

NURSES' EXPERIENCES ON AVAILABILITY AND UTILIZATION OF STD PREVENTION STRATEGIES IN PRIMARY HEALTH CENTRES OF BHILWARA, RAJASTHAN

Dr. Naveen Pareek

Affiliation:

1. Professor cum Vice Principal, Ramsnehi College of Nursing, Bhilwara, Rajasthan, India

Corresponding Author Name & Email Id: Dr. Naveen Pareek, naveen06april79@gmail.com

ABSTRACT

Sexually transmitted diseases (STDs) continue to pose a major public health challenge in India, particularly in underserved and rural regions where access to health education and care is limited. Nurses, as frontline healthcare providers in primary health centres (PHCs), play a pivotal role in the prevention, education, and management of STDs. This study aimed to explore and describe the experiences of nurses involved in STD prevention, interpret their insights for program improvement, and assess the availability and utilization of STD preventive services within communities. Using a sequential explanatory mixed-methods approach, the study included 160 nurses in the quantitative phase and 16 in-depth qualitative interviews. Cluster sampling was used to select PHCs, while convenience sampling identified nurse participants. Quantitative data were collected using structured questionnaires and experience rating scales, while qualitative insights were obtained through open-ended questions. Statistical analyses included chi-square, ANOVA, correlation, and regression tests. The results showed that 52.5% of nurses had moderate awareness of STD prevention strategies, 32.5% had inadequate awareness, and only 15% demonstrated adequate knowledge. Regarding professional experience, nearly half (49.4%) reported neutral experiences, with just 2.5% indicating highly positive involvement. A statistically significant association was observed between higher awareness and more positive experiences ($p < 0.001$), suggesting that knowledge directly impacts nurses' effectiveness in the field. Qualitative analysis revealed critical gaps in knowledge about STDs beyond HIV/AIDS, limited training opportunities, and significant barriers to service utilization, including social stigma, patient reluctance, and community misconceptions. Despite the availability of preventive services at PHCs, utilization remained suboptimal. The study concludes that while nurses are essential to the success of STD prevention efforts, there is an urgent need to enhance their training, strengthen healthcare infrastructure, and promote community-level awareness campaigns to reduce stigma and improve uptake of services, ultimately strengthening public health outcomes.

Keywords: Nurses, STD, Preventive Strategy, Awareness, Experience, Primary Health Centres, Bhilwara

INTRODUCTION

Sexually Transmitted Diseases (STDs) remain one of the most pressing public health challenges in both developing and developed nations. In India, the burden of STDs continues to be significant, particularly among rural and underserved populations. The prevention and control of STDs is not only a medical concern but also a socio-cultural issue, deeply intertwined with stigma, lack of awareness, and limited access to healthcare services. Among the various healthcare professionals, nurses serve as the frontline workforce in addressing STD prevention and care at the community level. Their knowledge, experience, and the resources available to them largely determine the success of public health interventions, especially in primary healthcare settings. India has implemented several national programs, such as the National AIDS Control Programme (NACP), which have integrated STD prevention as a core component. However, despite these efforts, STDs remain underreported and undertreated in many regions. Bhilwara, a district in Rajasthan with both rural and semi-urban populations, reflects the typical challenges seen across many parts of India—low health literacy, deeply rooted cultural taboos surrounding sexual health, and inconsistent utilization of public health facilities. In such settings, primary health centres (PHCs) are often the only point of contact between the public and formal healthcare services. Nurses working in PHCs, therefore, play a crucial role in screening, educating, and referring individuals for STD-related care.

Nurses not only deliver clinical services but also engage with individuals and communities to provide education and counseling. Their position enables them to break down barriers to care, promote safer sexual practices, and reduce the stigma often associated with STDs. However, their ability to perform these tasks effectively is influenced by multiple factors, including their awareness levels, prior training, workplace environment, and access to supplies and infrastructure. Moreover, the community's perception of STD-related care and the prevailing social norms directly affect how receptive people are to such services. In India, discussions around sexuality and sexually transmitted infections are often considered taboo. As a result, individuals are hesitant to seek help, and many remain unaware of available preventive strategies. This cultural silence further complicates the role of nurses, who must navigate not only clinical responsibilities but also deep-rooted social stigmas. Studies have shown that even when STD-related services are available, they are underutilized due to fear, embarrassment, and misinformation. Consequently, the burden of disease continues to rise, particularly among youth and vulnerable populations. The effective delivery of STD prevention strategies at PHCs hinges on two key components: the availability of preventive resources (such as condoms, educational materials, and diagnostic facilities), and the willingness and ability of people to utilize them. Nurses serve as a bridge between policy and practice, translating national health guidelines into community-level action. However, there is limited research that captures their firsthand experiences—what challenges they face, what gaps exist in the system, and how they perceive their roles in STD prevention.

