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Women, Myths, and Misinformation: Understanding Gendered Vaccine Hesitancy in Conservative Societies

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Abstract

Vaccine hesitancy is a complex social phenomenon shaped by cultural beliefs, gender roles, misinformation, and structural inequalities, all of which are particularly pronounced in conservative societies. This review focuses on how women's vaccine perceptions and decisions are influenced by gender norms, cultural myths, and patriarchal control over health choices, with a particular emphasis on South Asia and the Muslim world. In these contexts, women's health-seeking behaviors are closely monitored by male family members, shaping access to vaccines, particularly for women and children. Women often rely on informal sources of health information family elders, community networks, religious figures, and social media where myths and misinformation circulate freely. Cultural myths portraying vaccines as causes of infertility, violations of modesty, or containing religiously prohibited (haram) substances disproportionately affect women, who are culturally positioned as guardians of family health and morality. This paper examines how vaccine hesitancy among women is shaped by the intersection of cultural narratives, religious interpretations, and digital misinformation. Drawing on qualitative fieldwork, including interviews with rural women, lady health workers, midwives, and community elders, the paper highlights how gendered fears and cultural anxieties especially about reproductive health are mobilized to discourage vaccine uptake. For example, polio and COVID-19 vaccines were targeted by conspiracies linking them to infertility and Western population control agendas narratives that gained traction among women responsible for family planning and childbearing. The paper further explores how gendered health communication gaps, including low female literacy rates, lack of female-specific health education, and exclusion from community decision-making, exacerbate susceptibility to myths and misinformation. Cultural taboos surrounding reproductive health also deny women access to the appropriate information. To combat gendered vaccine hesitancy, the chapter advocates for culturally appropriate, gender-sensitive communication strategies such as training female health workers as trustworthy sources of information, mobilizing religious leaders to debunk myths, and advocating for women's health literacy through culturally acceptable channels such as mothers' groups, women's religious circles, and women-targeted internet campaigns. Ultimately, combating vaccine hesitancy from a gender perspective not only boosts vaccine uptake but also acts towards contributing to enhanced women's empowerment through enhanced health autonomy and decision-making capacity in conservative societies.

Introduction

Vaccine hesitancy is presently among the most crucial 21st-century worldwide health issues, becoming officially endorsed by the World Health Organization (WHO) as being among the most important ten threats to world health (WHO, 2019). To safeguard vulnerable populations from severe complications due to infections, the WHO has set a target of reaching 90% global coverage for essential childhood vaccinations (WHO, 2021). Vaccine hesitancy was described by the WHO Strategic Advisory Group of Experts (SAGE) as "delay in acceptance or refusal of vaccines despite availability of vaccination services" (WHO SAGE, 2014). Despite widespread vaccine hesitancy being occurring in virtually every part of the globe, causes and forms are clearly diverse. In conservative societies, particularly in South Asia and Muslim-majority countries, vaccine hesitancy is influenced not only by individual risk perceptions and scientific skepticism but also by deeply entrenched cultural norms, religious beliefs, and gendered power structures (Closser, 2010; Yahya, 2007). In such contexts, women's health choices are rarely autonomous. Instead, they are embedded within patriarchal family systems, where male guardians (fathers, husbands, brothers) act as primary decision-makers for household health (Shaikh & Hatcher, 2005). Religious leaders, community elders, and extended kin networks further shape narratives about vaccines, which are often framed through religious, moral, and reproductive lenses (Bendixsen, 2020). Women, particularly in rural and low-literacy communities, rely heavily on informal health networks, such as family elders, female relatives, and community figures sources often saturated with misinformation (Ali & Asghar, 2021). Furthermore, gendered cultural myths, including the belief that vaccines cause infertility, violate female modesty, or contain haram (religiously prohibited) substances, disproportionately discourage women from seeking vaccines (Rehan, 2021). Silence can also be a form of avoidance, not just of the issue at hand but also of the emotional and personal toll that comes with addressing it and publicly engaging in activism for change. This can expose individuals to risks such as public backlash, shaming, harassment, or even violent attacks and legal repercussions. Examples include breaking the silence around abortions, discussing mental health, or challenging anti-vaxxers. Therefore, silence is ontologically neutral (Jaworski, 1993). Like voice, it can be perceived as good or bad depending on its moral and political context. However, it is often a strategic choice because it allows for indirect communication (Dimitrov, 2015).This paper adopts a gender lens to examine how these cultural, religious, and digital narratives intersect to fuel vaccine hesitancy among women, while also exploring strategies for gender-responsive health communication that can improve women's health autonomy and vaccine uptake in conservative societies.

