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A Life-Course Perspective on Women's Health in India: A Narrative Review

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Abstract

The fairer gender in our country is exposed to multiple health challenges throughout their lifespan, from childhood to old age . This study is an attempt to analyse some of the surveys and research papers and focus on the prevailing health challenges. This study highlights persistent nutritional deficiencies, reproductive health challenges, rising non-communicable diseases, cancers, and mental health issues. The study also emphasizes the socio-economic and cultural determinants responsible for these health disparities and calls for gender-sensitive, life-stage-specific interventions to improve women's health outcomes across India.

Introduction

Women in India face a complex interplay of biological, social, and economic determinants affecting their health. Despite improvements in healthcare infrastructure and public health programs, health outcomes for women remain suboptimal, especially among rural, tribal, and socioeconomically marginalized groups. The health trajectory of Indian women, from early childhood nutritional challenges through reproductive health concerns to chronic diseases in older age, is influenced by persistent gender inequities, cultural norms, and limited health literacy. Adopting a life-course approach provides a framework to understand how exposures and experiences at different stages cumulatively affect women's health, informing targeted interventions that are sensitive to the evolving needs of females across all ages.

Methodology

This review was carried out with the help of data from national surveys including NFHS , NNMB reports, DLHS, and peer-reviewed large-scale studies published until 2021. Data were extracted using systematic keyword searches from PubMed, Scopus, and other databases, focusing on studies with nationally representative samples or large cohorts. Findings were organized using a life-course framework addressing childhood, adolescence, adulthood, and older age, and analyzed with emphasis on biological, socio-economic, and cultural determinants.

Results

Childhood (0–9 years)

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Childhood remains a critical window where nutritional deficits have lifelong consequences. NFHS-5 reports that about 33.1% of girls under 5 years are stunted, 28.7% underweight, and 17.3% wasted (IIPS & ICF, 2021). The NNMB data (2019) confirm persistent micronutrient deficiencies, particularly iron, vitamin A, and zinc, with anemia affecting over 60% of girls under five in some regions (Kalaivani K. 2009; Venkatesh et al, 2021). These deficiencies are often caused by poor maternal nutrition, intrauterine growth retardation, suboptimal breastfeeding, and gender-discriminatory feeding practices (Venkatesh et al, 2021).

Infectious diseases such as diarrhea and respiratory infections exacerbate malnutrition and contribute to morbidity. Vaccination coverage has improved but gaps remain in tribal and underserved populations (NFHS-5, 2021). Environmental factors like unsafe drinking water and poor sanitation further increase vulnerability. A multi-state longitudinal cohort study by Kalaivani et al. (2009) involving children across country highlighted the compounded effect of early childhood anemia and stunting on cognitive development, underscoring the need for integrated nutrition and infection control programs.

Adolescence (10–19 years)

Adolescence is marked by high prevalence of anemia , 59.1%, as per NFHS-5 largely due to iron losses during menstruation and inadequate dietary intake. Early marriage and early childbearing remain significant risk factors for poor adolescent health outcomes in many parts of India (IIPS & ICF, 2021). Menstrual hygiene practices are inadequate for many, leading to infections and absenteeism from school (Das et al., 2015).

Emerging endocrine disorders, notably polycystic ovarian syndrome (PCOS), affect an estimated 9-22% of adolescent girls, contributing to menstrual irregularities, metabolic disturbances, and psychological stress (Chatterji et al, 2019; Padmini eta al, 2021; Rose-Clarke, et al. 2019,). Mental health disorders such as depression and anxiety are increasing but are often undiagnosed due to stigma and lack of mental health services (Kumari & Sahu, 2020).

The Youth Health Study by Patel et al. in 2022, provided critical insights into adolescent girls' health behaviors, highlighting gaps in nutritional intake, mental health awareness, and reproductive health knowledge, with socio-economic status as a strong determinant.

Adulthood (20–59 years)

The dual burden of reproductive and non-communicable diseases (NCDs) characterizes adult women's health. Anemia prevalence remains high (approximately 53%), despite ongoing supplementation programs (Anemia Mukt Bharat, MoHFW, 2019). Reproductive morbidities such as menstrual disorders, infertility, and pregnancy complications are common but underreported (Chatterji).

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Non-communicable diseases are rising rapidly due to urbanization, dietary shifts, and sedentary lifestyles. Prevalence of diabetes among women is about 8-10%, and hypertension affects around 25-30% in urban populations (Pandey et al., 2021). Obesity rates have nearly doubled in the past decade among women, increasing cardiovascular risk (Mohan et al., 2019). Breast and cervical cancer remain leading causes of female cancer mortality; however, screening coverage is limited, especially in rural areas (Singh et al., 2020).

Mental health conditions including depression and anxiety affect up to 20% of women in this group but face treatment gaps due to stigma and lack of services (Reddy et al, 2013; Malhotra et al. 2015).

The Indian Council of Medical Research–India Diabetes (ICMR-INDIAB) study, covering over 16,000 women, elucidated rising diabetes prevalence and its association with lifestyle and socio-economic factors (Anjana et al., 2021).

Old Age (60+ years)

Older Indian women endure a higher burden of chronic diseases, functional impairments, and mental health disorders. Osteoporosis prevalence ranges from 20-40%, increasing fracture risks and disability (Babhulkar et al 2021; Pouresmaeili et al, 2018; Khadilkar et al. 2015). Cardiovascular diseases are the leading cause of mortality, often aggravated by poor health-seeking behavior and limited geriatric care infrastructure (Muhammad et al. 2022).

