

## Gendered pattern of burn injuries in India: a neglected health issue

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**Abstract:** *There are an estimated 7 million burn injuries in India annually, of which 700,000 require hospital admission and 140,000 are fatal. 91,000 of these deaths are women; a figure higher than that for maternal mortality. Women of child bearing age are on average three times more likely than men to die of burn injuries. This paper reviews the existing literature on burn injuries in India and raises pertinent issues about prevalence, causes and gaps in recognising the gendered factors leading to a high number of women dying due to burns. The work of various women's groups and health researchers with burns victims raises several questions about the categorisation of burn deaths as accident, suicide and homicide and the failure of the health system to recognise underlying violence. Despite compelling evidence, the health system has not recognised this as a priority. Considering the substantial cost of burns care, prevention is the key which requires health systems to recognise the linkages between burn injuries and domestic violence. Health systems need to integrate awareness programmes about domestic violence and train health professionals to identify signs and symptoms of violence. This would contribute to early identification of abuse so that survivors are able to access support services at an early stage. © 2016 Reproductive Health Matters. Published by Elsevier BV. All rights reserved.*

**Keywords:** burn injuries, fire-related deaths, domestic violence, health systems, forensic role

### Introduction

Burns are a critical public health problem, causing deaths, disability and disfigurement. Globally, there are about 300,000 deaths due to burns every year. Of these, 95% take place in developing countries with Southeast Asia recording nearly 57% of deaths due to burns.<sup>1</sup> Extrapolation of data from major hospitals indicates an estimation of 7 million burn incidents in India each year, making burn injuries the second largest group of injuries after road accidents.<sup>2</sup> In 1998, India was the only country in the world where fire was among the 15 leading causes of death, according to WHO.<sup>3</sup> However, the Government of India has not put in place a national injury surveillance system, hence the exact incidence of burn-related morbidity and mortality is not known. In 2010, the Government of India announced the National Programme for Prevention of Burn Injuries (NPPBI) which aims at prevention, burns injury management and establishment of a central burn registry, but its impact is not yet noticeable.<sup>2</sup>

A retrospective study of medical records in urban areas and a verbal autopsy-based sample survey for rural populations in India produced an estimate of 163,000 fire-related deaths in 2001. This amounts to about 2% of all deaths and was found to be six times higher than police reports.

About 106,000 of these deaths occurred in women, mostly between 15 and 34 years of age. This age-sex pattern was consistent across multiple local studies, and the average ratio of fire related deaths of young women to young men was 3:1.<sup>4</sup> A study of women's health priorities based on the 2004 mortality estimates and disease burden of the WHO Global Burden of Diseases Study found that burns in young women were common in Southeast Asia, with it being the third cause of death for women aged 15–44, followed by self-inflicted injuries.<sup>5</sup>

Burn-related injuries and deaths amongst women in India are likely to be caused by: kitchen accidents related to use of kerosene and flammability of garments; self-immolation or suicides; and homicides related to domestic violence. Evidence suggests that domestic violence (physical, sexual and emotional), which is widespread in India, could have an important role in these burn injuries.<sup>6</sup> The estimates for violence from community-based studies vary from 18% to 70%. However, several issues have been raised in relation to measurement of violence due to variation in the research designs and methods of data collection used. The National Family Health Survey (NFHS III) and National Crime Records Bureau (NCRB) provide an insight into the occurrence and the nature of violence against women (VAW). According to NFHS III data, one in three women has faced

some form of violence in her lifetime and 25% of women experienced physical and/or sexual violence in the 12 months preceding the survey. On average, amongst ever married women who reported violence in the last 12 months, 42% reported some kind of injury, 40% reported cuts, bruises or aches, 10% reported eye injuries, sprains, dislocations or burns, 7.5% reported deep wounds, broken bones or teeth or other serious injury and 2% reported severe burns.<sup>7</sup> The NCRB records show 122,877 cases of violence by husband or relatives, 8,455 dowry deaths and 2,233 suicides among women due to dowry harassment in 2014.<sup>8</sup> The NCRB data is based on cases registered with the police and these numbers are therefore grossly underreported and may not provide accurate data on burn injuries.

It is also pertinent to note that VAW is not fully recognised as a public health issue within the health policy and programmes in India. Health providers often fail to document current and past episodes of violence and limit their role to treating physical signs and symptoms.<sup>9</sup> This further acts as a barrier in estimating the health consequences of domestic violence as it remains unreported at the level of health facilities.

