HEALTH PROMOTION

# Knowledge, attitudes, and practices related to the prevention of adverse pregnancy outcomes among samples of females in Al-Suwaira city, Wasit Governorate, Iraq

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Keywords

Attitude • Iraq • Knowledge • Practice • Pregnancy outcomes • Reproductive-aged females

Summary

**Introduction**. *Adverse pregnancy outcomes pose serious health risks to both periconceptional women and newborns. This study aimed to investigate the levels of knowledge, attitudes, and practice (KAP) toward adverse pregnancy outcomes among women of reproductive age in Al-Suwaira, Wasit governorate, Iraq.*
**Methods**. *During November 2021 to February 2022, cross-sectional research of randomly selected women was performed. The KAP was evaluated with a standard, self-administered questionnaire. The outcomes were described using a descriptive analysis.*
**Results**. *The questionnaire was completed by 118 women. Participants had good knowledge and positive attitudes and practices toward adverse pregnancy outcomes. The findings revealed that the majority of participants were between the ages of 20 and 25 (n = 57, 48.3%) and had a Bachelor's degree (n = 106, 89.8%). Knowledge gaps were discovered in the areas of the danger of pregnancy at a young age of less than 17 years (30.5%), the link between lack of maternal education and poor births (24.6%), and the influence of drug misuse on the fetus (17.8%). The participants learn more around pregnancy-related risk factors via internet (n = 38, 32.2%) and university (n = 34, 28.8%).*
**Conclusions**. *The participants in this study had good knowledge, positive attitude, and positive practice regarding adverse pregnancy outcomes. However, there were some knowledge gaps. Therefore, to raise awareness among local women, it seems advisable to strengthen and strictly apply awareness-raising plans.*

## Introduction

Adverse pregnancy outcomes pose a serious health risk to both periconceptional women and newborns. These conditions, which account for more than half of maternal mortality, include sepsis, hypertensive diseases, and pregnancy hemorrhage [1]. The World Health Organization (WHO) estimates that problems related to pregnancy or childbirth cost the lives of more than 830 women worldwide every day [2]. Indicators of maternal health around the world include adverse pregnancy outcomes such as miscarriages, abortions, stillbirths, and preterm deliveries [3]. No obvious causes are known for 75% of these outcomes, but several etiologic risk factors have been identified. Non-obstetric risk factors include poor socio-economic status, maternal malnutrition, illiteracy, maternal age < 20 and > 35 years, heavy physical work, cigarette smoking, long-distance travel, and trauma. Obstetric risk factors associated with these outcomes include cervical incompetence, multiple gestations, short birth intervals, abortions, preterm premature rupture of membrane (PPROM), and previous preterm birth [4]. Several other medical conditions have also been associated with these outcomes, including diabetes mellitus, urinary and genital tract infections, and psychological stress [4].

Maternal mortality rates are 100 times higher in most low-income nations than in high-income ones. In addition, many middle- and low-income countries have notably different prenatal outcomes than high-income countries [5, 6]. However, it is possible that our already murky understanding of the true incidence of poor pregnancy outcomes in underdeveloped countries is further clouded by under-reporting and under-recording due to the prevalence of home deliveries there [7]. Adopting prenatal care methods for high-risk women has drastically reduced the number of unwanted birth outcomes across the industrialized countries. Therefore, the identification of risk factors associated with pregnancy outcomes, together with the promotion of health facilities that address and manage these factors, can significantly reduce the number of adverse outcomes in developing countries, including Iraq [7].
Increasingly, data show that antenatal care has a positive impact on improving prenatal care for both mother and newborn. Women are less likely to seek prenatal care if they are not informed about the risk factors associated with adverse perinatal outcomes or if they have negative attitudes about the importance of protecting themselves and their future children from these risks [8].
In Iraq, all parts of the country are affected by war and sanctions, and pregnant women are a particularly