This study was conceptualized to address this gap. By focusing on the experiences of nurses working in selected PHCs of Bhilwara district, it seeks to explore both systemic and personal dimensions of STD prevention at the grassroots level. The mixed-method design provides a comprehensive understanding by combining quantitative measures of awareness and experience with qualitative narratives that reflect the lived realities of nursing professionals. Understanding the experiences of nurses is essential not only for enhancing existing programs but also for developing future interventions that are grounded in field realities. Their insights can inform policy changes, curriculum development, and targeted training programs that better equip them to handle the complex nature of STD prevention. Furthermore, identifying barriers to service utilization can help public health authorities design community engagement strategies that

promote awareness and reduce stigma. The role of nurses in preventing and managing STDs at the primary healthcare level cannot be overstated. This study attempts to highlight their experiences in dealing with one of the most sensitive and under-discussed areas of public health. By focusing on Bhilwara district, it offers valuable insights into the strengths and limitations of the current system and provides actionable recommendations to enhance the effectiveness of STD prevention strategies in similar socio-cultural contexts across India.

Objectives

1. To assess the awareness and experience of nurses regarding STD prevention strategies.
2. To examine the correlation between awareness and experience.
3. To determine associations between these variables and socio-demographic factors.

Methodology

The present study adopted a **mixed-method sequential explanatory research design** to explore and assess the experiences of nurses regarding the availability and utilization of sexually transmitted disease (STD) prevention strategies among people at selected primary health centres (PHCs) in Bhilwara district, Rajasthan. This approach was chosen to provide a comprehensive understanding of the topic by integrating both quantitative and qualitative data. The quantitative phase focused on measuring awareness and experiences of nurses using structured tools, while the qualitative phase provided depth and context through personal narratives and open-ended responses. The study was conducted across 32 PHCs out of a total of 56 located in Bhilwara, a district known for its diverse population and mixed rural-urban healthcare challenges. The target population comprised nurses working at government PHCs, as they play a vital role in health education, disease prevention, and patient care at the grassroots level. A total of 176 nurses were selected as study participants, including 160 for the quantitative phase and 16 for the qualitative phase. A **cluster sampling technique** was used to randomly select PHCs from different geographic zones of the district to ensure representativeness. Within each selected PHC, **convenience sampling** was applied to recruit eligible nurses who were available and willing to participate during the data collection period. The sample size was deemed sufficient for achieving statistical significance and thematic saturation. The **instruments for data collection** were developed by the researcher after extensive literature review, expert consultation, and field validation. The quantitative tool consisted of four sections: Section I gathered socio-demographic data, including age, gender, religion, marital status, educational qualification, years of government job experience, area of posting (urban, semi-urban, or rural), participation in training programs, and sources of information on STDs. Section II included a **structured awareness questionnaire** comprising 40 multiple-choice questions categorized into three domains: introduction to STDs, availability of preventive materials, and utilization of preventive services. Each correct response was awarded one mark, while incorrect answers received zero, making the maximum possible score 40. Awareness levels were classified as inadequate (0–20), moderate (21–30), and adequate (31–40). Section III included an **experience assessment scale** consisting of 30 statements addressing various aspects of STD prevention from the nurses' perspectives. These statements were grouped into six dimensions: job satisfaction, remuneration, availability of facilities and drugs, training and education, cooperation and coordination, and patient/family perceptions. A five-point Likert scale ranging from strongly agree (+2) to strongly disagree (–2) was used, with a total score range from –60 to +60. Positive and negative items were balanced to capture the spectrum of experiences. Section IV included four open-ended questions developed to capture qualitative insights regarding knowledge, skill, experience, and service availability/utilization. These open-ended questions allowed respondents to express their lived experiences, professional challenges, and personal reflections in their own words.

