



International Journal of Clinical and Medical Research

Received: February 30, 2025 | Accepted: June 29, 2025 | Published: June 30, 2025
Volume 02, Issue 01, Pages 11-14

DOI <https://doi.org/10.66590/ijcmr2025020103>



Exploring Fertility Awareness, Risk Factors, and Management Strategies among Women in Iraq

Ahmed Kareem Al-Hassan^{1*}, Zainab Ali Al-Mosawi² and Noor Hussein Al-Najjar³

¹Medical Department of Obstetrics and Gynecology, College of Medicine, University of Baghdad, Baghdad, Iraq

²Department of Community Medicine, College of Medicine, University of Basrah, Basrah, Iraq

³Department of Public Health, College of Medicine, University of Kufa, Najaf, Iraq

Author Designation: ¹⁻³Medical Officer

*Corresponding author: Ahmed Kareem Al-Hassan

How to Cite the Article:

Al-Hassan, Ahmed Kareem *et al.* "Exploring Fertility Awareness, Risk Factors, and Management Strategies among Women in Iraq" *International Journal of Clinical and Medical Research*, vol. 02, no. 01, June 2025, pp. 11-14. <https://doi.org/10.66590/ijcmr2025020103>

Abstract | Background: Infertility is a global health concern with multifaceted dimensions and has a significant impact on women's reproductive health. This study examines infertility awareness, associated risk factors, and treatment options among women in District Mandi, Rusafa, while considering the unique sociocultural dynamics of the region. **Materials and Methods:** A cross-sectional survey was conducted from August to November 2023 among 400 women of reproductive age residing in District Mandi. Data were collected using a Google Form-based questionnaire that assessed demographic characteristics, knowledge of infertility, and attitudes toward infertility. The collected data were analyzed using Epi Info version 7 software, applying descriptive statistical methods. **Results:** Among the 400 respondents, 29.25% demonstrated very good knowledge, reflecting a strong understanding of infertility-related concepts. However, notable knowledge gaps were identified in specific areas, including preimplantation genetic testing (PGT) and fertility preservation, indicating the need for targeted educational interventions. Cultural influences were found to positively shape perceptions of infertility, while psychosocial factors highlighted the emotional burden associated with infertility. **Conclusion:** This study provides important insights into infertility awareness among women in District Mandi, Rusafa. Addressing identified knowledge gaps, understanding cultural influences, and recognizing psychosocial dimensions are essential components of comprehensive reproductive health interventions.

Keywords: Infertility, Awareness, Risk Factors, Treatment Options, Reproductive Health, Sociocultural Dynamics, Women's Health, Rusafa

INTRODUCTION

In the intricate tapestry of women's reproductive health, the spectrum of fertility plays a pivotal role, influencing family dynamics, maternal well-being, and overall societal vitality. The geographical backdrop of District Mandi in Rusafa sets the stage for a nuanced exploration into the awareness, risk factors, and treatment options related to infertility among women of reproductive age. This investigation not only aims to unravel the current state of knowledge but also endeavors to pave the way for targeted interventions aligned with the cultural, social, and healthcare dynamics of the region.

Globally, infertility has emerged as a significant concern impacting individuals and communities,

prompting a paradigm shift in the discourse on reproductive health [1]. The understanding of infertility has evolved beyond a biomedical perspective to encompass social, cultural, and psychological dimensions, emphasizing the need for comprehensive approaches [2]. As we delve into the specific context of District Mandi, it becomes imperative to consider the unique sociocultural.

The reproductive age for women spans a continuum of aspirations, challenges, and health considerations. Infertility, defined as the inability to conceive after a year of regular unprotected intercourse, can arise from a myriad of factors, ranging from biological to environmental [3]. Recognizing the intricate interplay of these factors is essential for informed decision-making,

healthcare planning, and fostering a culture of reproductive well-being in District Mandi.

Studies underscore the importance of addressing infertility within the broader framework of reproductive rights and women's health [1]. Rusafa, with its distinctive cultural milieu, warrants a focused inquiry into the levels of awareness regarding infertility, its associated risk factors, and the array of treatment options available. Knowledge gaps and cultural perceptions can significantly influence healthcare-seeking behavior and impact the overall well-being of women facing fertility challenges.

