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Bridging the Gap in Health Education: Identifying and Addressing Key Barriers

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Abstract

Background: Health education is a structured process designed to create learning opportunities through various forms of communication, with the objective of enhancing health literacy and cultivate behaviour change. Health education is imperative, but putting it into practice is often more challenging. Health care professionals encounter barriers that limit their ability to provide comprehensive and effective health education, given their responsibility for patient care.

Methods: This Systematic Review following PRISMA guidelines includes twelve studies that evaluate the various barriers to health education. We conducted a systematic review of the literature published from 2014 to 2024 using various databases; SCOPUS, CINAHL, PubMed, Google Scholar, and Medline. The search was further narrowed down using a combination of BOOLEAN OPERATORS, and search terms like health education, health promotion, challenges, barriers.

Results: The research reveals the number of variety of challenges to health promotion. Nurses cannot spend an adequate amount of time on patient education due to time constraints, workloads, and limited workforce, and the overall efficacy of educational programs is further reduced with knowledge deficits, limited resources, and workplace limitations. Patient-specific challenges, linguistic and cultural barriers, and environment constraints contribute further to reduce the effectiveness of health promotion programs.

Conclusion: Such barriers seriously impede the successful delivery of health education in healthcare settings. To enhance the quality of health education for both patients and healthcare providers requires that these barriers be addressed through quality training, funding, and policy.

Keywords: Barriers, Challenges, Health Education, Health Promotion

Introduction

Healthcare workers play a crucial role in public health progress by encouraging health education and helping people take charge of their health. The realization of primary health care services is reliant on good health education strategies [1, 2]. By providing applicable knowledge and information, health professionals help patients and their families better manage their health, cope with illness and respond to day-to-day health concerns [3].

Acknowledging the rising significance of preventive care, the World Health Organization (WHO) supported a transition from disease-centered care models to health promotion and prevention in 2008 [4]. In this instance, health education is understood as a systematic and communicative process to develop health literacy intended to increase knowledge, life skills development and behavior changes that support the health of individuals and communities [5].

Health education is more than the passing of information, it also builds self-efficacy and motivates individuals to take an active role in taking care and improving their health [6]. In addition, it recognizes and acts on the larger social, environmental, and

economic determinants of health, giving individuals the knowledge and capacity for informed decision-making and collective action [7].

Although its importance for enhancing population health is recognized, effective delivery of health education is one of the challenges that many healthcare systems experience. Many countries still grapple with limited infrastructure and capacity to undertake effective health promotion strategies [8]. The frequent access nurses have to patients and community enables them to provide education, facilitate behaviour change, and help patients and society manage their health issues [9]. There is an extensive literature demonstrating the positive impacts of effective patient education, including enhancing patient empowerment, treatment adherence, satisfaction with care, and quality of life while decreasing patient anxiety [10]. As health systems and funding models change, it is expected that the educational roles of nurses will increase [11]. Nurses historically have been well-positioned to assist patients in taking personal responsibility for their health [12], and it remains consistent in research that patient education is seen as an important activity undertaken by nurses as part of their daily practice [13-15].

Nevertheless, many long-standing barriers continue to impede the effectiveness of nurses' health education [16, 17]. Piper [18] encourages the revision of nursing curricula and the construction of structured pathways for nurses to effectively meet their health education obligations.

Research Statement

The Unseen Crisis of Health Education: Confronting the Hidden Barriers to Effective Health Education.

Aim

The purpose of this systematic review is to investigate the barriers associated with health education within the experience of nurses, nursing students, and other health professionals.

Research Question

What are the different barriers associated with ineffective conduction and implementation of health education?

Methodology

This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses [PRISMA] guidelines. To identify relevant databases, various internet search engines were utilised to locate references. The selection criteria for studies were directly informed by the research questions. Only quantitative research studies examining barriers to health education were included. Studies employing qualitative research designs, systematic reviews, or meta-analyses were excluded from this review. Any factor which didn't allow the nurses and nursing students to conduct health education or made it difficult to implement health education or created disturbance during health education is considered as a barrier to health education in this study.

