
DETERMINANTS OF MATERNAL AND REPRODUCTIVE HEALTH IN INDIA: A REVIEW FROM LITERATURE

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The fifth Millennium Development Goal (MDG-5) is to reduce maternal mortality and provide universal access to reproductive health care. India has promised to lowering maternal mortality to 108 deaths per 100,000 live births by 2015 as part of MDG-5. The latest estimates of India's maternal mortality rate (MMR) reveal a countrywide average of 212 deaths per 100,000 live births from 2007 to 2009, a decrease of 89 deaths per 100,000 live births during 2001-2003 (1). However, the same estimations show that large spatial discrepancies still exist. The greatest MMR is found in Assam, at 390, while the lowest is found in Kerala, at 81 (1). India has made significant efforts to minimize maternal mortality and enhance access to reproductive health care, with significant gains gained in some regions. However, progress has been uneven and inequitable, and many women still do not have access to reproductive and maternal health care. Social structures in India, like in many other countries, discourage women from receiving maternity and reproductive health care. These structures, which the WHO refers to as "social and structural determinants of health," vary between settings and have varying effects on access to and availability of care in various communities.

Social Determinants of Health:

Maternal and reproductive health is a social phenomena as well as a medical occurrence, with contextual variables influencing access to and use of maternal and reproductive health care services. The inability to meet MDG-5 objectives is increasingly being evaluated and addressed in terms of equality, and there have lately been requests for a better understanding of health disparity patterns in various contexts (2,3). Furthermore, it is necessary to go beyond identifying single factors of health disparity and to understand the interplay between social and structural variables (2). Inequities in health refer to the unequal distribution of health as well as the unjust distribution of health as a result of unfair or insufficient social structures (4). The Commission on Social Determinants of Health (CSDH) created a conceptual framework of the social determinants of health disparities to better understand how health inequities are based in societal institutions (5). This is an action-oriented paradigm for identifying entry sites for treatments and policies that might minimise health inequalities in a given area. It is founded on the idea that health disparities arise as a result of a systematically uneven allocation of power, prestige, and resources among social groups. To our knowledge, no attempt has been made to systematically map the documented sources of disparity in maternal and reproductive health in India, as well as their interconnectedness. The CSDH framework is being utilised in India to identify and explain the drivers of disparity in maternal and reproductive health.

Economic position, gender, education, social status (registered caste or tribe), and age emerged as major structural drivers in comprehending fairness in the context of India (adolescents). These five criteria are intricately interrelated, as evidenced by the research.

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Social status, which may be quantified in India using the proxy of 'caste,' is frequently addressed in terms of economic position. There's also a link between how gender and adolescence create and maintain unfairness, as well as how economic position and education interact. Income, occupation, ethnicity, and religion are all drivers of fairness that are mentioned in a handful of the retrieved articles, but no articles where these factors were the main topic or examined in depth were discovered. Each of these factors will be accompanied by a brief account of the current situation in India, including at the subnational level when feasible, because context is critical in understanding the underlying causes of health disparities.

Economic Status:

According to the Tendulkar Committee study, which was recognized by the Indian government in 2011, the number of people living in poverty is estimated to be 37% of the population (6). Poverty levels vary greatly across India: in some states, such as Bihar and Orissa, they are around 10%, while in others, such as Delhi, Goa, and Punjab, they are above 40%. Government health spending accounts for around 1% of GDP, whereas overall health spending in India accounts for about 5% of GDP. India has one of the highest rates of out-of-pocket health-care costs in the world, putting a significant financial strain on people and families (7). This has been suggested as one of the causes of the health disparities seen across the country (8). The National Rural Health Mission (NRHM) has been in operation as a national umbrella programme to address health imbalances in rural regions since 2005. In India, the general population's use of prenatal care (ANC) and skilled birth attendance has grown in the previous 15 years. However, growth among women who come from economically challenged backgrounds has been gradual. The usage of ANC services in India grew by 12 percentage points between 1992 and 2006, according to data from the three waves of the National Family Health Survey (NFHS) in 1992-1993, 1998-1999, and 2005-2006. However, the growth among the poor was just 0.1 percentage points (9). This study also revealed that while there are significant disparities in progress between states, progress among the poor is much lower than that of the non-poor in all states, and that the use of skilled birth attendance among the poor has remained low throughout the urban-rural spectrum. According to a research based on data from throughout India, couples in the wealthier quintile had double the chance of having concordant intended waiting times for their first child as couples in the lowest quintile (10). The outcomes of this study indicate that there is an unmet demand for contraception among low-income couples (10).