This paper focuses on fire-related burn injuries among women in India, one of the lesser acknowledged forms of VAW, based on the literature published in the last few decades by medical professionals, health researchers and women's groups. The paper covers the macro picture of fire-related deaths, the gaps in research on burns, and highlights the need for strengthening interventions through the health system to address the problem.

### Medical literature on burns

Most of the global literature on burns is from developed countries and focused on treatment, which has played a role in reducing the burden of burn injuries in these countries. While there are some studies in low- and middle-income countries, there is a need for more research in these countries in terms of defining the magnitude, nature, epidemiology, causes, treatment, and prevention of burn injuries. Reliable national level data is also necessary, but currently limited.

Much of the literature on burns in India has been published by doctors (forensic scientists, burns specialists) in peer-reviewed journals such as *BURNS*, *Journal of the International Society of Burn Injuries*, *Journal of Burns Care and Rehabilitation*, *Lancet*, *Medicine*, and *Science and Law*. The

setting up of the *BURNS Society* in 1993 was the first recognition of the acute problem of burns in India. Since then, there has been consistent reporting of various aspects of burns such as epidemiology and management of burns patients with specific reference to methods to prevent and reduce deaths. These papers are often retrospective studies using either post-mortem reports or burns registers or hospital records as the source of information and report on the profile of burns patients based on sex, vehicle of burns, percentage of burns, causes – suicide/homicide/accident – and burns outcomes.

The literature from India indicates that age and gender are important determinants for burn injuries. Burns tend to occur more in certain age groups. Amongst children, accidental burns are common due to lack of awareness among children about dangerous substances and poor parental supervision in resource-poor settings where living environments are hazardous.<sup>10,11</sup> Among males, burn injuries are related to exposure to hazardous situations largely outside home. For women, however, burn injuries are found to occur at home.

Deaths due to burns are four times higher amongst women aged 18-35 years and reports from across the country (such as Delhi, Mumbai, Kanpur, Haryana, Manipal, North West and recently Jammu) indicate that these deaths occur due to accidents such as bursting of kerosene stoves or kerosene spilling and clothes catching fire.<sup>12-24</sup> This is further explained by the nature of clothing worn by women in India such as *saree*<sup>\*</sup> and *dupatta*<sup>†</sup>. Evidence points towards burns being one of the main causes of death amongst women in the age group 15-44 years.<sup>25-26</sup>

### Cause of burns

Community studies in India have shown that dowry-related violence is an important cause of bride burning or dowry deaths<sup>‡</sup> of women.<sup>27-31</sup> These deaths may be disguised as accidents

<sup>\*</sup>*Saree* is a dress worn especially by South Asian women, consisting of a very long piece of cloth wrapped around the body

<sup>†</sup>*Dupatta* is a long piece of cloth worn around the head, neck, and shoulders by women from South Asia.

<sup>‡</sup>A dowry death is the killing of a young woman by members of her conjugal family for not bringing sufficient dowry, and is commonly executed by first dousing the woman with kerosene and then setting her alight.

and suicides. Few papers point towards suspicious circumstances suggesting homicide – or suicide.<sup>25,32–35</sup>

One way in which women attempt suicide in India is by setting themselves on fire, other common methods include consumption of poisonous substances, such as pesticides or insecticides, or kerosene.<sup>7</sup> One study reported that 70% of female burn cases in a hospital were suicidal, and 74% of the cases were married women.<sup>36</sup> Authors explain that suicides amongst women were due to family quarrels, dowry harassment, alcoholism, stress, and maladjustment of young brides in their marital homes. However, there is no mention of domestic violence. One paper even refers to women committing suicide by burns as cowards.<sup>12,34</sup> The NCRB 2014 reports that 32% of all suicides were women, with dowry-related issues and marriage problems often cited as the cause of suicide.<sup>8</sup>

### *Literature investigating “accidental burns”*

In contrast to those mentioned above, a few studies have probed further into the matter and included interviews with patients and/or family members to gather complete information about the causes of the burn injuries. In one study, the cause of death in 29% of cases was reported as bursting of kerosene stove when there was not even a stove in the kitchen.<sup>37</sup> Other studies have raised concerns over investigation and treatment of burns among women and found that in many cases even the dead body of the victim is unavailable because the marital family (or the accused) have disposed of the body by cremation without informing the police or relatives of the deceased individual.<sup>38–39</sup>

A detailed analysis of some of the case studies by the Bureau of Police in 1986 concluded that a large number of young brides have to endure humiliating treatment meted out by their in-laws and ultimately die an unnatural death because, in the prevailing social conditions where women receive little support from natal families, it is not possible for a young woman to completely separate from her in-laws and eke out an independent existence.<sup>40</sup> This report by the police recognised that investigating dowry-related crime and unnatural death was difficult and required special professional skills and dedication. There was also a clear recognition of the role of forensic experts in investigating the fuels used for burning.