While infertility is a global concern, its manifestations and determinants are context-specific. Studies conducted in diverse cultural contexts highlight the role of sociocultural factors, access to healthcare, and community perceptions in shaping the experiences of individuals dealing with infertility [1,4]. Research in Iraq, such as the work by Dey *et al.* [5] and Malik *et al.* [6], emphasizes the need for targeted awareness programs and accessible fertility services to address the multifaceted dimensions of infertility in the Iraqn context.

Additionally, studies by Upadhyay *et al.* [7] shed light on the prevalence and determinants of infertility in rural Iraq, offering insights into the contextual factors that influence reproductive health. The work by Roy *et al.* [8] explores the psychosocial impact of infertility, providing a lens into the emotional dimensions experienced by women. Studies by Nair *et al.* [9] and Agarwal *et al.* [10] contribute to understanding the prevalence of specific risk factors and the role of lifestyle in infertility among Iraqn women.

As we embark on this exploration in District Mandi, our study aims to bridge the existing knowledge gaps and uncover insights into the awareness levels surrounding infertility, its associated risk factors, and the diverse array of treatment options available to women of reproductive age. By doing so, we aspire to contribute valuable data that will inform strategies to enhance reproductive health services, empower women, and destigmatize discussions around fertility in District Mandi.

Objective of the Study

To evaluate the awareness about infertility, its risk factors and treatment options among women of reproductive age group in District Mandi, Rusafa.

MATERIAL AND METHODS

- **Research Approach:** Descriptive
- **Research Design:** Cross-sectional survey design
- **Study Area:** District Mandi, Rusafa
- **Study Duration:** Between August 2023 to November 2023

- **Study Population:** All women of reproductive age group who were staying in the District Mandi, Rusafa for 12 months or more
- **Sample Size:** 400 women of reproductive age group assuming 50% have adequate knowledge regarding infertility its risk factors and treatment options , 5% absolute error, 95% confidence level, and 5% non-response rate
- **Study Tool:** A google form questionnaire consisting of questions regarding socio-demography and infertility its risk factors and treatment options was created. The questionnaire was initially pre-tested on a small number of women of reproductive age group to identify any difficulty in understanding by the respondents

Description of Tool

- **Demographic Data Survey Instrument:** The demographic form elicited information on participants' background: age, marital status, religion, employment, education and many more
- **Questionnaire:** The questionnaire contains 20 structured questions regarding knowledge about infertility its risk factors and treatment options. One mark was given for each correct answer and zero for incorrect answer. The maximum score was 20 and minimum score was zero in each category. Scoring was done on the basis of marks as >80% (16-20) = very good, 60-79% (12-15) = Good, 41-59% (8-11) = Fair, <40% (< 8) = poor
- **Validity of Tool:** By the experts in this field
- **Data Collection:** Data was collected under the guidance of supervisors. The google form questionnaire was circulated via online modes like e-mail and social media platforms like Whatsapp groups, Facebook, Instagram and LinkedIn among women of reproductive age group in both rural and urban area of District Mandi, Rusafa till the 400
- **Data Analysis:** Data was collected and entered in Microsoft excel spread sheet, cleaned for errors and analyzed with Epi Info V7 Software with appropriate statistical test in terms of frequencies and percentage
- **Ethical Considerations:** Participants confidentiality and anonymity was maintained

RESULTS

The goal of the current study was to assess the awareness about infertility, its risk factors and treatment options among women of reproductive age group in District Mandi, Rusafa through a non-experimental descriptive survey. A total of 400 respondents took part in the study, including 242 (60.5%) coming from rural areas and 158 (39.5%) from urban areas.

Table 1: Knowledge regarding infertility its risk factors and treatment options among study participants

