ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

"A descriptive Study to Investigating the knowledge and Sources of Information Regarding Teratogenic Risks Among Antenatal Mothers in Selected Areas of Kanpur, UP"

Mrs. Deeksha Srivastava[1], 2nd Year M. Sc Nursing, Faculty of Nursing, Rama University, Kanpur, Uttar Pradesh.

Mr. Aslam Abbas[2], HOD of Community Health Nursing, Faculty of Nursing, Rama University, Kanpur, Uttar Pradesh

ABSTRACT

Teratogenic exposure during early pregnancy poses significant risks to foetal development, yet the sources from which antenatal mothers acquire knowledge about these risks remain unclear. Understanding these sources is essential to ensuring the accuracy and effectiveness of maternal health education. This descriptive study investigates the primary sources of information regarding teratogenic risks among antenatal mothers in selected areas of Kanpur, UP. Data were collected from a sample of 110 antenatal mothers using a structured questionnaire and analysed through descriptive statistics. The study found that 50% of mothers relied on healthcare providers as their primary source of information, 27% used digital media, 14% depended on family and friends, while 9% referred to printed materials. Statistical analysis revealed a significant association between maternal knowledge and information received from healthcare providers ($\chi^2 = 16.23$, $p < 0.05$) and digital media ($\chi^2 = 12.47$, $p < 0.05$), while family and friends ($\chi^2 = 6.89$, $p > 0.05$) and printed materials ($\chi^2 = 4.32$, $p > 0.05$) showed no significant impact. These findings highlight the critical role of healthcare professionals and digital media in enhancing maternal awareness of teratogenic risks. The study contributes to improving maternal education strategies and ensuring more effective communication regarding teratogenic risks.

INTRODUCTION

Ensuring proper maternal education about teratogenic risks is crucial for preventing congenital anomalies and other foetal complications. Teratogens—substances that can cause birth defects—include certain medications, infections, environmental

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

chemicals, and lifestyle factors such as smoking and alcohol consumption. Pregnant women receive information from various sources, including healthcare providers, family, social networks, digital media, and printed materials. However, the reliability and accuracy of these sources vary, leading to possible misinformation and inadequate preventive measures.

Despite the increasing accessibility of digital health resources, many antenatal mothers may not distinguish between credible medical information and misleading or unverified sources. While healthcare professionals serve as a primary source of evidence-based information, reliance on social circles and unregulated digital content can contribute to misconceptions. Understanding where antenatal mothers acquire their knowledge about teratogenic risks is essential for designing effective educational interventions and improving maternal awareness.

This study investigates the different sources antenatal mothers rely on for information about teratogenic risks and assesses their impact on maternal knowledge and decision-making. By identifying which sources are most influential and evaluating their effectiveness, the study aims to contribute to the development of more structured and reliable maternal education programs.

NEED FOR THE STUDY

Teratogens are agents that can cause birth defects or developmental abnormalities in a foetus when exposed during pregnancy. These include certain medications (e.g., isotretinoin, thalidomide), infections (e.g., rubella, toxoplasmosis), environmental chemicals (e.g., pesticides, heavy metals), and lifestyle factors such as smoking, alcohol, and illicit drug use. Early awareness and avoidance of teratogenic exposure are crucial in ensuring foetal well-being and reducing the risk of congenital anomalies.

Despite advancements in healthcare and prenatal care services, gaps in maternal knowledge about teratogenic risks persist, often leading to unintentional exposure. According to a 2022 study by the World Health Organization (WHO), congenital anomalies account for 6% of infant mortality globally, with a significant percentage linked to preventable teratogenic exposures. In India, congenital disabilities

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

contribute to 8–10% of perinatal deaths, highlighting the urgent need for comprehensive maternal education on teratogen avoidance.