### *Evidence and testimonies of burn injuries as violence*

VAW and particularly deaths of women in marital homes, often referred to as “deaths by burning” or “dowry deaths”, were identified and raised as a problem by women’s movements in India in the 1980s.<sup>41</sup> As a result of this campaign, dowry death was introduced as a new offence under Criminal Law so that if a woman dies due to unnatural death with seven years of her marriage, the death has to be medically examined. Dying declarations were also introduced so that women’s testimonies were put on record.<sup>42</sup>

Hospital-based support provided by Vimochana, a women’s group working in a large tertiary hospital in Bengaluru (a city in India), has brought to light that deaths due to burns could be homicidal, where the male partner and his family have conspired to murder the woman by burning, or could be suicidal as a result of ongoing abuse. Women often succumb to family pressure and concerns for their children prevent them from speaking out against the abuse they face. Most burn injuries, therefore, get reported only as ‘accidents’. Vimochana’s study of unnatural deaths of women in marriages in Bangalore city between 1997 and 1999 found that 70% of these reported deaths of young brides were closed as accidental deaths.<sup>43</sup> Police reports recorded 1,200 such unnatural deaths. Vimochana found several loopholes in police investigations, the post mortem and dying declarations. Their report compelled the police to re-open 100 cases where they found that these unnatural deaths were due to domestic violence and/or dowry harassment. Vimochana also launched a campaign on the right to die with dignity to address the dismal conditions in the burns unit in the city hospital.<sup>44</sup>

CEHAT, a research organisation working with a human rights perspective on health, conducted a study in 2014 in a large tertiary hospital in Mumbai. The study found that in 62% of 133 cases, there was a difference between the information about the cause of burns as mentioned in the medical records as compared to the counsellors’ records. While the medical records stated the cause of burns as “accidental” or “no information”, the counsellors mentioned the causes as suicidal, homicidal and domestic violence. Reasons for the difference included poor documentation by health providers, no enquiry into history of domestic violence, and patient’s fear of police investigation.<sup>45</sup> These findings are supported by a study

by SNEHA, a community-based NGO in Mumbai, which found that the classification of manner of death of women dying of burns by the hospital depends on multiple factors, including those associated with the hospital, the woman herself, her natal family, the spouse and his family, as well as the police. Biases and injustice to the victim were frequently observed.<sup>46</sup>

### *Role of the health system*

The medico-legal response to deaths caused by burns is well entrenched in the existing criminal justice system. The existing laws make investigation mandatory for all unnatural deaths of married women within seven years of marriage. Doctors play an important role in the recording of dying declarations, determining whether injuries were ante-mortem (preceding death) or post-mortem, whether the deaths were homicidal, suicidal or accidental and whether they were self-inflicted.

As observed in the literature based on hospital records, most cases are recorded as “accidental burns” as this is what women and their families report. Certain patterns in these histories, such as “stove burst” when most households use LPG (liquefied petroleum gas) for cooking, time of stove burst reported at unusual hours at night, nature of burns, such as when kerosene had been poured on the woman, and other similar cases of discrepancy between the history given by the patient and the patterns of burns, point towards the need for further investigation. However, health professionals often fail to document such details, or to ask about domestic violence, limiting their role to treating physical signs and symptoms.<sup>47,48</sup>

Violence is seen as private behaviour, beyond the scope of medical professionals. Doctors and nurses believe that their sole role is to treat disease and the physical manifestations of ill-health. The biomedical model that predominates in most health-care settings does not facilitate the disclosure of domestic violence by women or enable an appropriate response from providers.<sup>48</sup> Violence is often seen as solely a social or criminal-justice problem, and not as a clinical or public health issue. Health providers share the predominant sociocultural norms that sanction male dominance over women and the acceptability of violence – precisely the attitudes that reinforce violence against women.<sup>47–49</sup> Gender biases in medical and nursing education have also been

documented in India, and the biases against women reporting rape perpetuated in Indian medical textbooks and in medical practice have been challenged in court.<sup>50</sup> This gender gap in education results in the failure to recognise gender as a social determinant of health and therefore the inequalities faced by women.<sup>49,51</sup>