Regional and Rural/Urban differences in health based on Economic status:

Only 32% of women living in urban slum areas had an institutional delivery, compared to 93 percent of non-slum urban women and 79 percent of women living in rural regions, according to a household study from Chandigarh Union Territory comparing maternal health care coverage (11). However, according to a research based on the National Sample Survey from 2004, the great majority of the country's poorest households spent more than 40% of their income on maternal health care (12). A community survey from South Delhi showed that direct maternity expenses are high, sometimes exceeding 10% of the annual family income for the poorest (13). Quality of care in maternal

health services has also been shown to differ according to economic and residence status. A cross-sectional study conducted in Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu showed significant differences in the quality of ANC between poor and non-poor groups (14). A study conducted in New Delhi showed that health care providers were unable to meet the national standards on minimal care during pregnancy and delivery in the poorer areas of the city, whereas this did not seem to be a problem in the higher income areas of the city (15). One of the findings from the study was that ANC and institutional delivery are both classified as preventative measures rather than curative and, due to financial constraints, are not prioritized. India has one of the world's biggest urban populations, with many people living in slums. A study of women's reproductive health found that a much smaller proportion of women living in slum regions had ever used contraception, were less likely to utilise competent attendants at birth, and were less likely to obtain postpartum check-ups than women living in non-slum areas (16). According to a hospital-based research done in New Delhi, 52 percent of the urban poor used contraceptives, which is equivalent to contraceptive use in rural regions but lower than that of well-educated urban populations (17).

The first and third rounds of the NFHS data also revealed that progress toward higher usage of ANC and institutional delivery is mostly occurring among the urban non-poor, whereas development among urban slum people is modest (18). The expense of maternal health care is typically a considerable hardship for people living in slums. The analysis also revealed that informal expenditures accounted for a large share of total spending (19). The same study discovered that impoverished slum households were more likely to utilise work income rather than savings or borrowed money to pay for maternal health care, which is thought to raise the risk of both temporary and chronic poverty.

Traditional birth attendants are the most prevalent health professionals to help during home births, according to findings from a research done in Mumbai's slums, and the direct cost of a home birth is not much cheaper than the cost of an institutional delivery in the public health sector (20). The most popular reason for delivering at home was customs and tradition, rather than cost (20). Maternal literacy and use of ANC services were found to be strong predictors of birth readiness in the same research. Women living in urban slums frequently suffer from untreated reproductive morbidities. Women living in rural parts of India are considered a vulnerable group in terms of maternal and reproductive health. In rural areas home births remain the most common practice, with only 29% of the deliveries taking place in a health facility (21). Results from a study based on data from the NFHS 1 and 2 on health-seeking behavior and institutional deliveries in rural areas showed that the influence of household wealth is stronger than the impact of geographical access (22). A research in rural Rajasthan that used verbal autopsies to analyse pregnancy-related deaths found that 60% of the families of the dead women had to borrow money to cover health-care costs, which is thought to have contributed to considerable delays in seeking care (23). According to estimates based on data from the NFHS 3, over half (59%) of pregnant women in India are anaemic (21). Socioeconomic status was shown to be the key contributing factor to the high prevalence of anaemia among pregnant women in a research done at health facilities in Karnataka (24). Low anaemia awareness and health-seeking behaviour are also linked to a high prevalence of anaemia (33). A study of severe anaemia conducted at two maternity wards in New Delhi showed that 75.3% of the women suffering from severe anaemia were admitted as an emergency, only 24.7% were diagnosed during a routine antenatal visit (25).

Gender:

Gender as a structural determinant of health influences women's maternity and reproductive health, as well as their access to care, through a variety of intermediate determinants. On the worldwide gender gap index, India was placed 112th out of 134 nations in 2010. (26). The Indian government has established many legislation to protect women's rights since independence. In general, however, many of these rules are poorly implemented. In India, just 55 percent of women are literate, compared to 78 percent of men (22). Women's status in the home and community is still precarious. This has ramifications for women's health-seeking behaviour, since they may be reliant on their husband's consent to seek medical help. In India, there is a link between women's autonomy and the utilisation of competent prenatal, delivery, and postnatal care (27). Access to maternal and reproductive health care is also linked to the quality of family ties and the kind of household. Women in joint homes (couples living together with the husband's parents) were less likely than women in nuclear families (households constituted of husband, wife, and children) to report taking contraceptives and less likely to use ANC, according to a research based on data from the NFHS 2. Women living in joint households where in-laws were present were less likely to either deliver in a health facility or in the presence of a skilled birth attendant (28). Women with better marital relationships and those who lived in nuclear households were more likely to use ANC services and have an institutional delivery than others, according to data from the Women's Reproductive History Survey from 2002. Women who lived in joint families and had better relationships with their in-laws were also more likely to use ANC services. In a qualitative research done in rural Madhya Pradesh, the majority of mothers-in-law believed that they should make judgments about sterilisation for their sons' wives, and that this decision was typically based on the number of grandsons borne (29). Women who suffered physical abuse during pregnancy were less likely to get ANC than women who did not experience physical violence, according to a research based on a follow-up of the NFHS-2 performed in rural portions of Bihar, Jharkhand, Maharashtra, and Tamil Nadu. During pregnancy, women have been proven to be subjected to sexual violence in the form of marital rape (30). There's a link between domestic violence and unwanted pregnancies as well. A qualitative study conducted in rural Maharashtra found that non-use of contraceptives is partly explained by the husband's refusal, which is often influenced by the mother-in-law's and that the tension that can arise when husband and wife have opposing views on contraceptive use or non-use is seen as a catalyst for domestic violence in this community (31). In a research conducted in rural West Bengal using both quantitative and qualitative methodologies, patriarchal systems influenced women's contraception use, particularly among those who married young (32). In a qualitative research done in Maharashtra, it was discovered that women had limited access to contraceptives, that reproductive health concerns were regarded a "women's issue" and were not generally discussed between spouses, and that health care decisions were decided by the husband (33). Unplanned pregnancies (32.8 Percent), insufficient money (24.6 percent), family completeness (20.3 percent), and contraceptive failure were all cited as reasons for seeking abortion treatment in a cross-sectional research done in a clinical setting in New Delhi (22.3 percent). The study suggests that women confront hurdles not just owing to a lack of education and poverty, but also due to a lack of control over their reproductive aspirations.

A qualitative study of Karnataka women seeking emergency obstetric treatment found that maternal fatalities are underreported and unreviewed, and that ANC and institutional delivery are unrelated to postpartum or emergency obstetric care. The findings of this study show that a poor health system, which includes ineffective information systems, care discontinuity, understaffed health workers, and limited referral and accountability mechanisms, has an impact on the ability to prevent maternal mortality among women seeking care during delivery in this setting.

Education:

The Indian populace is literate to the tune of 74 percent. The Indian government emphasises increased literacy rates as a crucial factor in decreasing disparities in the country. Female literacy improved at a faster pace than male literacy, rising from 53.7 percent in 2001 to 65 percent in 2011, compared to 75.3 percent in 2001 to 82.1 percent in 2011. (34). The percentage of women who are literate varies by state, ranging from 92 percent in Kerala to 52.7 percent in Rajasthan (34). There is a clear link between education and the utilisation of reproductive health treatments including family planning and ANC, according to the research. According to the NFHS 3 (22) study, the fertility rate for women without a high school diploma was 3.55, compared to 1.8 for women with a high school diploma. Furthermore, just 29 percent of women with no education received at least one ANC visit, compared to 88 percent of women with a complete education of 12 years or more. Similar correlations have been discovered in other investigations. Women with higher education (middle school and above) were more likely to use contraceptives, according to a research based on data from the NFHS-2. (35). According to a cross-sectional study done in rural Punjab, 65.9% of uneducated women, 78.1 percent of women with elementary education, and 80 percent of women with a high school degree used contraceptives (36). Anemia has also been linked to a lack of education, with less educated women being more likely to be anaemic (37). A cross-sectional examination of data from the NFHS 2 for the state of Maharashtra revealed that degree of education effects site of delivery, with 55.9 percent of women with elementary education or less delivering at home compared to 25 percent of women with secondary education delivering at the hospital (38). According to the same study, there was no significant difference in the use of a public facility for institutional delivery (28.8 percent among women with primary education or less and 34.7 percent among women with secondary education), but there was a significant difference in the use of a private facility for institutional delivery (34.7 percent among women with secondary education) (15.3 percent among women with primary education or less and 40.3 percent among women with secondary education).

