International Journal of Community Medicine and Public Health
Padhan S et al. Int J Community Med Public Health. 2026 Jun;13(6):3253-3258
https://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20261825

Review Article

Gender as a determinant of health: a narrative review from a public health perspective

Srikanta Padhan[1]*, Renuka Nayak[2]

[1]Department of Community Medicine and Family Medicine, All India Institute of Medical Sciences, Raipur, Chhattisgarh, India
[2]Department of Kaumarabhritya- Balaroga, Shri N.P.A. Government Ayurved College and Hospital, Raipur (C.G.), Chhattisgarh, India

Received: 24 January 2026
Accepted: 22 May 2026

***Correspondence:**
Dr. Srikanta Padhan,
E-mail: srikantmph2019@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Gender shapes not only how we view ourselves but also how we are perceived by others; how we behave towards, treat, and interact with one another play a large role in determining our health outcomes. There is often a gap between what we understand and how we utilize our understanding; being aware of this gap can lead to improved awareness and utilization of health services. Gender-based differences include both biological and social construction. The inter-relationship between biological and societal constructs will produce different total wellness experiences for men, women and the transgender community. Gender has a significant impact on the types of illnesses we develop and thus the types of health promotion programmes that are effective. This narrative review will compile research from the fields of public health (globally) and Indian public health and synthesise what is already known regarding how gender influences disease incidence, morbidity, and mortality, as well as programmatic efficacy. Additionally, the review will look at how gender is integrated into national health system policies as well as identifying gaps in the existing literature related to gender and health. Understanding the role of gender in public health is critical if we want to reach our goal of Health for All and also to achieve equity and improve health outcomes.

Keywords: Gender, Public health, Health equity, Gender mainstreaming, Disease burden

INTRODUCTION

Distinct concepts exist when it comes to sex and gender, even though these terms are sometimes used interchangeably. Sex refers to an individual's biological attributes (e.g., male or female), while gender refers to the roles, behaviours, expectations, and power relations associated with being a man or a woman in society.[1] Gender norms are developed by family, religion, education, peer groups, and the mass media; therefore, they influence an individual's health behaviours and ability to access certain resources. For example, in many cultures, being aggressive is often accepted as a manifestation of masculinity; conversely, being submissive, obedient, and responsible or caring for the domestic environment is expected from women. A person's diet, physical activity level and patterns of sexual behaviour are very important determinants of health for both infectious and chronic illnesses.[2] Also, the accessibility of healthcare can have both a positive and negative effect on the overall success of an individual's response to illness. An individual, or community, who has little access to healthcare, generally manifests worse health outcomes than communities or individuals who have adequate access to healthcare. Transgender individuals also have special healthcare needs that are often not addressed by the healthcare system. These needs should be included within the provision of integrated and

community-based care. All females experience a number of unique health concerns due to being female and yet have a longer life expectancy than males who share similar socioeconomic status. This study shows that the interaction between social disadvantage, biological protection, and inequity in healthcare systems is complex.

METHODS

The review of the literature and global reports, including those published by the World Health Organization (WHO), United Nations Development Programme (UNDP), Government of India (GoI), and peer-reviewed journals, provided the basis for the narrative review provided in this paper. The review utilized a thematic synthesis approach and explored multiple dimensions related to gender in public health, including the conceptual, epidemiological, and programmatic.

CONCEPTUAL FRAMEWORK: GENDER AND HEALTH

The lack of discrimination due to sex illustrates gender equality, while buying into the fairness associated with distributing benefits and responsibilities for both men and women is related to the principles of gender equity. The analyses associated with gender-related issues will be able to measure and determine health disparities based upon social and economic differences between gender roles that women face throughout their lives.

Table 1: Gender differences in disease burden, determinants, and health system response.

Public health domain	Males	Females	Key gender-specific determinants
Cardiovascular diseases	Earlier onset, higher risk at younger age	Higher mortality after menopause	Loss of oestrogen protection; greater impact of diabetes and metabolic syndrome in women
Stroke	Higher incidence	Higher mortality	Pregnancy, oral contraceptive use, hormone therapy, longer life expectancy
Tuberculosis	Higher incidence and prevalence	Greater social impact and stigma	Diagnostic delay, economic dependence, barriers to care
HIV/AIDS	Higher absolute numbers	Higher biological vulnerability	Efficient male-to-female transmission; gender norms and power imbalance
Malaria	Occupational exposure	Pregnancy-related vulnerability	Reduced immunity during pregnancy
Cancer	Lung and oral cancers common	Breast and cervical cancers common	Hormonal exposure, HPV infection, screening access
Mental health	Substance abuse, risk-taking behaviour	Depression, anxiety, Alzheimer's disease	Gender norms, caregiving burden, stigma
Nutrition	Occupational energy deficit	Undernutrition and anaemia	Intra-household food distribution, reproductive demands
Violence and injuries	Road traffic injuries, occupational accidents	Domestic and sexual violence	Masculinity norms, power imbalance
Health system access	Delay due to work constraints	Delay due to social and mobility barriers	Gender roles, autonomy, affordability