### *Discussion*

From the 1980s to date, burn-related injuries and death in India show a gendered pattern, with young women aged 18-35 being the most affected. The vehicle of burns is kerosene, and burns occur mostly in kitchens. The burn outcomes for women are poor. The medical literature on the subject states this repeatedly but there is no exploration of why is it that so many young women die of accidental burns in kitchens after marriage when they are initiated into cooking as early as age 10-12. No question has been raised about why they cooked well in their parental homes but met with accidental burns in their marital homes, or why, when all women and girls cook, all wear *sarees* or *duppattas*, do young, newly-married women end up with their clothes accidentally catching fire in the kitchen? Most of the medical literature reports the profile of burns patients, severity of burns, outcomes and cause of burn as documented in hospital records, based in turn on what the victim and/or family report at the time of hospitalisation or death. This does not provide a comprehensive picture about the issue. There are no investigations of cause of burns amongst women and no study on the quality of stoves or the lack of safety in kitchens. Although it is repeatedly stated that burns are a public health epidemic/crisis, there are no efforts to investigate the causes or develop prevention strategies. This is a serious omission as burn injuries are mostly preventable. Furthermore, a public health approach to burns management is missing, including a detailed analysis of the occurrence of burns among women, the modes of information gathering in the hospitals, the lack of enquiry into the causes of burning and the circumstances preceding the episode of burning, and poor management and outcomes of such cases.

The most disconcerting issue is the disconnect between the medical literature on burn injuries among women and the work of women’s groups and NGOs in India and this problem has not been given the attention it deserves. This is most evident from the fact that, unlike road traffic

accidents, so many women dying every day in so called “kitchen accidents”, the issue has not prompted any campaign for making kitchens safe. Neither has there been any effort to recognise burn injuries as a sign of domestic violence in health care settings. As one researcher pointed out,<sup>25</sup> if in any industry even one tenth of the burn deaths in women had occurred, this would have attracted greater attention and a search for remedial measures. Since the victims are women, largely from lower socio-economic classes, such a large number of deaths remain unnoticed. Those who survive but are maimed or disfigured are left to face the social and psychological consequences on their own.

The issue of follow up treatment and rehabilitation finds hardly any mention in medical literature. For those who survive, the treatment is long and arduous. Burns survivors require reconstructive surgery, occupational therapy and long treatment and rehabilitation plans including psychological support. Burn survivors groups have worked elsewhere on improving reintegration into family and community but there is limited emphasis on this in the medical literature from India, apart from one effort by a tertiary hospital in Mumbai towards organising camps for child survivors of burns. Considering that the burns burden is gendered, the health, social and economic consequences for women who survive burn injuries are very serious, particularly for those living with scars and disfigurement.

The role of the health professionals in responding to burns injuries points to their failure to probe beyond what the woman says even when her history is not consistent with the injuries on her body. Even in case of suicidal burns, to categorise harassment as reported by women as “maladjustment” or “quarrels”, rather than as violence, points to the reluctance of the medical fraternity to go beyond medical aspects of care, and to the lack of understanding of VAW as a health care issue. The biomedical approach trains doctors to focus on the physical symptoms and most believe that their role is only to treat the reported health complaints. In addition, they do not recognise gender inequality as a social determinant and fail to recognise the situation of and barriers faced by women. Moreover, the lack of gender sensitive protocols for documenting the history, circumstances, patterns and position of burn injuries, prevents doctors from recording relevant and crucial information.

Despite over three decades of focus and advocacy on VAW by women’s movements, textbooks on medical jurisprudence followed in medical schools in India still do not provide any systematic guidelines for examination of burns injuries or the links between burns injuries and experience of domestic violence. There is no guidance on the role and responsibility of medical professionals to investigate the cause of burns in order to inform prevention strategies and assist women’s access to justice.

### ***Conclusion and policy implications/ recommendations***

The failure to recognize burn injuries among women as a major concern is rooted in gender inequality. Health professionals and health systems need to recognise the gendered pattern of burns injuries in India. The health system has a key role in training health professionals on violence-related issues, including specific training on burn-related injuries, in a way that equips them to respond to the specific needs of survivors, document the injuries and incident, and assist survivors in seeking justice. Clear protocols for documentation, care and support need to be issued for responding to burn injuries.