Mental health issues such as dementia and depression are underdiagnosed, with social isolation, widowhood, and poverty exacerbating morbidity (Malhotra et al.,2015; Reddy et al, 2013). Accessibility to healthcare remains a challenge due to financial dependence and mobility limitations.

The Longitudinal Aging Study in India (LASI), a large-scale nationally representative cohort, highlighted gender disparities in geriatric health outcomes, revealing poorer functional health and higher prevalence of chronic diseases among older women compared to men (Malhotra et al., 2021).

Discussion

The health challenges faced by Indian women are deeply interwoven with biological, socio-economic, and cultural factors that operate at different life stages. This life-course perspective reveals critical windows for intervention and highlights the need for holistic and context-specific health strategies.

Nutritional Deficiencies and Early Life Undernutrition

Persistent undernutrition, especially anemia and micronutrient deficiencies in childhood and adolescence, remains a major public health concern. Despite national

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programs like the Integrated Child Development Services (ICDS) and Anemia Mukt Bharat, anemia prevalence in girls and women continues to exceed 50%, indicating gaps in program implementation and socio-cultural barriers such as food allocation bias against girls (Chidambaramet al,2018; Dupas et al, 2021). Early undernutrition leads to impaired cognitive development and poor school performance, limiting future opportunities and perpetuating cycles of poverty and ill health (Padmini et al, 2021; Chatterji et al., 2019;Venkatesh et al. 2021; Kalaivani, 2009).

Reproductive Health and Gendered Vulnerabilities

Early marriage and teenage pregnancies remain prevalent in several regions, leading to increased risks of maternal morbidity and adverse birth outcomes (IIPS & ICF, 2021). Limited access to reproductive health education and contraception exacerbates these risks. Menstrual hygiene management continues to be inadequate, contributing to infections and school absenteeism, which disproportionately affects girls' education and empowerment (Chidambaram, 2018; Padmini et al, 2021; Chatterji et al., 2019;Venkatesh et al. 2021; Kalaivani, 2009). Additionally, conditions like PCOS and other endocrine disorders remain underdiagnosed due to lack of awareness and stigma (Joshi et al., 2021).

Rising Burden of Non-Communicable Diseases (NCDs)

Urbanization, dietary transitions towards energy-dense and nutrient-poor foods, and sedentary lifestyles have led to a rapid rise in NCDs such as diabetes, hypertension, and obesity among Indian women (Anjana et al., 2021; Mohan et al., 2019). These conditions often co-exist with continued undernutrition, reflecting a dual burden of malnutrition. Women often face barriers to healthcare access due to financial dependence and lower autonomy, resulting in delayed diagnosis and treatment (Pandey et al., 2021, Muhammad et al. 2022).

Mental Health: The Silent Burden

Mental health disorders among women, including depression, anxiety, and stress-related conditions, are significant yet under-recognized. Social stigma, lack of mental health literacy, and inadequate service availability hinder diagnosis and management (Chdambram, 2021; Malhotra et al. 2015; Reddy et al, 2013; Dandona, 2020). Women's mental health is further strained by domestic violence, socio-economic stresses, and caregiving burdens.

Health in Older Women: Chronic Disease and Disability

Older women in India face compounded challenges of chronic diseases such as cardiovascular disease, osteoporosis, and dementia(Babhulkar et al 2021; Pouresmaeili et al, 2018; Khadilkar et al. 2015). Limited geriatric health infrastructure and financial dependency reduce timely access to care, increasing disability and mortality (Malhotra et al., 2021; Srivastava et al., 2019). Social isolation and lack of support exacerbate mental health issues in this population.

Socio-Cultural Determinants

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Across all life stages, socio-cultural factors such as gender discrimination, educational inequities, and economic dependence play a pivotal role in shaping women's health outcomes. Intersectionality with caste, class, and rural-urban divides further influences vulnerability (Chidambram,2018). Addressing these determinants is essential for sustainable health improvements.

Conclusion

Women's health in India is characterized by a complex interplay of nutritional deficits, reproductive challenges, rising non-communicable diseases, and mental health burdens that vary across the life-course. Despite progress in some areas, entrenched gender inequalities and socio-economic disparities continue to limit health gains. A life-course approach highlights critical windows for intervention and underscores the need for integrated, gender-sensitive health policies and programs.

Recommendations

Strengthen Nutrition Programs: Enhance coverage and quality of anemia control and micronutrient supplementation programs, focusing on adolescent girls and women of reproductive age with gender-sensitive strategies.

Improve Reproductive Health Services: Expand access to comprehensive reproductive health education, contraception, menstrual hygiene facilities, and early detection of gynecological conditions, especially in rural and marginalized communities.

Address the Dual Burden of Malnutrition and NCDs: Integrate nutrition and lifestyle counseling with NCD screening and management in primary healthcare settings, emphasizing culturally appropriate diet and physical activity.

Enhance Mental Health Services: Increase community-based mental health awareness, screening, and counseling services, reducing stigma and integrating mental health into routine women's health care.

Focus on Geriatric Care: Develop geriatric health programs tailored to women's needs, including chronic disease management, rehabilitation, and social support mechanisms.

Empower Women Socio-Economically: Promote female education, economic independence, and social empowerment as core strategies to improve health outcomes and reduce gender disparities.

Improve Data Collection and Research: Support longitudinal, gender-disaggregated research and surveillance to monitor health trends and program effectiveness among Indian women.

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