Each of these facets of gender-related discrimination stems from people's views on a gender's place in society or culture, and as such, create disparities that accrue to women disproportionately in the vast majority of nations, including India. Examples of these included statistically distorted ratios of women to men, unequal levels of educational and job opportunities, and the creation of limited political representation within government institutions.

The Gender Inequality Index (GII) is a statistical measure developed by the UNDP, which measures gender-related inequities in reproductive health, empowerment and labour-force participation.[3] Similarly, as the GII illustrates, systemic factors and barriers continue to exist, creating and maintaining a gender-based gap that continues to be prevalent in our societies and cultures. Table 1 summarises key differences between the genders as they relate to major areas of public health.

GENDER DIFFERENCES IN DISEASE BURDEN

Cardiovascular diseases

Heart disease is one of the top ten risk factors for mortality among both genders.[4] Prior to menopause, women benefit from the hormone, oestrogen, which slightly decreases their risk of developing heart disease by increasing their levels of HDL cholesterol, while simultaneously decreasing their levels of LDL cholesterol. After a woman goes through menopause, her risk for developing heart disease begins to increase rapidly. After the age 65, the risk of mortality from heart disease is greater in women than in men. Women with diabetes have a much higher risk of developing cardiovascular disease compared to men with diabetes.[4] Other metabolic syndrome risk factors (obesity, hypertension, dyslipidemia) contribute significantly to a

women's increased risk of developing cardiovascular disease early in life, as indicated above.

Stroke

Risks of stroke differ by gender due to both biological and social factors. Women's risks of developing a fatal stroke increase with pregnancy, pre-eclampsia, gestational diabetes, combined use of oral contraceptives with smoking, and use of hormone replacement therapy after menopause. Stroke is associated with a significantly higher rate of mortality in women than in men on a global scale.

Blindness

Globally, approximately 40-45 million individuals suffer from blindness (the majority of whom are women—approximately two-thirds of the worldwide total).[5] Additionally, there are many barriers' women face to receiving quality eye care services—such as cost, inability to travel independently, limited access to information, and fear of an unfavourable outcome from surgery. Data from the National Health Profile indicate that women in India have a higher prevalence and incidence of blindness than men, which may suggest that they do not have adequate access to and/or do not use eye care services.[6]

Gender and communicable diseases

Malaria

Women and men are equal in terms of malarial infection exposures based on their job and home responsibilities. Women have a greater risk of being infected with falciparum malaria during pregnancy due to their decreased immunity, making pregnant women particularly susceptible to developing anaemia as a result of falciparum malaria.[7]

Adolescent girls are particularly at high risk of developing severe anaemia, leading to poor pregnancy outcomes. Men working in mines, fields or forests at peak biting times or those migrating to high endemicity areas for work and females who get up before dawn to perform household chores are at risk of a bite. Pregnant women are at high-risk areas should target malaria control programs.

Tuberculosis

Data suggests that men are more inclined to contract tuberculosis as compared to women, but the disease remains the third leading cause of death for women aged between 15 and 44 years.[8] Whereas the rate of disease progression and case fatality tends to be greater among women because they face longer times to diagnosis and more severe stigma related to this serious illness, the Revised National Tuberculosis Control Programme (presently referred to as the National Tuberculosis Elimination Programme) adopted the DOTS method of treating tuberculosis as per established guidelines. The additional gender-specific issues of exposure to tuberculosis, health-seeking behaviour, stigma, and the economic impact of the disease must be addressed in the future planning for tuberculosis control programmes.[9-11]

HIV/AIDS

India has the third highest number of individuals living with HIV in the world. Women represent approximately of two-fifths of the total number of individuals living with HIV.[12] Social factors (such as social norms and economic insecurity) combined with biological vulnerabilities increase women's exposure to HIV transmission via heterosexual sexual contact. Transmission from male to female occurs at a rate of between 2 and 20 times more efficiently than female-to-male transmissions.[13] The gender inequities and power imbalances that exist in many developing countries prevent women from having adequate access to resources and services for preventative health care (including HIV testing, counselling, and treatment).The burden of caregiving for family members affected by HIV is borne disproportionately by women, thus placing additional physical, emotional, and financial strains on women living with HIV.