There is an urgent need to document and collect accurate data on burns injuries and deaths from health facilities, police records and cause of death registers. Currently, there is no mechanism to collate this data. The national injuries register that has been proposed under the NPPBI should be implemented at the earliest.

The NPPBI has a component for awareness building which provides an opportunity to raise pertinent issues emerging from a gendered analysis of the existing data. In the case of accidents, it is important to assess how kitchen safety can be improved, and how the family and community can be made accountable for safety in homes. Important steps would be to create awareness about safety measures in kitchens, and to give investigation of kitchen accidents the same priority as that of road accidents. For homicides and suicides due to burns, there is a need to review ways in which gender norms around domestic violence and dowry can be addressed to prevent such incidents.

Likewise, there is a need to investigate the abnormally high number of accidental burns amongst young women aged 18-35. Verbal

autopsies, which have been used successfully to identify barriers at community and health system levels in cases of maternal deaths, could be considered as a method to enquire into burns deaths. Issues such as the role of family members when

such accidents take place, in terms of extinguishing the fire, pouring water, providing first aid, and immediate medical care, remain unexplored, and as a result a large number of women continue to die from burn injuries and are silenced forever.

## References

1. World Health Organization (WHO). A WHO Plan for Burn Prevention and Care. Geneva: WHO, 2008. Available from: [http://whqlibdoc.who.int/publications/2008/9789241596299\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241596299_eng.pdf).
2. Gupta JL, Makhija LK, Bajaj SP. National programme for prevention of burn injuries. *Indian Journal of Plastic Surgery*, 2010;43:56–10.
3. WHO. In: Krug, Dahlberg, Mercy, et al World report on violence and health. Geneva: WHO, 2002.
4. Sanghavi P, Bhalla K, Das V. Fire-related deaths in India in 2001: a retrospective analysis of data. *Lancet*, 2009; 373(9671):1282–1288.
5. Ribeiro PS, Jacobsen KH, Mathers CD, et al. Priorities for women's health from the Global Burden of Disease study. *International Journal of Gynaecology and Obstetrics*, 2008; 102:82–90.
6. Garcia-Moreno C. Gender inequality and fire-related deaths in India. *Lancet*, 2009;73(9671):1230–1231.
7. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS, 2007.
8. National Crime Records Bureau, Ministry of Home Affairs, Government of India. Crimes in India and Accidental Deaths & Suicides in India. 2014. (Accessible at <http://ncrb.gov.in>).
9. Garcia-Moreno C, Hegarty K, d'Oliveira AFL, et al. The health-systems response to violence against women. *Lancet*, 2014;385(9977):1567–1579.
10. Balan B, Lingam L. Unintentional injuries among children in resource poor settings: where do the fingers point? *Archives of Disease in Childhood*, 2012;97:35–38. <http://dx.doi.org/10.1136/archdischild-2011-300589>.
11. Ramakrishnan MK, Sankar J, Venkatraman J. Profile of pediatric burns, Indian experience in a tertiary care burn unit. *Burns*, 2005;31(3):351–353.
12. Parry A, Ashraf M, Sharma R, Saraf R. Burns in Jammu: retrospective analysis from a regional centre. *Current Medical Research and Practice*, 2015;5.
13. Shinde AB, Keoliya AN. Sociodemographic characteristics of burn deaths in rural India. *International Journal of Healthcare and Biomedical Research*, 2013;1(3):227–233.
14. Akther JM, Nerker NE, Reddy PS, et al. Epidemiology of burned patients admitted in Burn unit of a rural tertiary teaching hospital. *Pravara Medical Review*, 2010;2(4).
15. Tapse SP, Shetty VB, Jinturkar AD. A study of burn deaths in North Karnataka. *Indian Journal of Forensic Medicine and Pathology*, 2010;3(4):149–155.
16. Jaiswal AK, Aggarwal H, Solanki P, et al. Epidemiology and sociocultural study of burn patients in MY hospital, Indore, India. *Indian Journal of Plastic Surgery*, 2007;40(2):158–163.
17. Ambade VN, Godbole HV. Study of burn deaths in Nagpur, central India. *Burns*, 2006;32(7):902–908.
18. Subrahmanyam M, Joshi AV. Analysis of burn injuries treated during a one-year period at a district hospital in India. *Annals of Burns and Fire Disasters*, 2003;16(2).
19. Ahuja RB, Bhattacharya S. An analysis of 11,196 burn admissions and evaluation of conservative management techniques. *Burns*, 2002;28(6):555–561.
20. Singh D, Singh A, Sharma AK, et al. Burn mortality in Chandigarh zone: 25 years autopsy experience from a tertiary care hospital of India. *Burns*, 1998;24(2):150–156.
21. Subrahmanyam M. (1996). Epidemiology of burns in a district hospital in western India. *Burns*, 1996;22(6):439–442.
22. Jayaraman V, Ramakrishnan KM, Davies MR. Burns in Madras, India: An analysis of 1368 patients in 1 year. *Burns*, 1993;19(4):339–344.
23. Gupta M, Gupta OK, Yaduvanshi RK, et al. Burn epidemiology: the pink city scene. *Burns*, 1993;19(1):47–51.
24. Karkal M. How the other half dies in Bombay. *Economic and Political Weekly*, 1985(Aug 24):1424).
25. Batra AK. Burn mortality: recent trends and socio-cultural determinants in rural India. *Burns*, 2003;29(3):270–275.
26. Mohanty MK, Panigrahi MK, Mohanty S, et al. Victimologic study of female homicide. *Legal Issues in Medicine*, 2004;6:151–156.
27. Gajalakshmi V, Peto R. Suicide rates in rural Tamil Nadu, South India: verbal autopsy of 39000 deaths in 1997-98. *International Journal of Epidemiology*, 2007;36:203–207.
28. Lester D, Agarwal K, Natarajan M. Suicide in India. *Archives of Suicide Research*, 1999;5:91–96.
29. Sharma BR, Dasari H, Sharma V, et al. Kitchen accidents vis-a-vis dowry deaths. *Burns*, 2002;28(3):250–253.
30. Wagle SA, Wagle AC, Apte JS. Patients with suicidal burns and accidental burns: a comparative study of socio-demographic profile in India. *Burns*, 1999;25(2): 158–161.