Search Strategy

A comprehensive search for relevant studies was conducted between January 2025 and February 2025 across multiple academic databases, including SCOPUS, CINAHL, PubMed, Google Scholar, and Medline by three reviewers. The search focused on identifying research related to barriers in health education. BOOLEAN OPERATORS were employed to refine the search, using terms such as ((((((((("health") AND "education") OR "promotion") OR "health promotion") OR "health education") OR "awareness") OR "health behaviour") AND "barrier") OR "challenge") OR "hindrance") OR "problems" Articles meeting the inclusion criteria were subjected to full-text review and descriptively analysed to extract key insights and findings.

Search Criteria

Research studies published between 1 January 2014 and 31 December 2024 were systematically reviewed and evaluated. The process of selection included an initial screening of the article titles from the literature search, followed by a review of the abstracts. When necessary, full texts were reviewed to exclude studies which did not meet the objectives and scope of the review.

Study Selection

The selection process was implemented in two stages by three independent reviewers. The first stage involved the screening of studies based on titles and abstracts. Full text articles deemed as potentially relevant were subjected to detailed data extraction. To ensure rigour and reliability, two additional reviewers independently assessed the selected studies for eligibility. From an initial pool of 157 publications identified through the search process, 12 studies met the eligibility criteria and were included in the final review (Fig 1).

Data Extraction & Synthesis

Data collection and analysis were conducted independently by two reviewers. Relevant information extracted from each study included the author(s), year of publication, study design, sample size, country and principal findings. The results were synthesised using a thematic narrative approach, with similar studies grouped together. A summary narrative was then developed for each theme, providing a structured and comprehensive overview of the findings.

Quality and Bias Assessment

The methodological quality of the included studies was evaluated using established assessment tools. The Newcastle-Ottawa Quality Assessment Scale [19] was employed to quantitatively assess studies based on selection, comparability, and exposure criteria. For randomised controlled trials (RCTs), the Cochrane Risk of Bias tool was applied, focusing on various aspects of trial design, execution, and reporting. Additionally, the Joanna Briggs Institute instrument [20] was utilised to assess qualitative and quasi-experimental studies using a checklist-based evaluation approach.