A recent survey conducted in 2023 among pregnant women in urban and rural areas of India found that only 52% of antenatal mothers had accurate knowledge about teratogenic risks, while the remaining 48% either lacked awareness or held misconceptions about harmful exposures during pregnancy. The study also revealed that healthcare providers were the most trusted source of information (60%), followed by digital media (25%), family and friends (10%), and printed materials (5%). However, reliance on social media and non-medical sources has increased, raising concerns about misinformation.

This study is necessary to identify the most influential sources of information, assess their reliability, and evaluate their impact on maternal awareness and decision-making. By understanding where pregnant women acquire knowledge about teratogenic risks, healthcare professionals and policymakers can develop targeted educational interventions that improve maternal health literacy. The findings from this study will contribute to strengthening prenatal education programs, ensuring that expectant mothers receive accurate, evidence-based, and accessible information, ultimately leading to better pregnancy outcomes and reduced foetal complications.

STATEMENT OF THE PROBLEM

“A Descriptive Study to Investigating the knowledge and Sources of Information Regarding Teratogenic Risks Among Antenatal Mothers in Selected Areas of Kanpur, UP:.”

OBJECTIVES

1. To determine the socio-demographic distribution of antenatal mothers seeking information on teratogenic risks.
2. To identify the primary sources of information regarding teratogenic risks among antenatal mothers.
3. To assess the level of knowledge among antenatal mothers based on different sources of information.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

4. To analyse the association between sources of information and maternal awareness of teratogenic risks.
5. To recommend strategies for improving maternal education on teratogenic risks through reliable and evidence-based sources.

HYPOTHESIS

H1: There will be a significant association between the sources of information and maternal knowledge regarding teratogenic risks with selected socio demographic variables.

METHODS AND MATERIALS

- **Research Approach:**

  The present study used descriptive research approach.

- **Research Design:**

  The research design used in the present study is descriptive research design.

VARIABLES

- **Dependent Variable:**

  The dependent variable of the present study was Knowledge of antenatal mothers regarding teratogenic risks.

- **Independent Variables:**

  The independent variables of this study were, Sources of information, including healthcare providers, digital media, social networks, and traditional beliefs.

POPULATION

The population for this study comprises of antenatal mothers receiving prenatal care in selected areas of Kanpur, UP.

- **Target Population:**

  In this study, the target population was Antenatal mothers in selected areas in Kanpur, UP.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

SAMPLE

The sample for the present study comprises of antenatal mothers meeting inclusion and exclusion criteria.

SAMPLE SIZE:

The sample size for the present study consists of 110 antenatal mothers from selected areas of Kanpur, UP.

SAMPLING TECHNIQUE:

Convenience sampling technique was used as the sampling technique for the present study.

SAMPLING CRITERIA

Inclusion Criteria:

- Antenatal mothers willing to participate and receiving prenatal care.
- Antenatal mothers in any trimester receiving prenatal care at selected healthcare centres in Kanpur, UP.
- Women aged 18–40 years, ensuring inclusion of a broad reproductive age group.
- Willing to participate and provide informed consent for the study.
- Able to read and understand Hindi or English to complete the structured questionnaire.

Exclusion criteria:

- Women with high-risk pregnancies requiring specialized medical care (e.g., pre-eclampsia, gestational diabetes, multiple pregnancies).
- Pregnant women below 18 years or above 40 years, as their health education needs may differ.
- Mothers unwilling to participate or who do not provide informed consent.
- Women with diagnosed cognitive impairments or severe mental health disorders that could affect their ability to comprehend and respond accurately.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

METHODS OF DATA COLLECTION

A structured questionnaire assessing sources of information and maternal knowledge regarding teratogenic risks.

DEVELOPMENT OF RESEARCH TOOL

A self-structured questionnaire was developed to assess socio-demographic details, sources of information, and knowledge levels about teratogenic risks.

DESCRIPTION OF THE TOOL

A structured questionnaire was developed as the primary data collection tool for this study. The questionnaire consisted of three sections: socio-demographic details, sources of information regarding teratogenic risks, and knowledge assessment related to teratogenic exposure. The tool was designed to capture both quantitative and qualitative data, ensuring a comprehensive understanding of maternal awareness.