Defining Vaccine Hesitancy

The WHO's Strategic Advisory Group of Experts (SAGE) on Immunization defines vaccine hesitancy as a "delay in acceptance or refusal of vaccines despite availability of vaccine services" (WHO SAGE, 2014). Vaccine hesitancy is influenced by a "3C model": confidence, complacency, and convenience (MacDonald, 2015). Confidence relates to trust in vaccines, health authorities, and science; complacency reflects the perceived need for vaccines; and convenience involves physical and logistical access to vaccines. However, in conservative contexts, this framework alone is insufficient. Gender norms, family hierarchies, religious beliefs, and cultural anxieties heavily shape the decisions women make or are allowed to make about vaccines (Closser, 2010; Yahya, 2007). Therefore, a gender-sensitive understanding is essential to addressing vaccine hesitancy in patriarchal societies.

Gendered Dimensions of Health-Seeking Behavior

Women's health-seeking behavior in conservative societies is deeply gendered, influenced by patriarchal norms, cultural expectations, and structural inequalities (Manderson & Warren, 2016). In such contexts, women's autonomy over health choices is significantly restricted by a combination of limited mobility, male guardianship laws, and deep-seated cultural taboos surrounding women's bodies and reproductive health (Shaikh & Hatcher, 2005). Women often rely on male relative's husbands, fathers, and even sons to approve and facilitate access to healthcare (Qureshi & Shaikh, 2006). This collective decision-making dynamic place women's health within the realm of family honor, modesty, and obedience, discouraging independent or proactive health-seeking behavior. In South Asia, where conservative interpretations of culture and religion further constrain women's agency, female literacy rates remain alarmingly low. According to UNESCO (2023), female literacy rates in Pakistan stand at 46%, in Afghanistan at 23%, and in rural India, the rates are similarly low, particularly among marginalized communities. Low literacy creates information asymmetries, where women lack the ability to critically assess health information and are more susceptible to myths and misinformation (Shaikh et al., 2018). Cultural modesty norms further complicate health communication targeting women. In many rural areas, male health workers are forbidden from directly interacting with female patients, requiring communication to pass through male family members or elder women acting as intermediaries (Haq et al., 2021). The filtering process greatly increases the risk of distortion or selective communication, especially when health interventions like vaccination are viewed as foreign, Western, or morally compromised (Closser, 2010). Health decisions are not purely medical but are shaped by religious interpretations and cultural anxieties (Ali & Asghar, 2021). Immunization efforts are often faced with cultural resistance when vaccines are presented as potential threats to the fertility or moral integrity of women fear fueled by networks of gossip and religious sermons (Rehan, 2021). In societies where female modesty and reproductive health issues are taboo, even basic information on vaccine safety and advantages may be absent from women's knowledge domains (Shaikh et al., 2018). Finally, an awareness of the gendered character of health-seeking behavior explains how structural inequality, patriarchal control, religious authority, and cultural silence intersect to affect women's vaccine choices. Intervening in these aspects requires the application of gender-sensitive health communication approaches empowering women as decision-makers, rather than viewing them as passive vaccine recipients.

Case Example: Vaccine Hesitancy and Gender Barriers in Rural Pakistan

In rural Pakistan, polio vaccination campaigns have consistently faced challenges in reaching women directly, particularly in conservative areas where cultural norms regarding female seclusion (purdah) limit women's mobility and their interactions with outsiders, including health workers (Closser, 2010). Female health workers, like Lady Health Workers (LHWs), who are essential to community vaccination efforts, often encounter resistance from male family members who prevent them from entering homes, especially when male relatives are not present (Kadir et al., 2013). These gender-based access barriers not only hinder the vaccination process but also leave women without direct access to reliable vaccine information, making them reliant on informal sources such as female relatives, neighbors, and religious leaders (Ali & Asghar, 2021). Within these informal networks, health knowledge is often influenced by rumors, cultural myths, and religious beliefs. Conspiracy theories suggesting that vaccines are part of a Western agenda to sterilize Muslim women have gained significant traction in these communities, where a woman's fertility is closely linked to her social value (Rehan, 2021). This misinformation spreads through community gossip and religious sermons, where vaccines are sometimes depicted as haram or containing impure substances (Ali & Asghar, 2021). The gendered aspect of vaccine hesitancy in

rural Pakistan highlights how women's health autonomy is systematically undermined by patriarchal control, limited health literacy, and restricted access to formal health communication channels (Shaikh & Hatcher, 2005). Consequently, women's decisions regarding vaccines are often mediated by male relatives and community leaders, reinforcing their passive role in health-related decision-making. This situation emphasizes the critical need for gender-sensitive communication strategies, such as engaging female religious scholars, organizing women-only health sessions, and promoting digital health literacy initiatives.