The **reliability** of the quantitative tool was established through a pilot study conducted with 10% of the total sample in a nearby district with similar healthcare settings. The internal consistency of the instrument was verified using Karl Pearson's correlation coefficient, resulting in a reliability score of 0.88, indicating high reliability. **Validity** was ensured through content validation by a panel of nursing and public health experts. Data collection was carried out over a period of two months through face-to-face interviews, ensuring confidentiality and informed consent from each participant. Quantitative data were entered and analyzed using **SPSS** (Statistical Package for the Social Sciences) version 25 and **Microsoft Excel**. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the data. Inferential statistics, including **chi-square tests**, **ANOVA**, **Pearson correlation**, and **multiple regression analysis**, were employed to assess associations between variables and to test the hypotheses. For the **qualitative phase**, narrative responses were collected from 16 purposively selected nurses, representing diverse experiences, years of service, and posting areas. All responses were audio-recorded with permission, transcribed verbatim, and translated into English when necessary. Thematic analysis was conducted manually, where researchers identified meaningful units, condensed them, and grouped them into categories and themes. Four main themes emerged: knowledge of STDs, involvement in prevention activities, personal experiences in the field, and perceptions of service availability and utilization. Ethical approval was obtained from the institutional ethics committee prior to the study, and all ethical principles such as voluntary participation, anonymity, and data protection were adhered to throughout the research process. Overall, this rigorous and systematic methodology enabled a holistic examination of nurses' experiences and the challenges they face in implementing STD prevention strategies at the primary care level. The integration of quantitative data with qualitative narratives enriched the findings and provided a deeper understanding of the context, informing both policy and practice in public health nursing.

Results

The study included 176 nurses from selected primary health centres (PHCs) in Bhilwara district, Rajasthan. Of these, 160 nurses participated in the quantitative phase, while 16 nurses provided in-depth qualitative responses. The results are presented in terms of socio-demographic profile, awareness and experience levels, associations between variables, and thematic analysis from qualitative data.

Demographic Profile: The majority of participants were female (68.1%), while 31.9% were male. Age-wise, 30% of the nurses were between 21–30 years, 26.3% each belonged to the 31–40 and above 50-year age groups, and 17.5% were between 41–50 years. Most nurses (72.5%) had ANM qualifications, while 27.5% were GNM-qualified. Regarding area of work, 57.5% were posted in rural PHCs, 22.5% in urban areas, and 20% in semi-urban centres. Notably, 59.4% of the nurses had received training related to STD prevention, while 40.6% had not.

Awareness Levels: Based on a 40-item structured questionnaire, 52.5% of nurses were found to have moderate awareness of STD prevention strategies, 32.5% had inadequate awareness, and only 15% demonstrated adequate awareness. These results suggest a significant knowledge gap among nurses, especially in areas beyond HIV/AIDS.

Experience Assessment: The experience scores, measured using a 30-item scale across six dimensions, indicated that 49.4% of the nurses had a neutral experience, 30.6% reported a positive experience, 16.9% had a negative experience, and only 2.5% reported a strongly positive experience. This shows that while many nurses are engaged in STD prevention, their work environment and support systems may not be optimal.

Statistical Associations: A significant relationship was found between awareness levels and experience scores ($\chi^2 = 42.67$, $p < 0.001$), indicating that nurses with higher awareness had more positive experiences in implementing STD prevention strategies. Additionally, qualifications, participation in training programs, and major sources of information were significantly associated with better awareness and more positive experiences ($p < 0.05$).

Correlation Analysis: There was a strong positive correlation ($r = 0.57$, $p < 0.001$) between awareness and experience scores, suggesting that increased knowledge enhances practical engagement. Age had a weak negative correlation with experience ($r = -0.173$, $p = 0.028$), indicating that younger nurses tended to report more positive experiences.