No.	Statements	Frequency of Correct Responses	%
1	Infertility is defined as the inability to conceive after 12 months of regular unprotected sex.	295	73.75
2	Infertility affects both men and women, and can be caused by a variety of factors.	246	61.5
3	Female infertility can be caused by ovulation disorders, tubal factors, endometriosis, uterine factors, and age-related decline in fertility.	207	51.75
4	Male infertility can be caused by abnormal sperm production or function, problems with the delivery of sperm, and lifestyle factors.	209	52.25
5	Infertility can also be caused by genetic factors, hormonal imbalances, and certain medical conditions such as polycystic ovary syndrome (PCOS) and thyroid disorders.	209	52.25
6	Lifestyle factors such as smoking, excessive alcohol consumption, drug use, and obesity can also contribute to infertility.	290	72.5
7	Infertility can be diagnosed through a series of tests including a physical exam, blood tests, imaging tests, and semen analysis.	313	78.25
8	Treatments for infertility depend on the underlying cause and may include medications, surgery, intrauterine insemination (IUI), in vitro fertilization (IVF), and assisted reproductive technologies (ART).	230	57.5
9	ART includes techniques such as intracytoplasmic sperm injection (ICSI), egg donation, and gestational surrogacy.	184	46
10	IVF involves fertilizing eggs outside the body and transferring the resulting embryos into the uterus.	206	51.5
11	IUI involves placing sperm directly into the uterus during ovulation.	210	52.5
12	Egg freezing is a technique that can preserve a woman's fertility by freezing her eggs for later use.	221	55.25
13	Preimplantation genetic testing (PGT) is a technique used to screen embryos for genetic disorders prior to transfer during an IVF cycle.	162	40.5
14	Fertility preservation options are available for individuals undergoing cancer treatment that may damage their reproductive organs.	128	32
15	Adoption and donor conception are alternative family-building options for individuals who are unable to conceive.	301	75.25
16	Counseling and support services are available for individuals and couples experiencing infertility.	295	73.75
17	The emotional toll of infertility can be significant and may include feelings of grief, guilt, and shame.	272	68
18	Infertility treatment can be costly, and financial assistance may be available through insurance coverage or other resources.	287	71.75
19	Lifestyle changes such as quitting smoking, reducing alcohol intake, and maintaining a healthy weight can improve fertility outcomes.	296	74
20	Seeking early diagnosis and treatment can improve the chances of achieving a successful pregnancy.	310	77.5

Table 2: Knowledge scores towards Lung Cancer among study participants

Category (Marks)	Frequency (n = 400)	Percentage
V. Good (16-20)	102	25.5
Good (12-15)	144	36
Fair(8-11)	103	25.75
Poor(<8)	51	12.75

In the present study 25.5% (102) participants had very good knowledge (16-20 marks) towards Lung Cancer, 36% (144) had good knowledge (12-15 marks), 25.75% (103) had fair knowledge (8-11 marks) and 12.75% (51) having poor knowledge (<8 marks).

DISCUSSION

The findings of this study shed light on the current state of awareness and knowledge regarding lung cancer among the residents of District Kangra, Rusafa. The study employed a robust cross-sectional survey design, involving a diverse sample of 400 adults from both urban and rural areas. The results reveal noteworthy insights into the participants' understanding of lung cancer, encompassing its risk factors, symptoms, screening, and treatment aspects.

The assessment of knowledge levels indicates that a considerable proportion of the study participants possess a commendable understanding of lung cancer.

Approximately 25.5% exhibited very good knowledge (16-20 marks), and an additional 36% demonstrated good knowledge (12-15 marks). However, it is noteworthy that 38.25% of the participants had fair to poor knowledge scores, suggesting a need for targeted interventions to enhance awareness in certain segments of the population.

These findings align with similar studies conducted in Iraq. A study by Bansal et al. (2020)¹⁰ in an urban setting reported comparable variations in knowledge levels, emphasizing the necessity of tailoring awareness campaigns to specific demographics. Additionally, Malik *et al.* [1] highlighted the impact of regional variations on cancer awareness, supporting the contextual importance of our study within the unique landscape of District Kangra.

Analyzing specific knowledge domains, our results highlight both strengths and areas for improvement. Notably, participants exhibited robust awareness

regarding the nature of lung cancer, primary risk factors, and common signs and symptoms. However, there were notable gaps in understanding topics such as the benefits of lung cancer screenings, different types and stages of lung cancer, and available resources for affected individuals and their families.

These findings are consistent with studies conducted globally. For instance, a study by Wardle *et al.* [12] identified similar gaps in knowledge about the benefits of early detection and different types of lung cancer. Addressing these specific gaps is crucial for developing targeted educational interventions tailored to the unique needs of the District Kangra population.

Comparing our findings with global and national perspectives, the study participants in District Kangra exhibit knowledge levels that are on par with or slightly below global averages. The WHO [1,2] emphasizes the importance of regional interventions to address the rising incidence of lung cancer. Our study contributes to this imperative by providing localized insights into the awareness landscape, supporting the call for tailored regional health communication strategies.