Prisma Flow Chart

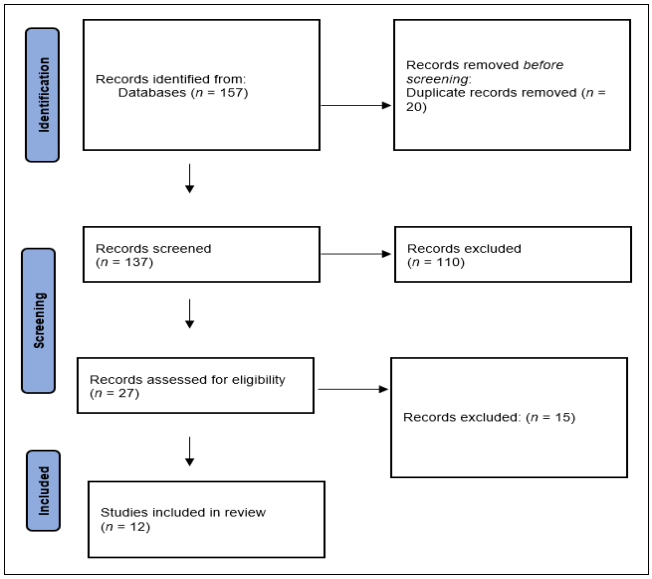


Fig 1: PRISMA flowchart for study selection

Table 1: Study Characteristics

S. No	Author	Year	Samples	Country	Results
1	Raheb Ghorbani *et al* [21]	2014	103 nurses and 84 nursing students	Iran	According to the nurses and nursing students, the primary barriers included excessive workload, insufficient time, lack of educational resources, inadequate knowledge, poor communication skills, and high workload as the key challenges.
2	Saeid Pour *et al* [22]	2014	85 nurses and doctors	Iran	The three most significant barriers were identified as a shortage of nursing staff, insufficient financial resources, and the excessive workload of nurses.
3	Dehghani *et al* [23]	2014	271 nurses	Iran	The key barriers included time constraints due to heavy workloads, the absence of structured patient education planning within nurses' daily responsibilities, and the lack of clarity regarding nurses' roles as educators for both patients and the community.
4	Somayeh Ramezanli *et al* [24]	2015	122 nurses	Iran	The most significant barriers, were limited knowledge and awareness among nurses, patients' inadequate physical and emotional readiness, and the absence of an appropriate environment for effective patient education.
5	Modupe Olusola Oyetunde *et al* [25]	2015	200 nurses	Nigeria	The study identified hindrances like nurses' experience, culture, workplace culture, time constraints, heavy workload, lack of staffing, complexity of patient conditions.
6	Imed Harrab *et al* [26]	2016	106 nurses and 22 doctors	Saudi Arabia	The main impediments were time limitations, language and cultural barriers to communication, patients' lack of desire to learn, limited awareness of contemporary patient education practices, lack of patient education in the medical and nursing curriculums, lack of adequate teaching materials, lack of communication between the health education departments, and patients' anxiety and pain.
7	Badiyepeymaiejahromi Z *et al* [27]	2016	78 nursing students	Indonesia	The primary barriers were lack of resources and teaching materials, constraints on the amount of time available, a lack of knowledge and skills by the nursing professionals, and physical and mental unpreparedness of the patient.
8	Naseem Akhtar *et al* [28]	2019	171 nurses	Pakistan	The research indicated numerous including nurses' experience, cultural barriers, work environment, time constraints, workload, insufficient staff, and patients' complex diseases.
9	Trixia S. Maduramente *et al* [29]	2019	160 nursing students	Philippines	The study revealed that nursing students had limited knowledge of health literacy. Additionally, the absence of a private, distraction-free space for education, along with concerns about being overheard by other patients, posed significant challenges. Furthermore, students found it more difficult to utilize technological devices.
10	Aththanayaka A M R M B *et al* [30]	2021	133 nurses	Sri Lanka	The most common barriers identified were the heavy workload of nurses in the wards, a shortage of nursing staff, and the limited time available for effective patient education.
11	Aniawanis Makhtar *et al* [31]	2022	168 community nurses	Malaysia	The lack of time was identified as a key barrier affecting their participation in health promotion activities.
12	Pratik Salve *et al* [32]	2023	500 nursing students	India	The main challenges encountered by students included managing a diverse group of clients across various age groups, preparing suitable audio-visual aids, time constraints of clients, finding an appropriate space for delivering health education, and being overwhelmed with other clinical responsibilities. Additionally, other significant barriers included difficulties in translating medical terms into the local language, client time limitations, noise and distractions, and a lack of time to assess clients' understanding.

Results

A total of 12 research articles were analysed, comprising of 9 descriptive studies [21-26, 28, 30, 31, 33] and 3 cross-sectional studies [27, 29, 32]. The cumulative sample size across all studies was 2203 participants, which included 1274 nurses, 822 nursing students, 22 doctors and 85 combined sample of both in one study. The research was conducted across nine countries: Iran [22-25], Nigeria [26], Saudi Arabia [27], Indonesia [28], Pakistan [29], Philippines [30], Sri Lanka [31], Malaysia [32], and India [33]. The table highlights that nurses and nursing students and even doctors to some extent often faced significant challenges in delivering effective education. Overcoming these barriers is essential to improving the quality and efficacy of health education in both clinical and community settings (Table 1).

The most frequently cited barriers to health education are:

Time Constraints

A commonly reported challenge in health education is the limitation of time [22-24, 26-28, 31-33], which greatly impairs nurses' and nursing students' capacity to deliver effective patient education. Research indicates that excessive workloads and restricted time availability diminish opportunities for meaningful engagement with patients, thereby compromising the quality of education provided. The inability to dedicate sufficient time to patient education, due to competing clinical obligations, prevents the provision of comprehensive, patient-centred learning.

Excessive Workload

Closely linked to time constraints is the issue of excessive workload [22-24, 26, 29, 31, 33], which remains a major barrier for healthcare professionals. The demanding nature of nursing roles, coupled with administrative responsibilities and high patient volumes, significantly limits the capacity to conduct patient education. Nurses and students often struggle to balance their clinical duties with educational responsibilities, resulting in hurried or incomplete education sessions, and providing tailored health education is considerably diminished, thereby reducing the effectiveness of health promotion efforts.