vulnerable group. They face the consequences of poor nutrition and even malnutrition, low socio-economic standards, infections, stress and anxiety. All these risk factors are associated with an increased adverse pregnancy outcomes. Therfore, preventive measures are required to limit and mitigate the occurrence of these undesirable outcomes. Primary prevention, which includes certain health promotion methods, safety precautions, and the identification and control of environmental contaminants, is considered a key factor in eliminating the adverse pregnancy outcomes. Hence, to provide safeguards and eventually completely prevent the occurrence of these adverse pregnancy consequences in Iraq, particularly in Al-Suwaira city, this study sought to assess the knowledge, attitude, and practice (KAP) interconnected to reduce the risk of unfavorable prenatal outcomes among fertile-aged females from Al-Suwaira city, Wasit Governorate, Iraq.

## Methods

### Ethical consideration

This study was approved by the Ethics Committee of theMiddle Technical University, Baghdad, Iraq (7.7.2021) in accordance with the Helsinki Declaration of 1975. The written informed consent was obtained from all participants.

### Study design, site and participants

In this descriptive cross-sectional study during November 2021 and February 2022, reproductive-aged females in Al-Suwaira city, Wasit Governorate, Middle East of Iraq were investigated for their KAP about adverse pregnancy outcomes. These participants have varying levels of experience, ranging from an inability to read and write to a bachelor's degree.

### Data collection

A self-administered questionnaire was analyzed by qualified contributors according to their points of view, and research students collected the data and answers to all questions from the participants. The questionnaire was pre-tested. The original manuscript was forwarded to three professionals who were asked to comment on the relevance, simplification, and importance of the topic after a thorough review for content authenticity. It comprised a total of 5 sections. In the first section, the participants' age, occupational status, educational background, marital status, and place of residence were examined. Five questions in the second section assessed the samples' knowledge about avoiding adverse pregnancy outcomes. The subjects' familiarity with the topic was determined by information questions. Information such as the effects of malnutrition during pregnancy, pregnancy at a young age, inadequate prenatal care, lack of maternal education, and drug misuse during pregnancy on maternal and fetal health were assessed. Attitudes were assessed using six statements. Practices of participants were assessed based on four questions. The final section examined respondents' sources of information on pregnancy risk factors.

### Data analysis

Using SPSS version 26 (IBM Corporation, Armonk, NY, USA), the participant responses were examined. The demographic data was expressed using descriptive analysis in the form of frequencies and percentages, mean scores, and standard deviation. The chi-square test was used to evaluate any significant association among different variables.

*Score calculation:.*

- Regarding the knowledge:
  An assessment of knowledge agreed by awarding a score of (2) for the correct answer and (1) for the incorrect answer
  Number of questions: 5
  Minimum = 5
  Maximum = 10
  Medium = 7.5
  The mean score was calculated for each question and those below the mean score were considered poor, above or equal to 10 were considered acceptable and good.
- Regarding attitudes:
  An assessment of attitudes agreed by awarding a score of (3) for the answer by (agree) and (2) for the answer by (neutral) and (1) for the answer by (disagree)
  Number of questions: 6
  Minimum = 6
  Maximum = 18
  Medium = 12
  The mean score was calculated for each question and those below the mean score were considered poor, above or equal to 18 were considered acceptable and good.
- Regarding practices:
  A scoring of practices agreed by assigning a score of (3) for the answer by (always), (2) for the answer by (sometimes), and (1) for the answer by (never)
  Number of questions: 4
  Minimum = 4
  Maximum = 12
  Medium = 8
  The mean score was calculated for each question and those below the mean score were considered poor, above or equal to 12 were considered acceptable and good.

