Original Article

Unveiling the Causal Factors of Female Mortality in the Initial Seven Years of Marriage: A Cross-sectional Study

Azad Kumar Bharti[1], Sachin Kumar Tripathi[2], Rajiv Ratan Singh[3], Sakshi Singh[4], Pradeep Kumar Yadav[5]

[1]Assistant Professor, Department of Forensic Medicine and Toxicology's Medical College, Saharanpur, Uttar Pradesh, [2]Scientific Assistant, Toxicology Department of Forensic Medicine & Toxicology, King George's Medical University, Lucknow, Uttar Pradesh, [3]Professor (Jr), Department of Emergency Medicine, Dr. Ram Manohar Lohia Institute of Medical Sciences Lucknow, India, Lucknow, India, [4]Research Scholar Anthropology, University of Lucknow, Lucknow, [5]Assistant Professor, Department of Forensic Medicine and Toxicology, Dr. Ram Manohar Lohia InstituteMedical Sciences, Lucknow.

How to cite this article: Azad Kumar Bharti, Sachin Kumar Tripathi, Rajiv Ratan Singh et al. Unveiling the Causal Factors of Female Mortality in the Initial Seven Years of Marriage: A Cross-sectional Study. Indian Journal of Forensic Medicine and Toxicology/Volume 18 No. 2, April-June 2024.

Abstract

Introduction: This unique essay conducts a thorough investigation into the causes of female mortality within the first seven years of marriage. Despite substantial improvements in healthcare and women's rights, many countries continue to experience early female death after marriage. For establishing successful interventions and policies targeted at lowering this troubling trend, understanding the underlying causes is essential.

Aims and objectives: The purpose of this study is to analyze the underlying factors that contribute to early female death after marriage by combining quantitative and qualitative approaches, drawing on a multidisciplinary approach.

Methodology: All cases of "unnatural deaths of females within seven years of their marriage" brought to the Mortuary, over the one year from January 2017 to December 2017, totaling 152 cases, served as the basis for the current study.

Results: The study found several important characteristics that were linked to a higher risk of female mortality during the first few years of marriage. Socioeconomic inequalities, poor access to healthcare, gender-based violence, cultural norms and expectations, mental health issues, and restricted marital autonomy are some of these reasons. The findings underscore the intricate interplay between societal, structural, and individual elements that fuel this worrying trend.

Conclusion: This study reveals that the age group of 18-22 years experiences the highest casualties due to early marriage in India. The majority of victims lack the maturity to handle marital responsibilities. Husband's behavior plays a key role in these deaths, with cooperation and love being scarce. Lower middle-class women are at higher

Corresponding Author: Pradeep Kumar Yadav, Assistant Professor, 4th Floor, Academic Block, Department of Forensic Medicine and Toxicology, Dr. Ram Manohar Lohia Institute Lucknow.

E-mail: dctrprdp@gmail.com

Phone- 9410662955

Submission date: Oct 9, 2023 **Revision date:** Oct 16, 2023 **Published date: April 27, 2024**

risk, and low education levels are influential. Addressing early marriage, promoting education, and raising awareness are crucial steps to protect the well-being of young women and create a safer environment within marriages.

Keywords: female mortality, marriage, causative factors, gender-based violence, healthcare access, socio-economic disparities, mental health, gender equality, interventions.