Qualitative Findings: Content analysis from open-ended interviews revealed four major themes:

1. **Knowledge Gaps:** Most nurses were aware of HIV/AIDS but lacked knowledge about other STDs like syphilis, gonorrhea, and chlamydia.
2. **Role in Prevention:** Nurses described distributing condoms, educating patients, and referring suspected cases to higher centres, though involvement varied based on training and support.
3. **Field Experience:** Experiences ranged from good to difficult. Some nurses reported cooperation from patients, while others faced social stigma and non-cooperation.
4. **Service Utilization:** Though preventive services were available at most PHCs, utilization was low due to stigma, misinformation, and poor community engagement.

These results indicate that while nurses play a critical role in STD prevention, gaps in training, infrastructure, and community awareness must be addressed to enhance their effectiveness and improve public health outcomes.

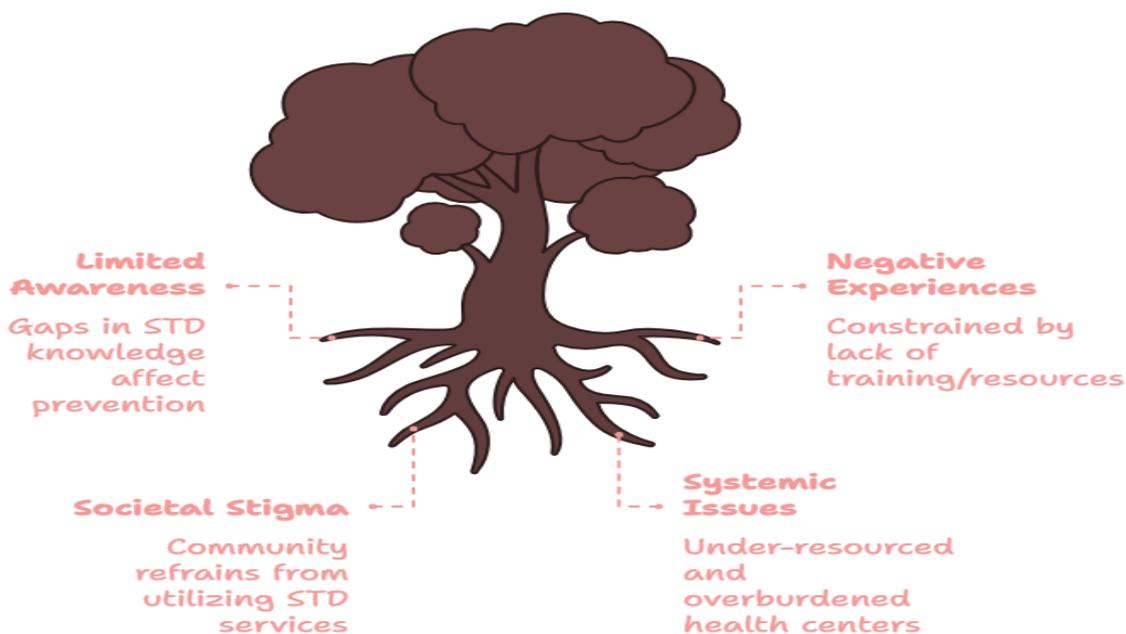
Discussion

The present study aimed to assess the awareness, experiences, and challenges faced by nurses regarding the availability and utilization of sexually transmitted disease (STD) prevention strategies in selected primary health centres (PHCs) of Bhilwara district, Rajasthan. The findings highlight several critical insights into the preparedness and practical engagement of nurses in STD prevention, as well as the systemic and societal barriers that affect the utilization of these services by the community. The quantitative results revealed that more than half (52.5%) of the participating nurses had moderate awareness of STD prevention strategies, while 32.5% had inadequate awareness. Only a small proportion (15%) had adequate knowledge. This is consistent with prior studies conducted in similar low-resource settings, which suggest that although nurses may be aware of general STD concerns—especially HIV/AIDS—their understanding of other STDs, their transmission, and updated prevention protocols remains limited. This gap in awareness can severely affect the quality of information conveyed to patients and the overall effectiveness of prevention programs.