## Results

### Demographic information of the participants

A total of 118 individuals completed the survey. Almost all participants were between 20 and 25 years old (n = 57, 48.3%), while only a few participants were over 30 years old (n = 2, 1.7%). Concerning to qualifications,

**Tab. I.** Demographic information of the contributors of this study.

| Demographic information | | Number | (%) |
|---|---|---|---|
| Age groups | < 20 | 49 | 41.5 |
| | (20-25) | 57 | 48.3 |
| | (25-30) | 10 | 8.5 |
| | > 30 | 2 | 1.7 |
| | Total | 118 | 100.0 |
| Qualifications | Unable to read and write | 2 | 1.7 |
| | Primary school | 3 | 2.5 |
| | Secondary school | 7 | 5.9 |
| | Bachelor's | 106 | 89.8 |
| | Total | 118 | 100.0 |
| Occupation status | Government employee | 6 | 5.1 |
| | Student | 107 | 90.7 |
| | Housewife | 5 | 4.2 |
| | Others | 0 | 0.0 |
| | Total | 118 | 100.0 |
| Marital status | Married | 29 | 24.6 |
| | Unmarried | 89 | 75.4 |
| | Total | 118 | 100.0 |
| Residence | Rural | 33 | 28.0 |
| | Urban | 85 | 72.0 |
| | Total | 118 | 100.0 |

almost all participants had bachelor's degree (n = 106, 89.8%), while very few participants could not read and write (n = 2, 1.7%). Taking occupation status into account, students (n = 107, 90.7%) were the foremost respondents in this study. The results of a survey of married respondents (n = 29, 24.6%) were lower than those of single participants (n = 89, 75.4%). The proportion of responses from rural and urban areas were (n = 33, 27.96%) and (n = 85, 72.03%), respectively (Tab. I).

### Knowledge of participants towards the risk factors for adverse pregnancy outcomes

Overall, the majority of participants demonstrated a good knowledge of pregnancy-related risk factors. The results revealed that the majority of the respondents (95.8%, n = 113) could correctly assess that malnutrition during pregnancy can lead to small size of the fetus, miscarriage or other congenital disorders, and that the the participants' knowledge on this issue was good. Nearly (53.4%, n = 63) of participants answered incorrectly that pregnancy under 17 years of age is less likely to lead to developmental problems in children, even if it increases the likelihood of a caesarean section at birth, and participants' knowledge of this question was poor. Regarding antenatal care, a high percentage

**Tab. II.** Study participants' knowledge of risk factors for poor pregnancy outcomes in Al-Suwaira city, Wasit Governorate, Middle East of Iraq.

| List | General information about risk factors for adverse pregnancy outcomes items | | | | | |
|---|---|---|---|---|---|---|
| 1 | Malnutrition during pregnancy can lead to a small baby, abortion, or other complications | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | Incorrect | 5 | 4.2 | 1.958 | 0.202 | Good |
| | Correct | 113 | 95.8 | | | |
| | Total | 118 | 100.0 | | | |
| 2 | Pregnancy at a young age, less than 17 years, is less likely to result in children with developmental problems, although it does increase the likelihood of a caesarean section at birth | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | Incorrect | 63 | 53.4 | 1.466 | 0.501 | Poor |
| | Correct | 55 | 46.6 | | | |
| | Total | 118 | 100.0 | | | |
| 3 | Inadequate prenatal care would result in the mother's death owing to complications during birth | | | | | |
| | Rating | N | % | Mean | S.d. | Assessment |
| | Incorrect | 23 | 19.5 | 1.805 | 0.398 | Good |
| | Correct | 95 | 80.5 | | | |
| | Total | 118 | 100.0 | | | |
| 4 | Poor deliveries might be caused by a lack of maternal education. | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | Incorrect | 35 | 29.7 | 1.703 | 0.459 | Good |
| | Correct | 83 | 70.3 | | | |
| | Total | 118 | 100.0 | | | |
| 5 | Drug misuse during pregnancy might cause the baby's brain to be damaged | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | Incorrect | 75 | 63.6 | 1.364 | 0.483 | Poor |
| | Correct | 43 | 36.4 | | | |
| | Total | 118 | 100.0 | | | |
| N: Number, Level of assessment (poor < 1.5), (good ≥ 1.5), SD: Standard deviation. | | | | | | |