Gender and cancer

Men and women develop different types of cancer and have different causes for these cancers.[14] Men have a greater incidence of lung cancer and mouth cancer, while women are more commonly diagnosed with breast cancer and cervical cancer. In addition to the many hormonal and lifestyle factors that put women at higher risk for developing breast cancer and cervical cancer. The National Cancer Control Program has developed a strategy directed toward significantly decreasing the incidence of breast and cervical cancer.[15] It focuses on primary prevention and early detection. Routine screening and gender-sensitive health education are vital components of a successful cancer control program.

Gender and mental health

Mental health disorders comprise a significant component of the global disease burden. The incidence of conduct disorders is higher among boys than girls during childhood. However, adolescent girls have a much higher incidence of depression, eating disorders and suicidal ideation than boys.

In adult women, the rate of depression and anxiety are both considerably higher than in men; however, men have a significantly higher rate of substance abuse and antisocial behaviour. Older women have a greater incidence of depression and Alzheimer's disease than older men and frequently receive inferior care and fewer resources due to negligence and a delay in seeking

treatment.[16] It is critical to address gender-related barriers to the receipt of appropriate mental healthcare and incorporate gender analysis into the provision of mental health services.

Malnutrition, gender and nutrition, and reproductive health

A woman is generally the last person to eat in her family, and this has a negative impact on women's nutrition throughout all stages of their lives. Reproductive health services and nutrition programs must include and consider the role of women in these programs in order for them to be effective on a population level, as these women will also have children who will be affected by the improper nutrition (i.e. malnutrition as adults) for generations.[18,19]

Gender-based violence and injury

Violence against women (VAW) is a major public health concern; approximately 30% (one-third of) of all women in the world have been physically and/or sexually abused in their lifetime (Estimated Range of VAW).[20]

The health consequences associated with VAW include unintended pregnancies, unsafe abortions, sexually transmitted infections including HIV, mental health disorders, and increased mortality rates for all women who experience VAW.[21]

Women's injuries from domestic violence and VAW, as well as men's injuries resulting from domestic violence and VAW are underreported and poorly studied. Other forms of domestic violence affect both genders; Indian legislation (Section 498-A of the IPC) has focused primarily on protecting women from domestic violence, through protective mechanisms such as increase in women's civil rights.[22-24]

Males are more prone to road accidents. On a global level, men are more than three times more likely to encounter from road traffic accidents than women.[17] The higher risk of men from road traffic accidents results from their greater propensity for risk taking, alcohol use, and conformity to social norms concerning masculinity.

Gender, work, and occupational health

Women comprise about 42% of the workforce and experience occupational hazards ranging from work-related stress to sexual harassment, violence and reproductive health hazards.[27]

Men experience higher levels of exposure to physical, chemical, noise and radiation hazards, as well as greater risks of dying from work-related injuries. Occupational health policies should take into account the unique vulnerabilities created by gender.

Gender and health in disasters

During disasters, women suffer disproportionate impacts due to their social vulnerability, limited ability to move and be involved in decision making to create plans for preparedness and response that are sensitive to the unique needs of women and reduce their inequitable impact.[25]

Gender bias in health research

Traditionally, the vast majority of subjects represented in health research have been male, while women receive the majority of prescriptions in the U.S.[26]

Therefore, clinical guidelines that are developed using research undertaken with men are not necessarily going to be applicable to women and other gender groups.

Health disparities among transgender populations

Transgender populations experience higher levels of health disparities than others. These disparities include higher rates of HIV, depression, substance abuse and barriers to quality health care, and hormone therapy can increase the likelihood of them experiencing higher levels of cardiovascular disease, thromboembolism, liver dysfunction and hormone-related cancers.

Factors that contribute to these disparities include social stigma, discrimination, and limited access to inclusive health care.[29]

Gender mainstreaming in health systems

Incorporating gender perspectives into health system planning and policy development is called gender mainstreaming. The WHO is implementing a gender mainstreaming strategy that focuses on the development of capacity, and gender disaggregated data and monitoring and evaluation of gender-related activities.[28]

The strategy is to develop a two-tiered approach that consists of six programmatic and three institutional gender mainstreaming strategies in all developing nations.