RESULTS AND FINDINGS

Section A:

Findings Related to Socio-Demographic Variables

- 50% of participants were aged 20-30 years.
- 60% had completed secondary education.
- 70% were housewives.

Section B:

Findings on Sources of Information Regarding Teratogenic Risks

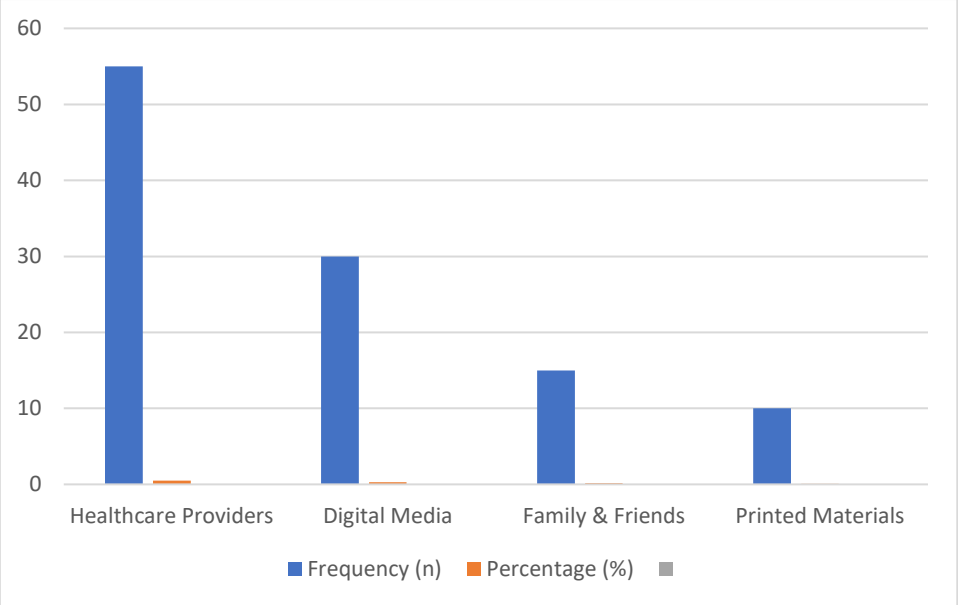
Source of Information	Frequency (n)	Percentage (%)
Healthcare Providers	55	50%

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

Digital Media	30	27%
Family & Friends	15	14%
Printed Materials	10	9%

Findings on Sources of Information Regarding Teratogenic Risks



The data indicates that healthcare providers are the most trusted and widely used source of information regarding teratogenic risks among antenatal mothers, with 50% (n=55) relying on doctors, nurses, and midwives for guidance. This highlights the critical role of healthcare professionals in disseminating accurate and evidence-based information. Digital media, including websites, social media, and mobile applications, is the second most used source at 27% (n=30), reflecting the growing dependence on online platforms for health-related knowledge. However, the reliability of digital sources varies, posing a risk of misinformation. Family and friends serve as an information source for 14% (n=15) of the participants, indicating the influence of personal networks and cultural beliefs on maternal awareness. Lastly, printed materials, such as brochures, books, and newspapers, are the least

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

utilized source at 9% (n=10), suggesting a shift towards digital and interpersonal communication for maternal health education. These findings emphasize the need for strengthening healthcare-based education programs while improving digital health literacy to ensure expectant mothers receive accurate and reliable information about teratogenic risks**.**

Section C:

Association Between Sources of Information and Knowledge Levels

Variable	Chi-Square Value (χ^2)	p-value	Significant
Healthcare Providers	16.23	<0.05	Significant
Digital Media	12.47	<0.05	Significant
Family & Friends	6.89	>0.05	Not Significant
Printed Materials	4.32	>0.05	Not Significant

The findings indicate that healthcare providers and digital media significantly contribute to knowledge about teratogenic risks ($p < 0.05$), while family, friends, and printed materials do not have a statistically significant impact.