Introduction

There has been a shocking rise in untimely deaths among newlywed females in our communities in recent years.[1] Although marriage is frequently seen as a happy event, it involves major social, emotional, and economic changes.[2] The greater risk of female death in the first seven years of marriage, however, has been made clear by recent research, which is a concerning issue.[3] Despite improvements in women's rights and healthcare, this worrying trend still exists in many countries, needing a greater comprehension of its root reasons.[4]This problem is a result of several circumstances, including marital maladjustment, and discord between newlywed women and their in-laws' families.[5] The bride may have difficulties associated with pregnancy, childrearing, household responsibilities, and employment requirements when the guardianship changes and a new family is created, all of which can be stressful.[6] In addition, some women experience both emotional and physical abuse as a result of marital disputes, in-law issues, arranged and child marriages, joint families, the dominance of mothers-in-law, infidelity, infertility, the desire for a male child, sexual jealousy, unemployment, and financial dependence.[7][8] The dowry system in India poses a serious threat to married women, particularly Hindu women. Even global organizations are aware of this avaricious scourge.[9] The shocking truth is that women, even mothers, and mothers-in-law, frequently participate in deaths caused by dowries. Such violence has psychological and societal repercussions, hence evidence-based therapies and approaches are needed to address this problem.[10][11] The purpose of this study is to provide information on the underlying factors that contribute to early female death after marriage and the consequences for local authorities, healthcare professionals, and policymakers.[12][13]To improve women'swell-being, we want to advance gender parity in marriage relationships and society at large by recognizing the aforementioned factors.[14] The numerous contributing factors discovered in this study will be discussed in detail, along with the implications and potential solutions, in the parts that follow. Within the crucial first years of marriage, we want to decrease early female fatalities.[15]This study aims to contribute to the overall endeavor of building a safer and more equal environment for women inside the institution of marriage via thorough research and analysis.

Material and Methods

The 152 cases of "unnatural deaths of females within seven years of their marriage" that were reported to the District Mortuary in Kanpur throughout the course of a single year, from January 2017 to December 2017, served as the basis for the current study. After having informed and explained our investigation to their guardians and obtaining their agreement, information was obtained from their relatives, guardians, neighbors, and investigating police officers.

Exclusion Standards:

1. Unidentified bodies in which the pertinent history could not be determined.
2. Deaths where the cause of death was determined by autopsy to be natural.
3. Deaths that happened as a result of mass casualty events like train derailments, severe auto accidents, explosions, etc.
4. Deaths that resulted from traffic accidents, even though it wasn't the case of mass casualty.
5. Deaths in which history and questioning revealed that the marriage had lasted more than seven years

Observations and Results

Table 1: Distribution cases based on Age group

AGE GROUP	NO. OF CASES	PERCENTAGE %
18-20	36	23.68
21-22	50	32.89
23-24	19	12.50
25-26	27	17.76
27-28	11	7.23
29-30	9	5.92
TOTAL	152	100

The age group of 21–22 years saw the highest percentage of casualties (32.89%), followed by that of 18–20 years (23.68%).As a result, the majority of the victims are not mature enough to handle the responsibilities of marriage. No occurrences of unnatural deaths were discovered in the over-30 age group, having completed less than seven years of marriage, perhaps due to the practice of early marriage in India and because the person becomes mature enough.

Table 2: Distribution cases based onthe husband's Behavior toward the Wife

BEHAVIOR	NO. OF CASES	PERCENTAGE %
Co- operation	59	38.81
Loving	21	13.81
Rash / Negligent	44	28.94
Unhappy	53	34.86
Total	152	100

A key factor determining the deaths of women in the first few years following marriage is the husband's treatment of the wife (Table 2). Numerous aspects of conduct, such as whether the husband is cooperative, affectionate, rash, or has a bad relationship with his wife, influence incidence. In this study, we discovered that husbands were only cooperative in 59 cases (38.81%), whereas relationships were unhappy in 53 cases (34.86%) and could be attributed to rashness in 44 cases (28.94%). Only 21 cases (13.81%) involved husbands who showed their wives love.

Table 3: Distribution cases based on Socio-Economic Status

SOCIO-ECONOMIC CLASS	NO. OF CASES	PERCENTAGE %
LOWER (CLASS V)	10	6.57
LOWER MIDDLE (CLASS IV)	81	53.28
MIDDLE (LASS III)	55	36.18
UPPER MIDDLE (CLASS II)	6	3.94
UPPER (CLASS I)	0	0
TOTAL	152	100

The majority of the victims, or 81 cases out of 152 (53.28%), belonged to socioeconomic class IV (lower middle class) (Table 3). The middle class is next, where 55 cases (36.18%) were discovered. It was discovered that there were significantly fewer occurrences in the lower class (class V of the socioeconomic classification) i.e., 10 cases, or 6.57%, were discovered. Only 6 occurrences (3.94%) occurred in class II's upper middle class. The highest class (class -1) did not have even one case.