WAY FORWARD AND POLICY IMPLICATIONS

The goal for achieving gender equity in health is through the systematic inclusion of gender perspectives in health-care policies and programs.

Although there has been some success in achieving more equitable maternal and child health through programmes like the National Rural Health Mission (NRHM) and Janani Suraksha Yojana (JSY), continued efforts are needed to address the continuing inequities that exist among the most vulnerable populations within and outside of India.[30-33]

Figure 1 illustrates how biological sex and socially constructed gender norms interact to influence health behaviours, access to healthcare, exposure to risk factors, and health outcomes across the life course.

Health systems and policies, through gender mainstreaming and use of sex-disaggregated data, can modify these pathways.

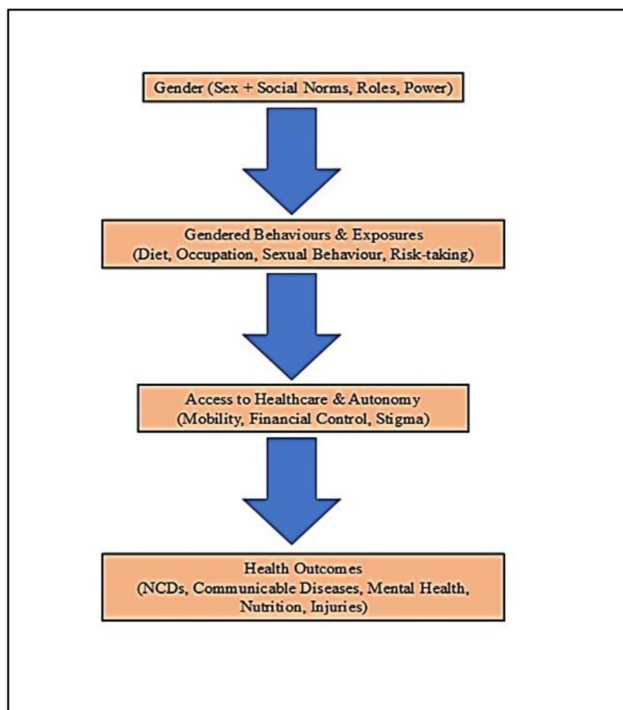

Figure 1: Conceptual framework illustrating pathways through which gender influences health outcomes.

CONCLUSION

Gender greatly impacts health outcomes through biological, social and structural pathways. Continued gender inequity limits access to, and negatively impacts health and outcomes of, public health systems and reduces the effectiveness of universal health coverage. Therefore, gender analysis and inclusive research, as well as gender mainstreaming in all healthcare systems, are essential for achieving and maintaining health equity.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Gender and health. WHO.int. 2020. Available at: https://www.who.int/health-topics/gender. Accessed on 24 December 2025.
2. Vlassoff C. Gender differences in determinants and consequences of health and illness. J Health Popul Nutr. 2007;25(1):47-61.
3. United Nations Development Programme. Gender Inequality Index (GII). Human Development Reports. New York: UNDP. 2020. Available at: https://hdr.undp.org/en/content/gender-inequality-index-gii. Accessed on 24 December 2025.
4. Maas AHEM, Appelman YEA. Gender differences in coronary heart disease. Neth Heart J. 2010;18(12):598-603.
5. WHO. Gender and blindness. Geneva: World Health Organization. Available at: https://apps.who.int/iris/handle/10665/68885. Accessed on 24 December 2025.
6. Central Bureau of Health Intelligence (CBHI), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. National Health Profile 2018. New Delhi: CBHI. 2018. Available at: https://cbhidghs.mohfw.gov.in/Ebook/National%20Health%20Profile-2018%20(e-Book)/files/assets/common/downloads/files/NHP%202018.pdf. Accessed on 24 December 2025.
7. Cutts JC, Agius PA, Lin Z, Powell R, Moore K, Draper B, et al. Pregnancy-specific malarial immunity and risk of malaria in pregnancy and adverse birth outcomes: a systematic review. BMC Med. 2020;18(1):14.
8. WHO. Global tuberculosis report 2020: executive summary. Geneva: World Health Organization. 2020. Available at: https://www.who.int/publications/i/item/9789240013131. Accessed on 24 December 2025.
9. WHO. Gender and tuberculosis. Geneva: World Health Organization. 2008. Available at: https://iris.who.int/handle/10665/68891. Accessed on 24 December 2025.
10. Ministry of Health and Family Welfare, Government of India. Revised National Tuberculosis Control Programme (RNTCP). New Delhi: Central TB Division; 2020. Available at: https://tbcindia.mohfw.gov.in/. Accessed on 24 December 2025.
11. Kumar P, Sahu D, Chandra N, Kumar A, Rajan S. Aging of HIV epidemic in India: insights from HIV estimation modeling under the National AIDS Control Programme. Indian J Public Health. 2020;64(5):S76-8.
12. WHO. HIV and AIDS. Geneva: World Health Organization. 2024. Available at: https://www.who.int/news-room/fact-sheets/detail/hiv-aids. Accessed on 24 December 2025.
13. Rath GK, Gandhi AK. National cancer control and registration program in India. Indian J Med Paediatric Oncol. 2014;35(4):288-90.
14. Kim H, Lim H, Moon A. Sex Differences in Cancer: Epidemiology, Genetics and Therapy. Biomolecules and Therapeutics. 2018;26(4):335-42.
15. WHO. Mental health and gender. Geneva: World Health Organization. 2018. Available at:

https://www.who.int/mental_health/prevention/genderwomen/en/. Accessed on 24 December 2025.
16. WHO. Road traffic injuries. Geneva: World Health Organization. 2024. Available at: https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries. Accessed on 24 December 2025.
17. Yadav K, Pandav CS. National iodine deficiency disorders control programme: current status and future strategy. Indian J Med Res. 2018;148(5):503-10.
18. Ministry of Health and Family Welfare, Government of India. National Health Policy 2017. New Delhi: MoHFW. 2017. Available at: https://www.nhp.gov.in/nhpfiles/national_health_policy_2017.pdf. Accessed on 24 December 2025.
19. WHO. Violence against women. Geneva: World Health Organization. 2020. Available at: https://www.who.int/news-room/fact-sheets/detail/violence-against-women. Accessed on 24 December 2025.
20. National Commission for Women (India). Marital cruelty and Section 498A: a study on legal redressal for victims in two states. New Delhi: NCW. 2015. Available at: https://ncwapps.nic.in/pdfReports/Marital_Cruelty_and_498A_A_Study_on_Legal_Redressal_for_Victims_in_Two_States.pdf. Accessed on 24 December 2025.
21. Swan SC, Gambone LJ, Caldwell JE, Sullivan TP, Snow DL. A review of research on women's use of violence with male intimate partners. Violence Vict. 2008;23(3):301-14.
22. Law Commission of India, Government of India. Section 498A IPC (Report No. 243). New Delhi: Law Commission of India. 2012. Available at: https://lawcommissionofindia.nic.in/reports/report243.pdf. Accessed on 24 December 2025.
23. WHO. Spotlight on statistics: gender and health workforce statistics. Geneva: World Health Organization. 2008. Available at: https://iris.who.int/bitstream/handle/10665/68891/a85584.pdf. Accessed on 24 December 2025.
24. 2004 Indian Ocean earthquake and tsunami. Wikipedia, The Free Encyclopedia. 2024. Available at: https://en.wikipedia.org/wiki/2004_Indian_Ocean_earthquake_and_tsunami. Accessed on 24 December 2025.
25. Brown MT, Bussell JK. Medication adherence: WHO cares?. Mayo Clin Proc. 2011;86(4):304-14.
26. WHO. Women and health: today's evidence, tomorrow's agenda. Geneva: World Health Organization. 2009. Available at: https://iris.who.int/handle/10665/44168. Accessed on 24 December 2025.
27. WHO. Gender mainstreaming in WHO: where are we now. Who.int. 2020. Available at: https://www.who.int/gender-equity-rights/knowledge/gender_mainstreaming_report/en/. Accessed on 24 December 2025.
28. Kadri A. IAPSM's Textbook of Community Medicine. 1st ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd. 2019.
29. Women and Gender Equity. Who.int. 2020 Available at: https://www.who.int/social_determinants/resources/csdh_media/wgekn_final_report_07.pdf. Accessed on 24 December 2025.
30. WHO. Indicator metadata registry details. Geneva: World Health Organization. 2024. Available at: https://www.who.int/data/gho/indicator-metadata-registry/imr-details/26. Accessed on 24 December 2025.
31. Sen S, Chatterjee S, Khan PK, Mohanty SK. Unintended effects of Janani Suraksha Yojana on maternal care in India. SSM- Popul Health. 2020;11:100619.

Cite this article as: Padhan S, Nayak R. Gender as a determinant of health: a narrative review from a public health perspective. Int J Community Med Public Health 2026;13:3253-8.