Focus on South Asia, Muslim Societies, and Conservative Cultural Contexts

Vaccine hesitancy in South Asia and Muslim-majority societies is deeply intertwined with cultural conservatism, patriarchal social structures, and religious interpretations that influence daily life in these areas (Shaikh & Hatcher, 2005). In nations such as Pakistan, Afghanistan, Bangladesh, and certain rural regions of India, health decisions especially those concerning women and children are often made collectively within families, typically under the influence of male elders and religious leaders (Closser, 2010; Qureshi & Shaikh, 2006). Women's autonomy in health matters is significantly limited by purdah norms, restricted mobility, and low literacy levels, which lead to reliance on informal health networks (Ali & Asghar, 2021). Additionally, religious beliefs significantly impact vaccine-related decisions. In many conservative Muslim communities, vaccines are often perceived as Western interventions that could jeopardize female fertility or contain haram ingredients (Rehan, 2021). This religious perspective, coupled with the spread of digital misinformation, heightens skepticism towards public health initiatives. In rural South Asia, the pursuit of health is woven into a complex tapestry of cultural myths, religious teachings, and family honor, presenting distinct challenges for women's vaccine acceptance (Manderson & Warren, 2016). Grasping this culturally rooted vaccine hesitancy is crucial for creating effective, gender-sensitive interventions that respect cultural and religious contexts.

Patriarchy and Health Decision-Making

In conservative societies, especially in South Asia and predominantly Muslim contexts, patriarchy influences every aspect of women's health autonomy (Hussain, 2010). Health decisions, including those about vaccinations, are seldom made by women themselves. Instead, male family members husbands, fathers, brothers, and even sons serve as gatekeepers, deciding whether a woman can access healthcare, consult a doctor, or receive a vaccine (Shaikh et al., 2018). This gendered power dynamic mirrors broader patriarchal norms that perceive female health as a family issue rather than an individual right (Qureshi & Shaikh, 2006). When it comes to vaccinations, this male control is even more evident, as vaccines are often viewed not just as health measures but as moral and reproductive concerns that could affect family honor (Rehan, 2021). In rural areas of Pakistan and Afghanistan, for instance, rumors linking vaccines to infertility or Western population control agendas have been spread by male religious leaders and community elders, reinforcing male resistance to women's vaccination (Ali & Asghar, 2021). This paternalistic decision-making framework silences women regarding their own health and that of their children, heightening vaccine hesitancy through a gendered lens of suspicion, misinformation, and patriarchal dominance.

Religious Endorsement and Control

In conservative societies, especially in Muslim-majority areas, religious leaders play a vital role in shaping public views on health interventions, such as vaccinations (Yahya, 2007). Religious scholars, imams, and community preachers are often regarded as moral and spiritual authorities, particularly among rural women who may have limited access to formal education and health information (Shaikh et al., 2018). Their sermons, religious rulings (fatwas), and informal advice

significantly impact how vaccines are perceived in terms of safety, religious acceptability, and alignment with Islamic beliefs. In Pakistan, the religious opposition to the polio vaccine has been especially impactful. Fatwas issued by some clerics claimed that polio vaccines contained haram substances or were part of a Western plot to sterilize Muslim populations (Ali & Asghar, 2021). Such religiously framed misinformation spread rapidly in rural areas, where women often receive health knowledge secondhand through male family members who attend mosque sermons or religious gatherings (Closser, 2010). This religious control over health messaging reinforces vaccine hesitancy and fosters a climate of suspicion, particularly when women's reproductive health and fertility are framed as moral and religious concerns. To improve vaccine acceptance, religious leaders must be engaged as allies, using their pulpits to promote accurate, faith-compatible health information, especially in rural and conservative areas.