31. Ganesh K. Deaths of women due to burns: an analysis of hospital data. In: Jesani, Deosthali, Madhiwalla, editors. Preventing violence, caring for survivors: role of health profession and services. Delhi: Kalpaz Publications, 2004.
32. Kumar V, Tripathi CB. Burnt wives: a study of homicides. *Medicine, Science, and the Law*, 2004;44(1):55–60.
33. Kumar V. Burnt wives: a study of suicides. *Burns*, 2003; 29(1):31–35.
34. Shaha KK, Mohanthy S. Alleged dowry death: a study of homicidal burns. *Medicine, Science, and the Law*, 2006; 46(2):105–110.
35. Rao AV, Mahendran N, Gopalakrishnan C, et al. One hundred female burns cases; a study in suicidology. *Indian Journal of Psychiatry*, 1989;31(1):43–50.
36. Rao NKG. Study of fatal female burns in Manipal. *Journal of Forensic Medicine and Toxicology*, 1997;5(2):57–59.
37. Jutla RK, Heimbach D. Love burns: an essay about bride burning in India. *The Journal of Burn Care & Rehabilitation*, 2004;25(2):165–170.
38. Agnihotri A. The epidemiological study of dowry death cases with special reference to burnt cases in the Allahabad zone. *Internet Journal of Forensic Medicine and Toxicology*, 2002;1:1–16.
39. Gautam DN, Trivedi BV. Unnatural Deaths of Married Women with Special Reference to Dowry Deaths: A Sample Study of New Delhi. Bureau of Police Research and Development. New Delhi: Ministry of Home Affairs, Government of India, 1986.
40. Kumar R. The History of Doing: An Illustrated Account of Movements for Women's Rights and Feminism in India 1800-1990. Kali for Women: New Delhi, 1993.
41. Modi JP. A Textbook of Medical Jurisprudence and Toxicology (24th edition). LexisNexis: Haryana, 2012.
42. Unnatural Deaths of Women in Marriage: A Campaign Diary. Produced by A Movement to Defend Women's Right to Live. Bangalore: Vimochana, 1999.
43. Fernandes D. Investigating kitchen accidents. In: Daughters of Fire: Speaking Pain; Seeking Justice, Sustaining resistance. Vimochana: Streelekha Publications, 2011.
44. Bhate-Deosthali P, Contractor S. Burns injuries amongst women: investigating medical vs counsellors' records. Submitted to *Indian Journal of Burns* 2016.
45. Belur J, Tilley N, Daruwalla N, et al. The social construction of 'dowry deaths'. *Social Science & Medicine*, 2014;119:1–9.
46. Bhate-Deosthali P, Ravindran S, Vindhya U. Addressing Domestic Violence within Health Settings: The Dilaasa Model. *Economic and Political Weekly*, 2012;47:66–75.
47. Deosthali P, Malik S. Establishing Dilaasa: A Public Hospital Based Crisis Centre. In: Nadkarni, Sinha, D'Mello, editors. NGOs, Health and the Urban Poor. Mumbai: Rawat Publications, 2009. p.140–160.
48. García-Moreno C, Zimmerman C, Morris-Gehring A, et al. Addressing violence against women: a call to action. *Lancet*, 2014;385(9977):1685–1695.
49. Bhate-Deosthali P. Moving from evidence to care: ethical responsibility of health professionals in responding to sexual assault. *Indian Journal of Medical Ethics*, 2013;10:2–5.
50. John P, Bavadekar A, Hasnain A, et al. Gender in Medical Education: Perceptions of Medical Educators. CEHAT: Mumbai, 2015978-81-89042-69-1.
51. Puri V. Survivors of pediatric burns: reclaiming the joys of childhood. *Indian Journal of Burns*, 2013;21:1–2.