The findings also showed that nearly half (49.4%) of the nurses had a neutral experience when it came to implementing STD prevention strategies. Only 2.5% reported a highly positive experience, while 16.9% expressed negative experiences. These results suggest that while nurses are actively involved in STD-related tasks, their work is often constrained by factors such as lack of training, inadequate resources, and limited support from the health system and the community. Experiences were influenced by job satisfaction, the availability of supplies, cooperation from other staff, and patient attitudes—factors well-supported in nursing and public health literature as

critical to health service delivery. One of the strongest findings was the significant correlation between awareness and experience scores ($r = 0.57, p < 0.001$), indicating that better-informed nurses tended to report more positive experiences in their role. This supports the argument that continued education and professional development can empower nurses and improve the quality of STD prevention services. Additionally, training participation was significantly associated with both awareness and experience, underscoring the importance of periodic in-service training and refresher courses on STD prevention. Qualitative findings further enriched the interpretation of these results. Many nurses admitted to limited knowledge beyond HIV/AIDS, highlighting the need for curriculum updates and more diverse STD education. Their experiences in the field were mixed—while some felt supported and empowered, others struggled with societal stigma, resistance from patients, and poor infrastructural facilities. The qualitative data also pointed to a concerning trend: despite the availability of STD services at PHCs, community members often refrained from utilizing them due to social stigma, fear of exposure, and a preference for private treatment. This aligns with national-level data suggesting that the stigma associated with STDs in India continues to be a major barrier to healthcare access.

Inadequate STD Prevention by Nurses due to Systemic Barriers



Interestingly, the study found that younger nurses tended to report more positive experiences, while older nurses were more neutral or negative in their perceptions. This could be attributed to differences in training exposure, adaptability, or institutional support. It also indicates the need to target experienced staff with updated training and motivational programs. In comparison to similar studies conducted in other low-resource settings, such as in sub-Saharan Africa or Southeast Asia, this study reflects a shared global challenge in achieving effective community-level STD prevention. The integration of nurse-led strategies in such programs is essential but often overlooked in policy planning. The study also reflects the broader healthcare system issues in India, where primary health centres are under-resourced and overburdened, and health

education remains a low priority. In summary, the findings highlight the need to enhance nurses' knowledge, improve workplace conditions, and strengthen community outreach efforts to increase the impact of STD prevention strategies. Addressing these issues will not only improve nurses' job satisfaction and performance but also increase public trust in government health services and encourage greater utilization of available resources. A comprehensive strategy involving training, infrastructure, supervision, and community awareness is essential to bridge the gap between policy and practice in STD prevention.

Summary

This study aimed to assess the experience of nurses regarding the availability and utilization of sexually transmitted disease (STD) prevention strategies at selected primary health centres (PHCs) in Bhilwara district, Rajasthan. Nurses are critical frontline healthcare providers in India, especially in rural and underserved areas where access to specialized care is limited. Given their direct interaction with the community, their knowledge and practical experience play a vital role in promoting STD prevention, education, and treatment. A mixed-method sequential explanatory design was employed, involving 160 nurses for the quantitative phase and 16 nurses for the qualitative phase. Cluster sampling was used to select PHCs, and convenience sampling was applied to recruit participants. Data were collected using a structured questionnaire to assess awareness, a rating scale to evaluate professional experience, and open-ended questions to explore deeper insights. The reliability of the tool was high ($r = 0.88$), and data were analyzed using SPSS with descriptive and inferential statistics. Results showed that 52.5% of nurses had moderate awareness of STD prevention strategies, while 32.5% had inadequate and only 15% had adequate knowledge. In terms of experience, 49.4% of nurses reported a neutral experience, 30.6% had a positive experience, and a small proportion (2.5%) had a strongly positive experience. A significant positive correlation ($r = 0.57$, $p < 0.001$) was observed between awareness and experience levels, indicating that well-informed nurses were more confident and effective in implementing STD prevention activities. Qualitative data revealed that while most nurses understood HIV/AIDS, there was a lack of knowledge about other STDs. Nurses reported challenges such as social stigma, lack of community awareness, inadequate training, and insufficient facilities at PHCs. Some nurses also noted reluctance among patients to utilize STD services due to fear, embarrassment, and cultural taboos. The study concludes that although nurses play a pivotal role in STD prevention, several barriers limit their effectiveness, including insufficient training, limited resources, and lack of community engagement. Strengthening the healthcare system by providing regular training, improving infrastructure, and running awareness campaigns could enhance service utilization and disease prevention efforts. This research highlights the need for policy-level interventions to empower nurses, improve their working conditions, and promote community-based strategies for effective STD control at the primary care level.

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