2024 to 20/3/2025 in Tikrit teaching Hospital in Tikrit City

Study Sample :

Ninty samples of unwanted pregnancies was selected based on exclusion and inclusion criteria.

Methods of data collection :

This study utilized a structured questionnaire as the instrument for data collection. At first, the questionnaire was made by translating Arabic into English. Before the interviews, each participant was asked for verbal permission, and the necessary information was taken from their records. It took about 15 to 20 minutes to get the data from each participant.

Validity:

A panel of seventeen experts from various fields to assess its content validity in terms of clarity, relevance, and applicability, hence enhancing confidence in the results.

Reliability of the Study Instrument:

John Pearson A strong reliability was shown with an r-value of 0.83, which was significant at the $P < 0.05$ level, when correlation coefficients were computed to evaluate the study instruments' dependability utilizing Test-retest reliability coefficients. This proves that the instruments are solid and trustworthy.

Statistical Analysis

For the statistical analysis of the data, this study used SPSS software version 26 and Microsoft Excel. The link between the risk factors of interest and the outcomes was assessed using qualitative variables such as frequency (%), crude and adjusted odds ratio.

Result

The table (1) provides information about of Socio-demographic characteristics of the study participants, measuring variables mothers' age educational level, occupation, number of children, residency and Smoking status

	Variables	Frequency	Percentage
Age	15-22 Years	17	18.8%
	23-30 Years	26	28.8%
	31-38 Years	42	46.6%
	39-46 Years	5	6.7%
Body Mass Index	Underweight	7	7.7%
	Healthy weight	31	34.4%
	Overweight	40	44.5%

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	Obesity	12	13.3%
Number of children	1	15	16.6%
	2	19	21.1%
	3	39	43.3%
	4 and above	17	18.8%
Occupation	Employed	45	50.0%
	Housewife	29	32.2%
	Student	16	17.7%
Education level	Illiterate	23	25.5%
	Read and write	25	27.77%
	Primary education	13	14.4%
	Secondary education	25	27.7%
	High education	5	5.5%
Residency	Urban	43	47.7%
	Rural	47	52.2%
Smoking status	No	77	85.5%
	Yes	13	14.4%
Total		**90**	**100.0**

Table 1. **Table (1): Description of Socio-demographic characteristics of the study participants (90)**

Variables	**Categories**	**Frequency**	**Percentage**
Neonate weight	Less than 2.5kg	25	31.25%
	More than 2.5kg	65	66.6%
NICU	Yes	13	14.4%
	No	77	85.5%
Prematurity	Yes	25	31.25%
	No	65	72.2%
Respiratory Distress	Yes	35	38.8%
	No	55	61.1%
Meconium aspiration	Yes	29	32.2%
	No	61	67.7%
Apgar score at 5min	0-3	20	25%
	4-7	23	28.75%
	8-10	10	12.5%
Congenital anomalies	Yes	11	12.2%
	No	79	87.7%
Neonatal mortality	Yes	13	14.4%
	No	77	85.5%
Total		**90**	**100.0**

Table 2. **Table (2): Description of Neonatal out come**

Table (2): this table shows the neonatal outcome that born with unintended pregnancy. Neonate weight less than 2.5kg are (31.25%), while more than 2.5kg are (66.6%), NICU (14.4%), prematurity (31.25%), respiratory distress (38.8%), meconium aspiration (32.3%),and Apgar score at 5min (0-3) 25%, (4-7) 28.75% , and (8-10) 12.5%.

Item	**Frequency**	**Percentage**
Gestational hypertension	35	38.8%
Gestational diabetes	39	43.3%
Anemia	57	63.3%
Urinary tract infection	61	67.7%
Premature rupture membrane	23	25.5%
Antepartum bleeding	29	32.2%
Total	90	100.0

Table 3. **Table (3) : Me dical C onditions Associated with Unintended C urrent Pregnancy**

Table (3): present the frequencies and percentages of maternal medical conditions of unintended pregnancy in relation to different variables gestational hypertension (38.8%), gestational diabetes (43.3%), anemia (63.3%), UTI (67.75%), premature rupture membrane (25.5%) and antepartum bleeding (32.2%).

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Variables		F.	%
Type of delivery	Vaginal	38	42.2
	Cesarean	37	41.1
	Obstructed	15	16.6
Gestational age at delivery	Preterm (<37weeks)	16	17.7
	Term(37-40weeks)	45	50
	Post term (>40weeks)	29	32.2
Bleeding after birth			
	Yes	35	38.8
	No	65	72.2
Maternal morbidity	Yes	29	32.2
	No	49	67.7
Total		90	100.

***F: frequency, %: percentage*

Figure 1. **Table (4) Description of Maternal out comes**

Discussion

The current study in Table (1) shows of Socio-demographic characteristics of the study participants, measuring variables mothers' age 31-38 Years(46.6%)educational level (27%), Overweight(44.5%) occupation, number of children, about the residency the rate of unplanned in rural area (52.2%)higher than urban, researcher opinion about this result of residence , the rate is higher in rural because can be influenced by a variety of factors including education , cultural norms and access to healthcare that conducted with [11]

Regarding table (2) that shows various perinatal factors and their potential association with neonatal outcome, The data reveal a concerning neonatal mortality rate of 14.4% (13 out of 90), highlighting a high-risk population that need careful clinical attention, A significant proportion of neonates (31.25%) had a low birth weight (LBW), defined as less than 2.5 kg. LBW is a well-established risk factor for a multitude of neonatal complications and is often linked to prematurity and intrauterine growth restriction. Respiratory distress was a common condition, affecting 38.8% of the neonates. Furthermore, meconium aspiration syndrome (MAS), a serious condition often associated with post-term births and fetal distress, was present in 32.2% of the cases. The Apgar score at 5 minutes, a standardized measure of a newborn's condition, shows about 25% of neonates had a severely depressed Apgar score (0-3), indicating severe birth asphyxia, while another 28.75% had a moderately depressed score (4-7). Only 12.5% achieved a normal score of 8-10. This distribution indicates that a majority of the neonates (53.75%) were in less than optimal condition immediately after birth, which is a strong predictor of adverse outcomes, including mortality and this finding is consistent with previous research [12,13]

Table (3) provides information about the most frequent medical complication observed was Urinary Tract Infection (UTI), affecting 67.7% of the women. This is high rate and suggests a significant public health concern, Anemia, present in 63.3% of the participants, Gestational Diabetes Mellitus (GDM) was identified in 43.3% of the women, while Gestational Hypertension was present in 38.8%, Anemia, present in 63.3% of the participants this condition can cause maternal fatigue, increase the risk of postpartum hemorrhage, and contribute to low birth weight in newborns and the result is consistent with previous study [14]

Lastly the table (4) that Starting with the type of delivery, the data shows a near-equal split between vaginal deliveries (42.2%) and Cesarean sections (41.1%). The significant proportion of obstructed labor (16.6%) likely contributes to this high C-section rate, This high rate of both C-sections and obstructed labor points towards the need for improved intrapartum care and monitoring, regarding the gestational age while half of the deliveries occurred at term (50%), a substantial 17.7% were preterm (<37 weeks), is the high rate of post-term pregnancies (32.2%)>40 weeks. Finally, the data indicates that maternal morbidity was documented in 32.2% of the cases [15]

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Author's Contributions

All authors contributed to the study concept,writing, and reviewing of the final edition.

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No conflicts of interest to report.

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