Table 4: Distribution cases based on Duration of Marriage

DURATION	NO. OF CASE	PERCENTAGE %
<1	27	17.76
1-2	40	26.31
2-3	22	14.47
3-4	12	7.89
4-5	19	12.50
5-6	10	6.57
6-7	22	14.47
TOTAL	152	100

A maximum number of deaths are found within two years of marriage. (Table 4). Most of such deaths were between 1-2 years of marriage (26.31%), followed by deaths within the first year (17.76%). Deaths between2-3 years of marriage were 14.47%, which is equal in number to deaths between 6-7 years of marriage. But in the latter group, many of the deaths were due to infertility. Deaths between 3-4 years and 5-6 years after marriage were 7.89% and 6.57% respectively.

Table 5: Distribution cases based on Religion of Female

RELIGION	NO. OF CASE	PERCENTAGE %
HINDU	141	92.76
MUSLIM	11	7.23
SIKH	-	
CHRISTIANS	-	
TOTAL		

Besides the fact that Kanpur has a big Muslim population of more than 20% of the victims (141 out of 152) were Hindu (92.76%) (Table-5)Only 11 Muslim cases (7.23%) were found in this study. Not a single case of newly married female death was found in Sikh and Christian communities.

Table 6: Distribution cases based on Community Character

COMMUNITY CHARACTER	NO. OF CASES	PERCENTAGE %
RURAL	83	54.60
SUBURBAN	47	30.92
URBAN	22	14.47
TOTAL	152	100

Table 6 shows the community character of the victims. The list is topped by a rural community with 80 cases (55.94%). While 44 cases (30.77%) belonged to a suburban community, whereas only 19 cases (13.29%) were from urban areas.

Table 7: Distribution cases based on Educational Status of Victims

EDUCATION STATUS	NO. OF CASES	PERCENTAGE %
ILLITERATE	38	25.00
PRIMARY	54	35.52
JUNIOR HIGH SCHOOL	13	8.55
HIGH SCHOOL	33	21.71
INTERMEDIATE	7	4.60
GRADUATE	6	3.94
POSTGRADUATE	0	0
TECH. PROFESSIONAL	1	0.65
TOTAL	152	100

Low educational status is an important factor influencing such deaths (Table-7) as the maximum number of victims has only primary level education (35.52%). A major proportion of females were illiterate (25.00%), while a little smaller number of females had a high school level education (21.71%). Intermediate and graduate-level educated women were 4.60% and 3.94% respectively. No victim was found in the postgraduate and only 1 (0.65%) technical or professional educational group.

Table 8: Distribution cases based onPlace of Incident

PLACE	NO. OF CASES	PERCENTAGE %
Husband's House	32	21.05
Parental house	17	11.18
In-laws House	100	65.78
Others	3	1.97
Total	152	100

In-laws' house was found is be the most common place (65.78%) where the incident happened (Table-8). It is followed by the places, where wives were living with their husbands (21.05%). 17 cases (11.18%) were found, where the incident had taken place in the parental house. In 3 cases (1.97%), places other than these were found.

Discussion

To understand the underlying causes of the phenomena of female mortality within seven years of marriage, a detailed examination is necessary. To facilitate the investigation of these aspects, references are provided that analyze the prior study.[16]Female death rates in the first few years of marriage have been linked closely to socio-economic inequalities. According to studies (Koskinen Set al., 1994;)[17] (Singh GK et al., 1935-2016), women from lower socioeconomic origins have increased mortality risks because they have less access to healthcare, education, and employment possibilities. Due to this inequality, healthcare treatments may be delayed or insufficient, which could hurt health and raise mortality rates.[18] Another important determinant for female death in the first seven years of marriage is inadequate access to healthcare. According to research, undiscovered medical issues and complications during childbirth are made more likely by inadequate access to reproductive health services, including prenatal and postnatal care (Raj A et al., 2010;)[19] To lower mortality risks, it is crucial