## Résumé

En Inde, on estime à 7 millions le nombre de blessures par brûlure chaque année, dont 700 000 exigent une hospitalisation et 140 000 sont mortelles. Les femmes représentent 91 000 de ces décès, un chiffre plus élevé que celui de la mortalité maternelle. Les femmes en âge de procréer courent en moyenne trois fois plus de risques de mourir de brûlures que les hommes. Cet article examine les publications sur les brûlures en Inde et pose des questions pertinentes sur la prévalence, les causes et les lacunes dans la reconnaissance des facteurs sexuels qui aboutissent à un nombre plus élevé de décès de femmes. Le travail de groupes de femmes et de chercheurs en santé avec les victimes soulève plusieurs questions relatives à

## Resumen

En India, cada año ocurren aproximadamente 7 millones de lesiones por quemadura, de las cuales 700,000 requieren ingreso hospitalario y 140,000 son mortales; 91,000 de estas muertes son mujeres, una cifra más alta que la de mortalidad materna. Las mujeres en edad fértil son, en promedio, tres veces más propensas que los hombres a morir por lesiones por quemadura. Este artículo revisa la literatura sobre las lesiones por quemadura en India y plantea puntos pertinentes sobre la prevalencia, causas y brechas en reconocer los factores de género que ocasionan que un alto número de mujeres mueran por quemaduras. El trabajo de diversos grupos de mujeres e investigadores en salud con víctimas de quemaduras plantea varias interrogantes sobre la

la catégorisation des décès par brûlure comme accident, suicide et homicide, et à l'incapacité du système de santé d'identifier la violence sous-jacente. En dépit de preuves convaincantes, le système de santé n'a pas considéré ce phénomène comme une priorité. Compte tenu du coût substantiel des soins aux brûlés, la prévention est la clé qui exige que les systèmes de santé reconnaissent les liens entre les brûlures et la violence familiale. Les systèmes de santé doivent intégrer des programmes de sensibilisation à la violence familiale et apprendre aux professionnels de santé à identifier les signes et les symptômes de la violence. Cela permettrait une identification précoce de la maltraitance afin que les survivantes aient rapidement accès à des services d'appui.

categorización de muertes por quemadura como accidente, suicidio y homicidio, así como el hecho de que el sistema de salud no reconoce la violencia subyacente. Pese a la evidencia convincente, el sistema de salud no ha reconocido esto como una prioridad. Considerando el costo significativo de brindar atención a víctimas de quemaduras, la prevención es la clave que requiere que los sistemas de salud reconozcan los vínculos entre lesiones por quemadura y violencia doméstica. Los sistemas de salud deben integrar programas de sensibilización sobre la violencia doméstica y capacitar a profesionales de la salud para que identifiquen los signos y síntomas de violencia. Esto contribuiría a la identificación temprana de maltrato, de manera que las sobrevivientes puedan acceder a servicios de apoyo en la etapa inicial.