**Tab. III.** Study participants' attitudes toward negative pregnancy outcomes prevention practices in Al-Suwaira city, Wasit governorate, Middle East of Iraq.

| List | General information about negative pregnancy outcomes prevention practices items | | | | | |
|---|---|---|---|---|---|---|
| | There's nothing wrong with getting pregnant every year or in a short period of time | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 1 | Disagree | 37 | 31.4 | 0.686 | 0.466 | Positive |
| | Agree | 81 | 68.6 | | | |
| | Total | 118 | 100.0 | | | |
| | I am willing to have a caesarean section if necessary to avoid difficulties during delivery | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 2 | Disagree | 68 | 57.6 | 0.424 | 0.496 | Negative |
| | Agree | 50 | 42.4 | | | |
| | Total | 118 | 100.0 | | | |
| | My society sees nothing wrong with having children as young as 17 years old | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 3 | Disagree | 30 | 25.4 | 0.746 | 0.437 | Positive |
| | Agree | 88 | 74.6 | | | |
| | Total | 118 | 100.0 | | | |
| | I don't believe a prenatal checkup is required | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 4 | Disagree | 14 | 11.9 | 0.881 | 0.325 | Positive |
| | Agree | 104 | 88.1 | | | |
| | Total | 118 | 100.0 | | | |
| | I don't believe that education is necessary for safe delivery | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 5 | Disagree | 33 | 28.0 | 0.720 | 0.451 | Positive |
| | Agree | 85 | 72.0 | | | |
| | Total | 118 | 100.0 | | | |
| | I have no objections to taking folic acid before and during pregnancy, as it is prescribed | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| 6 | Disagree | 74 | 62.7 | 0.373 | 0.486 | Negative |
| | Agree | 44 | 37.3 | | | |
| | Total | 118 | 100.0 | | | |

N: Number; Level of assessment (poor ≤ 0.5), (good ≥ 0.5); SD: Standard deviation

of respondents (80.5%, n = 95) correctly answered that inadequate antenatal care may lead to the mother's mortality as a result of complications during delivery and Knowledge of participants towards this question was good. On the other hand, 70.3% of the participants answered correctly that insufficient maternal education can lead to poor delivery and the knowledge of the participants on this question was good. Also, 75 (63.8%) participants answered incorrectly and less than half of them (36.4%, n = 43) believed that drug use in early pregnancy leads to brain damage in the baby. The participants' knowledge of pregnancy-related risk factors was described poor, as shown in Table II. The overall knowledge of risk factors for adverse pregnancy outcomes was good (64%).

### Attitudes of participants towards the practices for preventing harmful prenatal effects

Our results showed that a large percentage of respondents (68.6%, n = 81) agree that it is not wrong to get pregnant every year or within a short period of time, and a small percentage of participants (31.4%, n = 37) disagree. The assessment of this trend was positive. Fifty (42.4%) respondents stated that they had no problem with having a caesarean section to prevent birth problems, while about 68 (57.6%) respondents disagreed. The assessment of this trend was negative. A total of 88 (74.6%) respondents agreed that their culture has no objection to having children at the age of 17, while 30 (25.4%) respondents disagreed that their culture has no objection to having children at the age of seventeen. The assessment of this direction was positive. On the other hand, a very small percentage of the respondents (11.9%, n = 14) felt that prenatal screening was not necessary, while 104 (88.1%) respondents felt that prenatal screening was necessary. The assessment of this trend was positive. Also, 85 (72.0%) women believed that education is a necessary factor for a safe delivery, while 33 (28%) of them did not. The assessment of this trend was positive. Moreover, 74 (62.7%) respondents disagreed with the use of folic acid before and during pregnancy, while 44 (37.3%) respondents agreed. The assessment of this trend was negative (Tab. III).The general public was in favour of measures to reduce the risk of adverse pregnancy outcomes (64%).