Limited Knowledge and Awareness among Nurses

Another significant barrier is the insufficient knowledge and awareness among nurses regarding health education principles [22, 24, 25, 27, 28, 30]. Many nurses and students report feeling inadequately trained to deliver structured and evidence-based education. Without adequate training in contemporary health education methodologies, healthcare providers experience difficulties in effective communication, assessing patient needs, and implementing educational interventions. This gap in knowledge ultimately weakens the impact of health education.

Workplace Barriers

Institutional challenges [24-27, 29-30], such as the absence of structured educational planning and insufficient organisational support, further hinder the effective implementation of health education. In many healthcare settings, patient education is not recognised as a core responsibility within nurses' daily duties, resulting in inconsistencies in its execution. The absence of formal policies and structured guidelines surrounding patient education as an integral component of routine practice results in variability for healthcare professionals to implement education in a consistent and systematized way. This variability and inconsistency create a disjointed learning experience for patients that ultimately diminishes the long-term benefit of educational interventions.

Insufficient Resources

The lack of financial and educational resources [22, 23, 27, 28, 33] is another considerable barrier that can affect health education's ability to be successful. If the essential teaching tools including audio-visual materials, brochures, and electronic tools to engage patients are not available, healthcare providers cannot offer interactive education. It is almost impossible for nurses and students to not rely on verbal explanations, especially if the learners are not health literate. If educational resources are not apparent or accessible to patients, misunderstandings can occur, advising can be ignored, and health management practices can be poorly developed.

Patient/Client-Related Barriers

Patient-specific factors [25-29] also create barriers to health education. There are many patients who, due to low motivation, low health literacy, physical barriers, psychological barriers and/or any combination thereof, are unable to engage in learning. If patients are not open to education because of these barriers, it will be difficult for health care providers to inform patients effectively about health information they need to hear. This may lead to lack of adherence to their treatment, low engagement level from the patient, and resultant poor health outcomes.

Cultural and Language Barriers

Additionally, to cultural and linguistic disparities [22, 26, 27, 29, 33] will lead to innumerable opportunities for miscommunication that affects the success of health education programs. Nurses working in multicultural settings often work with patients with all manner of languages and cultural interpretations of health, illness, and wellness. Difficulties in communication due to language or cultural differences can impair and misinterpretation of health information, hinder patient engagement, and give barriers to patients following the medical advice given.

Inadequate Staffing

A shortage of nursing personnel [23, 26, 29, 31] is another important issue that limits patient education delivery. In environments that are short-staffed, nurses tend to be so busy with required clinical responsibilities that they have little time for education-specific interventions. With insufficient personnel, there are fewer individual health care providers to assist in patient learning, answer inquiries, and reinforce health education plan.

Environmental Factors

Ultimately, environmental issues [30, 33] also detracted from educational sessions. Unreasonable noise, frequent distractions, limited privacy experiences decreased patient education opportunities. It's incredibly difficult for nurses and students to find a private quiet place to educate patients in busy hospital wards. In addition, concerns regarding privacy may discourage patients from openly discussing their health concerns, further limiting the depth and effectiveness of health education.

Discussion

The results highlight the vast array of barriers faced by the nurses, nursing students and doctors in regards to planning of health education or implementation of health education and for not being able to provide health education. Time constraints, excessive workloads, and inadequate staffing prevent nurses from allocating sufficient attention to patient education, while gaps in knowledge, resource shortages, and workplace limitations weaken the overall impact of educational efforts. Additionally, patient-specific barriers, cultural and language challenges, and environmental constraints further diminish the effectiveness of health education interventions.

Time constraints emerged as one of the most frequently cited barriers to the effective implementation of health education by nurses and nursing students [33-42]. The broad scope of nursing responsibilities including direct patient care, documentation and administrative obligations often leads to competing demands, which leave minimal time for structured health education activities. Studies have demonstrated that without designated time for health education, patient engagement decreases and opportunities to enhance health literacy are missed [43, 44]. The situation is further aggravated by the lack of institutional frameworks and policies that prioritize health promotion within clinical routines, which leads to its marginalization [45, 46]. Overcoming this barrier requires strategic administrative reforms, such as integrating health education into core job responsibilities, improving nurse-patient ratios, and restructuring workflows to allocate protected time for education.