Adolescence:

Inequity in health can also be caused by age. Children and adolescents in India (defined by the WHO as those aged 10 to 19) appear to have unequal access to reproductive health care. In India, premarital sexual encounters are largely prohibited, and teenage reproductive health is still taboo. There have been few research on teenage reproductive health, and national health surveys do not gather data on non-married women's maternity and reproductive health and health-care usage. The subnational study Youth in India: Situation and Needs, performed from 2006 to 2020, provides some insights (39). There were no significant differences between adolescents living in rural regions and adolescents living in urban areas. Adolescents in premarital sexual relationships reported

using condoms infrequently: just 13% of males and 3% of women said they always used one (39). According to a survey performed in Bihar and Jharkhand, unmarried young women have difficulty getting timely abortion treatment owing to late pregnancy detection and health-care access issues (40). Despite the fact that it is prohibited, child marriage is nonetheless a frequent practise in India. Women's reproductive health is impacted by their young age at marriage. Low contraceptive usage, unmet need for spacing strategies (41), high fertility and many undesired pregnancies (42), and poor obstetric outcomes are all linked to it (43). The usage of ANC (45) and delivery care (44) by married teenage pregnant women in India has also been linked to their age at marriage. A hospital-based study in Kolkata found that teenage pregnancies were associated with more adverse complications, such as preterm births and stillbirths, than adult pregnancies (46) and a Rajasthan study found that pregnant adolescent mothers were two and a half times more likely than adults to die from pregnancy-related complications (29). Finally, young age at marriage was shown to be associated with high levels of anemia during pregnancy in a study in Maharashtra (47).

Social Class:

Scheduled castes and tribes are castes and tribes that have been designated by the government. The caste system is still visible in Indian society, despite being formally abolished. In India, social class stratification (caste) is one of the most powerful social predictors of health (48). In addition, caste has been demonstrated to be the best household trait for identifying impoverished and disadvantaged households. In India, the phrase "socially backward classes" (SBC) is often used to characterise some of the most socially disadvantaged groups, including the scheduled castes (SC), scheduled tribes (ST), and other backward castes (OBC). They are differentiated not only by their economic poverty, but also by their marginalisation and exclusion from the rest of society, as well as by their diverse traditions and living in the poorest sections of the country (48,49). In India, belonging to an OBC is linked to less utilisation of reproductive health services and worse maternal health outcomes. A research in Uttar Pradesh found that women from the SC and ST castes were less likely to get ANC and were less likely to be attended by a trained birth attendant, despite the fact that caste had no effect on the usage of iron folic acid supplements (50). Women from tribal castes were far less likely than women from non-tribal castes to use trained birth attendants at birth, according to a massive survey conducted over much of India (51). Home births are prevalent in Jharkhand, according to similar findings, although there are significant discrepancies between ST and other groups, with 94 percent among ST women compared to 69 percent among non-tribal groups. Although just 37 percent of the women in the research sample belonged to the SC and ST, these women accounted for 74 percent of maternal mortality, according to a study from Rajasthan that used verbal autopsy to look at pregnancy-related deaths (23). Several studies have also found that the usage of contraception is low among tribal and SC women. Similar findings were discovered in a study of two Andhra Pradesh tribes, where 75.6 percent of women did not use any kind of contraception at all, and permanent birth control (sterilisation) was the most frequent method of contraception. According to a research conducted in Rajasthan, sterilisation is the most widely recognised and utilised contraceptive treatment among women from tribal groups (52). According to findings from

a study conducted in rural Meghalaya, high levels of contraceptive awareness may not lead to increased use among tribal caste members (53).

Muslim Community:

Islam is India's biggest minority religion, with a Muslim population of roughly 138 million people. The Muslim population is concentrated in West Bengal, Bihar, Maharashtra, and Uttar Pradesh's rural areas. In India, religion and caste intersect, with 40.7 percent of Muslims belonging to the 'other backwards castes' category (54). Fourteen percent of Muslims live in poverty, and their literacy rates are lower than the national average. Muslims possess a disproportionately small number of governmental and political posts in society. Only one article focused solely on the Muslim community was discovered throughout this research. Some of the studies contain religious data, but they don't go into detail about the link between disparity in maternal and reproductive health and belonging to a Muslim community. The findings relevant to the Muslim community are shown below, nested inside research that focus on another equity measure. Muslim women were found to be less likely than non-Muslim women to be sterilised and to use contraceptives in a study of family planning among urban women in Uttar Pradesh. A study looking at differences in use of reproductive health care among poor and non-poor groups in urban areas of India found that the difference between the poor and the non-poor are larger among Muslims than among non-Muslims (18). In a research based on data from the NFHS-3, Muslim women were shown to have considerably lower probabilities of being supported by a trained birth attendant when compared to other religious groups (16). In a study examining variables impacting the utilisation of maternal health care services in Madhya Pradesh, Muslim women and women from non-ST communities were found to be more likely than other groups of women to obtain ANC (34). In a research done in rural West Bengal, Muslim women were shown to be more likely than Hindu women to seek official care for postpartum morbidities (55). An ethnographic study conducted in a rural Muslim village in Uttar Pradesh on perceptions and experiences in regards to institutional deliveries, showed how widespread mistrust toward the public health system, traditional practices in regards to the use of contraceptives and home deliveries, and poverty, interact in causing barriers for women to access skilled assistant at birth for Muslim women in this community (56).

Policy Implications:

This analysis has revealed that reaching MDG-5 in India as a whole is insufficient. There are just too many variances in India across states, areas of residency, age groups, social standing, and economic background to enable such generalisations. To have a major impact on the most disadvantaged populations, a very targeted campaign of action providing services to the most disadvantaged will be required at the national, state, and district levels to minimise disparities in health, particularly in maternal and reproductive health. Moreover, due to substantial discrepancies between and within states, which are typically driven by diverse policies and programmes, health infrastructure deficiencies, and governance issues, state and district-level analyses of inequities in maternal health care are required. Additional study concentrating on certain geographical locations or a specific segment within the population is also required. It is obvious that one size does not fit all,

and the poor and vulnerable will be excluded. When developing and implementing policies and interventions, it's important to think about how socioeconomic factors interact in a given setting to influence access to and use of maternal and reproductive health. Several major demographics were identified as being disadvantaged in terms of access to and use of maternal and reproductive health care, which policymakers and programmers in India must address. Some of these groups, such as the impoverished and socially backward castes, are well-known yet nevertheless neglected. Although the Indian government has attempted to address some of these inequities, such as through conditional cash transfers to encourage women to give birth in facilities with skilled birth attendants as part of the JananiSurakshaYojana (JSY), the measures are insufficient to reach the poorest people (25). Furthermore, the quality of treatment provided under JSY is questionable, hence its influence on outcomes such as MMR and IMR will be questioned. The expense of maternal health care is a considerable burden on households among the poor and socially backward castes, according to this study. Interventions aimed at decreasing the burden of out-of-pocket payments for treatment, as well as interventions aimed at minimising the expense of transportation and loss of income, are required. Adolescents account for 20% of India's population (50), and without enough attention to sexual and reproductive morbidity and mortality in this age group, India is unlikely to attain equity in MDG-5 performance.

This study found that economic position, gender, and social standing all interact to influence maternal and reproductive health care utilisation and access. As a result, while developing policies and programmes, it is critical to evaluate all of these factors in relation to one another. For example, a programme addressing economic constraints should also take into account social status and gender, as they are likely to produce intermediary determinants that are closely related to the program's target determinants. The Indian government and state governments should think about taking particular actions to address the inequality gap. In the public system, where the poor and vulnerable dwell, there must be significant improvements in terms of capacity and quality of services. Through an extension of the Sample Registration System already in place, the Indian government should establish and yearly publish unique infant mortality, maternal death, and stillbirth statistics for underprivileged populations, such as the impoverished and tribals. This can be mitigated by establishing a dedicated cadre or force of physicians, nurses, and other health professionals to manage health centres in rural and impoverished areas. In addition, incentives in the form of high salary and other advantages, such as better housing, must be offered to newly hired employees. To reach out to the most vulnerable and disenfranchised, a unique service delivery model will be required.

Conclusion:

India is making strides toward lowering maternal mortality and increasing access to reproductive health services. Evidence suggests, however, that improvement has been unequal and inequitable. The goal of this study was to summarise the findings in terms of structural determinants of maternal and reproductive health in India, as well as how these factors impact care access. The overall picture given in this research is that structural variables inhibit women from disadvantaged groups from experiencing lower maternal mortality and having better access to reproductive health. Interventions aimed at reducing maternal mortality and increasing access to reproductive health care must include how

structural variables function in Indian society and how this may affect access to health care for certain groups of women.

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