Tab. IV. Study participants' practices to prevent adverse pregnancy outcomes in Al-Suwaira city, Wasit Governorate, Middle East of Iraq.

| List | General information about practices to prevent adverse pregnancy outcomes items | | | | | |
|---|---|---|---|---|---|---|
| 1 | When I'm pregnant, I try to avoid coming to the health center for antenatal care | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | No | 87 | 73.7 | 2.695 | 0.547 | Good |
| | Sometimes | 26 | 22.0 | | | |
| | Yes | 5 | 4.2 | | | |
| | Total | 118 | 100.0 | | | |
| 2 | I participate in community and clinic-based maternal health education and awareness programs | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | No | 36 | 30.5 | 1.958 | 0.756 | Acceptable |
| | Sometimes | 51 | 43.2 | | | |
| | Yes | 31 | 26.3 | | | |
| | Total | 118 | 100.0 | | | |
| 3 | During my pregnancy, I try to stay away from drugs that don't require a prescription | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | No | 75 | 63.6 | 1.602 | 0.849 | Poor |
| | Sometimes | 15 | 12.7 | | | |
| | Yes | 28 | 23.7 | | | |
| | Total | 118 | 100.0 | | | |
| 4 | I'm not used to taking folic acid as directed during and before pregnancy to avoid unintended problems | | | | | |
| | Rating | N | % | Mean | SD | Assessment |
| | No | 71 | 60.2 | 2.483 | 0.701 | Good |
| | Sometimes | 33 | 28.0 | | | |
| | Yes | 14 | 11.9 | | | |
| | Total | 118 | 100.0 | | | |

N = Number, level of assessment (poor = 1-1.66), (acceptable = 1.67-2.33), (good ≥ 2.34), SD = Standard deviation

### Participants' practices to prevent adverse pregnancy outcomes

The majority of respondents (73.7%, n = 87) were in favor of frequent visits to antenatal health care facilities during pregnancy to avoid negative pregnancy outcomes. Likewise, the majority of them (43.2%, n = 51) occasionally participate in clinical and community-based maternal health education and awareness programs. Sixty-three percent of respondents (n = 75) do not try to avoid taking unapproved medications during pregnancy, and sixty-two percent of respondents (n = 71) think it is a good idea to take folic acid during pregnancy (Tab. IV). Overall, participants' practices to prevent adverse pregnancy outcomes was good (57%).

### Information sources of respondents towards negative pregnancy outcomes

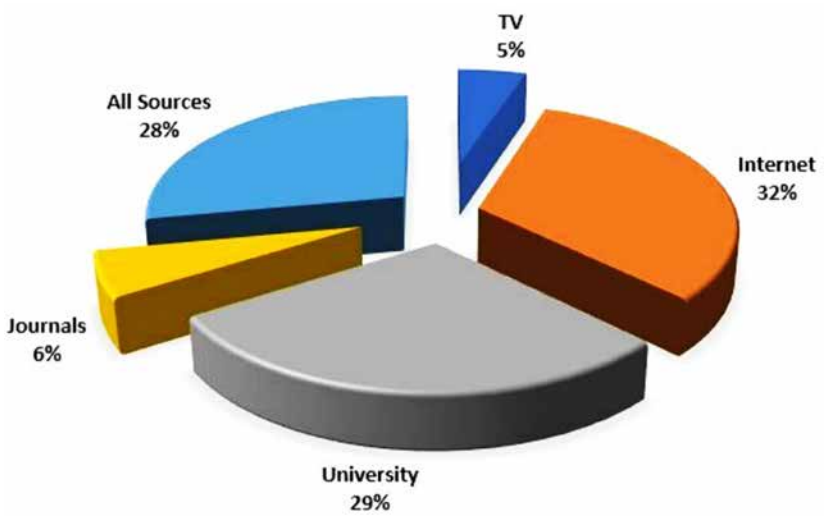
Figure 1 showed that participants primarily used the internet (32.2%, n = 38) and university (28.8%, n = 34) to obtain information about the risks associated with having children. Around 12.7% (n = 15) also obtained information via other media such as television, magazines, and newspapers.