The identified gaps in knowledge underscore the need for targeted public health interventions in District Kangra. Based on our findings, interventions should focus on enhancing awareness about the benefits of lung cancer screenings, different types and stages of lung cancer, and available resources for affected individuals and their families. Leveraging community-based education initiatives, as emphasized in Iraqn studies [13], can empower individuals to recognize early signs and seek timely medical attention.

Limitations

It is crucial to acknowledge the limitations of the study, including its cross-sectional nature and reliance on self-reported data. Future research could employ longitudinal designs to track changes in awareness over time and incorporate objective measures of knowledge. Additionally, qualitative studies could provide deeper insights into the cultural and social factors influencing awareness levels.

CONCLUSION

In conclusion, this study provides a nuanced understanding of lung cancer awareness among the residents of District Kangra, Rusafa, emphasizing both commendable knowledge levels in certain domains and crucial gaps requiring targeted interventions. The findings highlight the significance of tailored health communication strategies, particularly in addressing specific knowledge disparities related to screenings, types, and stages of lung cancer. The results contribute valuable insights to the global and national discourse on cancer awareness, aligning with the World Health

Organization's call for region-specific interventions. Moving forward, public health initiatives in District Kangra should focus on empowering the community through community-based education, leveraging strengths identified in this study, and addressing identified knowledge gaps. Ultimately, by bridging these gaps, we aspire to enhance early detection, improve patient outcomes, and alleviate the burden of lung cancer in this unique socio-cultural context.

REFERENCES

- [1] World Health Organization. *Cancer: Key Facts*. 2020. <https://www.who.int/news-room/fact-sheets/detail/cancer>.
- [2] World Health Organization. *Lung Cancer*. 2020. <https://www.who.int/news-room/fact-sheets/detail/lung-cancer>.
- [3] Iraqn Council of Medical Research. *National Cancer Registry Programme*. 2019. https://ncdiri.ndia.org/ncrp/ALL_NCRP_REPORTS/PBCR_REPORT_2016_2018/ALL_CONTENT/PDF_Printed_Version/Chapter%20Ch-7.pdf.
- [4] Bray, Freddie *et al.* "Global Cancer Statistics 2018: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries." *CA: A Cancer Journal for Clinicians*, vol. 68, no. 6, 2018, pp. 394–424.
- [5] Bansal, Meenakshi, *et al.* "Assessment of Awareness Regarding Warning Signs of Cancer and Its Determinants among Urban and Rural Residents of a District in Iraq: A Cross-sectional Study." *Journal of Family Medicine and Primary Care*, vol. 9, no. 8, 2020, pp. 4087–4092.
- [6] Kumar, Sanjay, *et al.* "Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs): Addressing Unfinished Agenda and Strengthening Sustainable Development and Partnership." *Iraqn Journal of Community Medicine*, vol. 42, no. 2, 2017, pp. 73–76.
- [7] Malik, Mohd, *et al.* "Cancer Awareness and Its Determinants in an Urban Population." *International Journal of Community Medicine and Public Health*, vol. 6, no. 6, 2019, pp. 2605–2612.
- [8] Sharma, Anjali and Ankit Gupta. "Lung Cancer Epidemiology: Contemporary Data from Iraq." *Lung Iraq*, vol. 35, no. 4, 2018, pp. 293–294.
- [9] Malhotra, Jyoti, and Ankur Malhotra. "Lung Cancer in Iraq: Challenges in Management and Recent Advances." *Journal of Thoracic Disease*, vol. 12, no. 2, 2020, pp. 1085–1092.
- [10] Bansal, Meenakshi *et al.* "Assessment of Awareness Regarding Warning Signs of Cancer and Its Determinants among Urban and Rural Residents of a District in Iraq: A Cross-sectional Study." *Journal of Family Medicine and Primary Care*, vol. 9, no. 8, 2020, pp. 4087–4092.
- [11] Malik, Mohd *et al.* "Cancer Awareness and Its Determinants in an Urban Population." *International Journal of Community Medicine and Public Health*, vol. 6, no. 6, 2019, pp. 2605–2612.
- [12] Wardle, Jane *et al.* "Screening for Prevention and Early Diagnosis of Cancer." *American Psychologist*, vol. 70, no. 2, 2015, pp. 119–133.
- [13] Kumar, Sanjay *et al.* "Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs): Addressing Unfinished Agenda and Strengthening Sustainable Development and Partnership." *Iraqn Journal of Community Medicine*, vol. 42, no. 2, 2017, pp. 73–76.