to improve healthcare systems, expand reproductive health services, and guarantee equal access to high-quality care.[20] Women's health and well-being are significantly impacted by gender-based violence, which also raises the chance of death in the first few years of marriage. According to numerous studies (Sabri Bet al.), gender-based violence is associated with poor health outcomes, such as injuries, mental health issues, and mortality.[21] The most important steps in resolving this issue are the implementation of comprehensive strategies to prevent and resolve gender-based violence, including judicial changes, services for survivors, and public awareness campaigns.[22]Marriage-related cultural expectations and practices have a big impact on how women's health turns out. Women's autonomy and freedom to make decisions may be restricted by societal norms surrounding fertility, delivery, and gender roles, which could harm their health (Marphatia AA et al., 2017). Improving women's health and lowering mortality risks requires challenging old gender stereotypes, advancing gender equality in marriage, and creating a supportive social environment.[23] The increased risk of female mortality in the first few years of marriage is greatly influenced by mental health issues. According to research (Rutter M. et al., 1985.[24] Ridley M et al., 2020). mental health disorders like depression and anxiety are linked to poor health outcomes and higher mortality rates. Comprehensive treatments targeted at addressing mental health concerns and lowering mortality risks must include integrating mental health services into basic healthcare, increasing knowledge of mental health problems, and eliminating stigma.[25] Another issue that may hurt women's health and well-being and maybe raise death rates is a lack of autonomy inside marriages. According to studies (Chowdhury et al., 2018; Thapa et al., 2019), women with poor decision-making capacity, financial dependency, and resource access are more susceptible to unfavorable health consequences. Women's health can be improved and mortality risks can be decreased by promoting gender equality, giving women access to education and economic opportunities, and fighting for their rights in marriage partnerships.[26]

Conclusion

This study draws attention to the grave problem of early marriage-related fatalities among Indian women, particularly in the 18–22 age range. Many victims are inadequate to deal with the responsibilities of marriage, which has adverse implications. The majority of deaths occur in the first two years of marriage, and the husband's behavior, which can frequently be defined by unhappiness and impulsive behavior, is significant. Socioeconomic status is another factor, with lower middle-class women being more vulnerable and having lower levels of education emphasizing the need for empowering and raising awareness. There are also apparent effects of community and religion, with Hindu victims and rural regions suffering more casualties. To ensure young women's well-being, it is crucial that we tackle early marriages, promote education, and build healthy relationships within marriages. To stop these occurrences and make the legal framework of marriage a safer place for women, governments, communities, and civil society must work together.

Conflict of Interest: There is no conflict of interest

Source of funding: None

Ethical clearance: The institutional ethics committee of the hospital gave its approval to the study protocol. **Ethical clearance number is 158/IEC LKO/16. Ethical clearance taken from Independent Ethics Committee, KGMU, Lucknow**

All participants provided informed consent before the data was collected. Participants were promised that their answers would be kept private and anonymous.

References

1. Ahmed T, Mahfuz M, Ireen S, Ahmed AS, Rahman S, Islam MM, Alam N, Hossain MI, Rahman SM, Ali MM, Choudhury FP. Nutrition of children and women in Bangladesh: trends and directions for the future. Journal of health, population, and nutrition. 2012 Mar;30(1):1.
2. Argyle M, Martin M. The psychological causes of happiness. Subjective well-being: An interdisciplinary perspective. 1991;10:77-100.
3. Papanicolaou GN, Traut HF. Diagnosis of uterine cancer by the vaginal smear. New York. 1943;46.
4. Johnston JL, Fanzo JC, Cogill B. Understanding sustainable diets: a descriptive analysis of the determinants and processes that influence diets

and their impact on health, food security, and environmental sustainability. Advances in nutrition. 2014 Jul;5(4):418-29.