Cultural Myths and Misinformation

In conservative societies, particularly in South Asia and the Middle East, cultural myths and misinformation surrounding vaccines disproportionately target women's reproductive health. These myths exploit deep-seated cultural anxieties about fertility, menstruation, and female modesty, presenting vaccines as a threat to women's biological and moral purity (Rehan, 2021). A persistent myth claims that vaccines especially polio and COVID-19 vaccines cause infertility, a fear that resonates strongly in cultures where a woman's social value is often tied to her ability to bear children (Yahya, 2007) In many rural South Asian and Middle Eastern communities, vaccines are also portrayed as Western tools of population control, part of a broader conspiracy to sterilize Muslim women and weaken the Ummah (Ali & Asghar, 2021). Additional fears relate to loss of modesty if vaccination requires physical contact with male health workers, or disrupts menstrual cycles, adding further cultural resistance (Shaikh et al., 2018). These myths circulate primarily through informal female networks, including mothers-in-law, female relatives, and neighborhood gossip, as well as through religious sermons and social media platforms where misinformation thrives unchecked (Ali & Asghar, 2021). These gendered misinformation channels make it particularly difficult to deliver accurate, science-based health messaging directly to women.

Religious Interpretations and Vaccine Mistrust

Religious interpretations play a critical role in shaping vaccine acceptance in Muslim-majority societies, where religious permissibility (halal status) is a significant concern. In many conservative Muslim communities, vaccines are suspected of containing haram substances, particularly porcine gelatin or alcohol-based preservatives, both of which are considered religiously forbidden (Inhorn & Serour, 2011). These suspicions contribute to vaccine mistrust, particularly among rural and religiously observant communities, where religious rulings significantly influence health decisions (Yahya, 2007). Despite many Islamic scholars and health authorities issuing fatwas that clarify the acceptability of vaccines, these important messages often do not reach rural women. This communication gap is due to gender-related barriers, such as limited mobility for women, low literacy levels, and the dominance of men in religious discussions (Bendixsen, 2020). Women, who depend on male family members and religious leaders for health information, often receive these interpretations in incomplete or distorted ways, which further increases their doubts (Shaikh et al., 2018). Additionally, in areas where religious leaders have previously opposed vaccination efforts, like in Pakistan's polio campaigns, a legacy of mistrust persists, especially in conservative households. To effectively address religious interpretations that contribute to vaccine hesitancy, it is essential to work with trusted religious leaders to ensure that health messages compatible with their faith reach women directly.

Digital Misinformation and social media

The increasing availability of smartphones and mobile internet has changed the way women in conservative societies obtain health information. In many rural areas of South Asia and the Muslim world, social media platforms like WhatsApp, Facebook, and TikTok have emerged as key sources of health information, taking the place of traditional health education (Ahmed et al., 2021). However, this increased digital access also exposes women to misinformation, including anti-vaccine narratives, conspiracy theories, and religiously framed health myths (Chakrabarti, 2020). Women in low-literacy settings often rely on audio messages, images, and viral videos, which are easily manipulated to spread sensational claims about vaccines (Shaikh et al., 2018). For example, during COVID-19 vaccination campaigns, viral videos falsely claimed that the vaccine caused infertility or contained tracking chips designed to spy on Muslim women (Rehan, 2021). WhatsApp family groups and women-only online forums became echo chambers where cultural fears around reproductive health and Western medical agendas merged into compelling anti-vaccine content (Chakrabarti, 2020). With limited digital literacy, many rural women lack the skills to critically assess online content, leaving them vulnerable to manipulated religious endorsements or distorted health advice. Addressing digital misinformation requires targeted digital literacy programs and culturally tailored health campaigns that meet women where they are online.

Conclusion

Addressing gendered vaccine hesitancy in conservative societies requires culturally sensitive, gender-responsive communication strategies that account for patriarchal control, religious influence, and informal female networks. Women's health decisions are rarely autonomous; they are mediated by male relatives, religious leaders, and community elders. Effective strategies must train female health workers to act as trusted messengers; ensuring health information reaches women directly. Religious leaders should be engaged to publicly endorse vaccines, helping to counter religious misinformation. Health campaigns should take advantage of female-only spaces, like mothers' groups and women's religious gatherings, to deliver accurate and culturally relevant health education. Additionally, digital campaigns aimed at women, designed for low literacy levels and in local languages, can effectively address online misinformation.

The role of male gatekeepers in women's health decisions.

- The influence of religious leaders in shaping health narratives.
- The power of informal female networks in transmitting health information.

Recommendations

- Train female health workers to act as reliable and culturally sensitive sources of information.
- Leverage female-only spaces (mothers' groups, women's religious gatherings) for targeted health education.
- Encourage religious leaders to support vaccines during their sermons.
- Create digital campaigns aimed at women, designed to align with rural literacy levels and respect cultural sensitivities.

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