## Discussion

Adverse pregnancy outcomes pose serious health risks to both perinatal moms and the newborns. Most of the 118 women who provided information in this study were between 20 and 25 years old and had a bachelor's degree. In accordance with the findings of the study by Ibtehaj et al. [9], the majority of respondents in our survey (95.2%, n = 113) demonstrated correct knowledge that maternal malnutrition during pregnancy can lead to preterm birth, abortion, or other congenital problems. However, our findings were in contrast to the previous reports from Nigeria [1, 8].

One-third of those surveyed by Ibtehaj et al. [9] agreed with this, in contrast to only 28 individuals in the Nigerian survey [8], our results showed that 55 (46.6%) participants recognized that pregnancy at a younger age (under 17 years) is less likely to result in children with developmental problems, even if it increases the likelihood of caesarean section at birth. The prevalent culture of early marriage in our area, as well as the need for constant awareness of the risk of having an child when marrying young, could be the cause of the respondents' inadequate knowledge. In relation to prenatal care, a large percentage of respondents (80.5%) correctly identified that poor prenatal care would lead to maternal death due to postpartum complications, which was consistent with other findings from Nigeria [1,8]. Respondents' awareness of this fact is promising and could motivate them to start prenatal care to reduce the chance of adverse pregnancy outcomes. Only about a quarter of respondents were aware that poor birth outcomes can be caused by inadequate maternal education. According to previous findings from Nigeria [1], only 43 (36.4%) participants stated that drug

Fig. 1. Information sources of participants about negative pregnancy outcomes.




use in early pregnancy leads to cognitive impairment of the fetus [1]. In this region, there are still many gaps in health education regarding awareness of risk factors that influence poor pregnancy outcomes, as this research shows that a better understanding of risk factors will influence the avoidance practices of respondents.

Ibtehaj et al. [9] found that more than half of the respondents considered multiple pregnancies within a short period of time unacceptable. However, our findings that respondents had positive attitudes towards efforts to reduce the risk of poor perinatal outcomes contradict these anecdotes. Only a minority of participants (31.4%) in this survey found nothing wrong with having multiple pregnancies in a short period of time. Also, our results were in contrast to previous studies from Nigeria and India [1, 8, 10]. To reduce newborn and child mortality rates and promote mother health, the WHO recommends that birth intervals should be at least two to three years apart. Nevertheless, differences in birth intervals are closely connected with both children and maternal mortality [11]. Like the previous group, roughly 50 (42.4%) respondents were firmly convinced that they would be willing to have a caesarean section if necessary to avoid difficulties during delivery. This was in contrast to the majority of respondents in the earlier surveys who had a positive attitude towards safe delivery [1,8]. Also, the results of a survey conducted in Saudi Arabia to assess participants' knowledge and attitudes towards risk factors affecting pregnancy outcomes were not consistent with the results of this study in terms of respondents' attitudes towards preventive measures for adverse pregnancy outcomes [9]. However, in contrast to the findings of previous studies, 30 of them (25.4%) stated that having children as young as 17 years old was not considered a problem in their culture [1, 8]. To change women's attitudes towards early marriage, we need to address this widespread problem in our country. Moreover, only 2.5% of the respondents indicated that they did not think prenatal check-up was necessary and therefore delivered in a church or mosque, while the majority of respondents (88.1%) disagreed, which was consistent with the positive attitude of respondents in a previous study from Nigeria [8]. This emphasizes the need for education about prenatal checkup education, because without it, this population will continue to expose itself to the risk of adverse prenatal outcomes. Our results showed that almost all participants (72%) in this survey believed that education was important for safe delivery and more than half of the respondents (62.7%) had experienced problems with folic acid intake in the period before and during pregnancy, which was in contrast to earlier findings [1, 12, 13]. Our findings suggest that maternal education is highly valued in this city and could contribute to a reduction in the severity of poor pregnancy outcomes.