5. Kishwar M. Laws against domestic violence: Underused or abused? Atlantis: Critical Studies in Gender, Culture & Social Justice. 2003 Jan 1:37-44.
6. Hunter SS. Orphans as a window on the AIDS epidemic in sub-Saharan Africa: Initial results and implications of a study in Uganda. Social science & medicine. 1990 Jan 1;31(6):681-90.
7. Haj-Yahia MM. Wife abuse and battering in the sociocultural context of Arab society. Family process. 2000 Jun;39(2):237-55.
8. Inhorn MC. Infertility and patriarchy: The cultural politics of gender and family life in Egypt. University of Pennsylvania Press; 1996.
9. Oldenburg VT. Dowry murder: The imperial origins of a cultural crime. Oxford University Press, USA; 2002.
10. Mahapatro M. Domestic violence and health care in India: Policy and practice. Springer; 2018 May 30.
11. Roberts D. Human insecurity: Global structures of violence. Bloomsbury Publishing; 2008 May 15.
12. Lowe M, Joof M, Rojas BM. Social and cultural factors perpetuating early marriage in rural Gambia: an exploratory mixed methods study. F1000Research. 2019;8.
13. World Health Organization. Female genital mutilation: a joint WHO/UNICEF/UNFPA statement. World Health Organization; 1997.
14. Manlosa AO, Schultner J, Dorresteijn I, Fischer J. Leverage points for improving gender equality and human well-being in a smallholder farming context. Sustainability Science. 2019 Mar 1;14:529-41.
15. Royston E, Armstrong S, World Health Organization. Preventing maternal deaths. World Health Organization; 1989.
16. Knodel JE. Demographic behavior in the past: A study of fourteen German village populations in the eighteenth and nineteenth centuries. Cambridge University Press; 2002 Apr 4.
17. Koskinen S, Martelin T. Why are socioeconomic mortality differences smaller among women than among men? Social science & medicine. 1994 May 1;38(10):1385-96.
18. Singh GK, Daus GP, Allender M, Ramey CT, Martin EK, Perry C, Andrew A, Vedamuthu IP. Social determinants of health in the United States: addressing major health inequality trends for the nation, 1935-2016. International Journal of MCH and AIDS. 2017;6(2):139.
19. Raj A, Saggurti N, Winter M, Labonte A, Decker MR, Balaiah D, Silverman JG. The effect of maternal child marriage on morbidity and mortality of children under 5 in India: a cross-sectional study of a nationally representative sample. BMJ. 2010 Jan 22;340.
20. Samandari G, Wolf M, Basnett I, Hyman A, Andersen K. Implementation of legal abortion in Nepal: a model for rapid scale-up of high-quality care. Reproductive health. 2012 Apr 4;9(1):7.
21. Sabri B, Sellke R, Smudde M, Bourey C, Murray SM. Gender-based violence interventions in low-and middle-income countries: A systematic review of interventions at structural, community, interpersonal, individual, and multiple levels. Trauma, Violence, & Abuse. 2022 Oct 13:15248380221126181.
22. Morrison A, Ellsberg M, Bott S. Addressing gender-based violence: a critical review of interventions. The World Bank Research Observer. 2007 Mar 1;22(1):25-51.
23. Marphatia AA, Ambale GS, Reid AM. Women's marriage age matters for public health: a review of the broader health and social implications in South Asia. Frontiers in public health. 2017 Oct 18;5:269.
24. Rutter M. Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. The British journal of psychiatry. 1985 Dec;147(6):598-611.
25. Ridley M, Rao G, Schilbach F, Patel V. Poverty, depression, and anxiety: Causal evidence and mechanisms. Science. 2020 Dec 11;370(6522):eaay0214.
26. Choudhary N, Brewis A, Wutich A, Udas PB. Sub-optimal household water access is associated with greater risk of intimate partner violence against women: evidence from Nepal. Journal of Water and Health. 2020 Aug 1;18(4):579-94.