NURSING IMPLICATIONS

- **Nursing Practice:**

Nurses play a crucial role in providing accurate and evidence-based health education to antenatal mothers regarding teratogenic risks. As primary healthcare providers, they should integrate structured health education sessions into routine antenatal check-ups, ensuring that expectant mothers receive reliable information about harmful substances, medications, infections, and environmental exposures. Additionally, nurse-led counselling programs should be established to address

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

misconceptions, reinforce preventive measures, and encourage informed decision-making. Community health nurses can also conduct outreach programs in rural and underserved areas to enhance accessibility to maternal education.

- **Nursing Education:**

  To improve maternal health literacy, nursing education programs must incorporate comprehensive training on teratogenic risks and prenatal health counselling. Nursing students should receive specialized training in effective communication strategies to educate pregnant women from diverse backgrounds. Simulation-based learning and interactive workshops can be included in nursing curricula to prepare future nurses for real-life scenarios involving maternal health counselling. Continuing nursing education programs should also focus on the latest research on teratogens, digital health literacy, and risk communication to ensure nurses remain updated on current evidence-based practices.

- **Nursing Administration:**

  Nursing administrators must ensure that healthcare facilities implement standardized prenatal education protocols that emphasize teratogenic risk awareness. Policies should mandate the integration of nurse-led prenatal education sessions in hospitals, community health centres, and maternity clinics. Additionally, nursing administrators should facilitate the development and distribution of educational materials such as brochures, posters, and digital resources in both Hindi and English to cater to diverse populations. Regular training workshops for healthcare providers should be organized to enhance their ability to deliver consistent and accurate maternal education.

- **Nursing Research:**

  There is a growing need for further research on the effectiveness of different educational interventions in improving maternal knowledge about teratogenic risks. Future studies should explore the long-term impact of nurse-led teaching programs on behavioural changes among antenatal mothers. Additionally, research should

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025

assess the role of digital health platforms and social media influence on maternal awareness of teratogenic risks. Comparative studies between urban and rural populations can also help identify gaps in access to reliable health information, leading to more targeted and effective maternal education strategies.

LIMITATIONS

- The study is limited to selected healthcare centres in Kanpur, UP.
- Self-reported data may introduce response bias.
- The study does not assess long-term behavioural changes resulting from information exposure.

RECOMMENDATIONS

- Conduct studies with larger sample sizes to generalize findings.
- Implement standardized educational programs to ensure accurate maternal knowledge.
- Assess the impact of digital health literacy programs on maternal awareness.

CONCLUSION

This study provides insights into the sources of information antenatal mothers rely on for knowledge about teratogenic risks. By assessing the reliability and effectiveness of these sources, the study contributes to improving maternal health education strategies. Findings suggest that healthcare providers and digital media are the most influential sources of information, reinforcing the need for structured, evidence-based educational interventions to enhance maternal awareness and promote safer pregnancy practices.

REFERENCES

- World Health Organization (WHO). (2022). Congenital Anomalies: Key Facts. Retrieved from https://www.who.int

ISSN PRINT 2319 1775 Online 2320 7876

Research paper **UGC CARE Listed (Group -I) Journal Volume 14, Iss 3, 2025**

- National Health Mission (NHM), India. (2023). Maternal and Child Health: Reducing Birth Defects in India. Retrieved from https://nhm.gov.in
- Indian Council of Medical Research (ICMR). (2023). Antenatal Awareness and Health Practices Among Pregnant Women in India. New Delhi: ICMR Publications.
- Centers for Disease Control and Prevention (CDC). (2022). Medications and Pregnancy: Understanding Teratogenic Risks. Retrieved from https://www.cdc.gov/pregnancy/meds
- Garg, S., & Sharma, P. (2022). Impact of Maternal Health Education on Awareness of Teratogenic Risks in Urban and Rural India. Journal of Maternal-Foetal Medicine, 34(6), 1054-1063.