The majority of respondents (73.7%) support frequent visits to antenatal health care facilities when a woman is pregnant and almost all (43.2%) rarely participate in neighborhood and clinic-based reproductive health teaching and outreach initiatives. When it comes to the habit of taking folic acid supplements during pregnancy, almost half of all respondents (60.2%) are in favor of doing so. The majority of respondents (63.6%) do not avoid taking over-the-counter drugs during pregnancy. With the exception of taking over-the-counter medications, respondents in our survey showed a rather adequate level of knowledge and behavior towards preventive activities overall. Thus, the gaps in knowledge about risk factors and their negative behaviors need to be positively filled for a strategy to reduce the likelihood of negative prenatal outcomes to be successful.

Our findings revealed that most participants obtained information about the risks associated with having children on the internet (n = 38; 32.2%), at universities (n = 34; 28.8%), and on other sources (n = 33; 27.9%). With the proliferation of communication channels, the internet has become the first port of call for most people to find out about such developments. It is

important to note that the results of this study are not generalizable to other settings, even though they were collected in a large metropolitan city in Wasit province. In addition, the majority of participants were college-educated women, demonstrating the value of reviewing a large sample size across regions to shed light on this problem. Despite the caveats we've found, our results have significant implications for future study and the design of protective measures. The findings of this study may have a significant impact on the design of future strategies to educate and disseminate information to the public in Iraq, and more specifically in Al-Suwaira city, with the aim of improving the ability of residents to prevent and cope with the negative outcomes mentioned above.

### Limitations of the study

The small sample size was one of the limitations of this study. Also, the results of this study cannot be generalized to the entire population since this was a single center research.

## Conclusions

The findings of this research suggest that the majority of participants were aged < 20-25 years (n = 57, 48.3%), and had Bachelor's degree (n = 106, 89.8%). In addition, contributors showed good knowledge about the risk factors for poor pregnancy outcomes. Overall, the majority of the participants exhibited good knowledge about pregnancy-related risk factors. In general, the overwhelming bulk of respondents had favorable impressions of negative pregnancy outcomes prevention practices. Even though the people's knowledge about pregnancy-related risk factors was good, their overall practices to prevent adverse pregnancy outcomes indicate that there is still a gap in the achievement of their knowledge. Therefore, and to achieve the WHO worldwide plan of ending all avoidable fatalities of women, children, and teenagers and ensuring their well-being, it is strongly recommended that emphasis be placed on increasing health awareness and education programs for reported inadequate prevention measures.

## Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. This study was approved by the Ethics Committee of the Middle Technical University, Baghdad, Iraq (7.7.2021) in accordance with the Helsinki Declaration of 1975. The written informed consent was obtained from all participants. The writers would like to convey their heartfelt appreciation to all Middle Technical University healthcare staff.

## Conflict of interest statement

The authors declare no conflict of interest.

## Authors' contributions

All authors contributed to the study conception and design. IDS, MHGK, and SSA participated in the design of the study. IDS and AMT performed data collection, wrote the manuscript, and helped with statistical analysis. AMT and SSA edited the manuscript. All authors read and approved the final manuscript.

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Received on September 17, 2023. Accepted on March 27, 2024.

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**How to cite this article:** Salim ID, Kanaan MGH, Tarek AM. Knowledge, attitudes, and practices related to the prevention of adverse pregnancy outcomes among samples of females in Al-Suwaira city, Wasit Governorate, Iraq. J Prev Med Hyg 2024;65:E17-E24. https://doi.org/10.15167/2421-4248/jpmh2024.65.1.3088.