Excessive workload and intense work pressure emerged as prominent obstacles to delivering effective health education. Numerous studies [34, 35, 39-41, 43, 47-49] highlight that high patient-to-nurse ratios, lack of balanced task allocation, and inadequate staffing significantly contribute to nurses' excessive workload. Research indicates that this "implicit rationing" of nursing care, where essential educational interventions are omitted, undermines quality care and hampers health education efforts [50, 51]. Such workload pressures also contribute to increased burnout, reduced job satisfaction, and higher turnover rates, further diminishing the capacity for meaningful patient engagement [47].

In this study, a persistent barrier identified was the limited knowledge and awareness regarding health education among nurses. Multiple studies [35, 36, 38, 48, 50, 52] echo this finding, highlighting that many nurses struggle to identify patients' educational needs, possess insufficient training in teaching methodologies, and often do not fully appreciate the value of patient education. These challenges may stem from several contributing factors: nursing curricula often undervalue health education in favour of acute care competencies [53], healthcare institutions frequently lack in-service training and ongoing professional development opportunities focused on educational skills [54], and organisational cultures may fail to incentivise or recognise educational efforts within performance evaluations [55]. For instance, many nurses report receiving limited instruction in communication and educational methodologies during their training, impeding their confidence and effectiveness in this role [56].

The review identified a range of organisational impediments to health education delivery. The lack of strategic prioritisation of health promotion, weak interdisciplinary collaboration, and insufficient managerial backing were cited in multiple studies [35, 39, 41, 43, 48, 53, 57]. These factors contribute to health education being viewed as peripheral rather than integral to clinical responsibilities. Furthermore, the absence of specialised health-education nurses, inadequate institutional policies and protocols, and restrictive organisational rules further limit educational efforts [58, 59]. Physical limitations, such as the absence of dedicated spaces for education, also disrupt structured learning sessions. These barriers often stem from a combination of underinvestment in infrastructure, unclear role definitions, and a shortage of leadership that champions educational practices issues that plague many healthcare environments [60].

In this study, a critical barrier of insufficient financial and educational resources emerged as a significant challenge to effective health education. Several investigations [34-39, 42, 49] align with these findings, revealing that shortages of teaching materials, outdated facilities, and limited access to proper instructional technology substantially impede the delivery of high-quality patient education. The absence of well-resourced, dedicated learning spaces within healthcare settings exacerbates these limitations. Underlying causes include underfunded institutional support for educational infrastructure [61], the high cost of developing and updating patient education materials [62], and broader systemic funding constraints within healthcare systems [63].

Patients' readiness and motivation to engage in health education emerged as frequent barriers in this review. Multiple studies [34, 35, 37, 38, 42, 43, 49, 50, 53] confirm that factors such as illiteracy, limited educational background, and pre-existing health beliefs significantly reduce patient involvement. Additionally, past experiences, religious convictions, language differences, and resistance from patients or their families create further obstacles. Poor health status and psychological states often exacerbate disengagement, as do patients' perceptions of learning as an unnecessary hospital activity. Underlying causes include low health literacy among individuals which compromises comprehension of health information [64, 65]. Time constraints in patients' daily lives also limit participation, especially when health education sessions are not aligned with their schedules [66].

In our review, cultural and linguistic barriers were identified as significant impediments to effective health education, corroborating findings from earlier studies [34-36, 48, 50, 51, 53]. Nurses reported challenges in simplifying complex health information, compounded by discrepancies in cultural norms and language misunderstandings. The use and quality of interpreter services vary widely, leading to further breakdowns in interactions and increased stress and workload for nurses [67]. Moreover, nurses often struggle with ethnocentric assumptions and unconscious biases, which can shape their perceptions of patients and weaken nurse–patient relationships [68]. Collectively, these factors limit engagement in educational interventions and reduce their effectiveness. Enhancing cultural competence through structured training, the use of professional interpreters, and the adoption of culturally responsive communication strategies are essential to overcoming these barriers and improving health education outcomes [69, 70].

This study highlighted staff shortages as a key barrier impeding the delivery of effective health education. Consistent findings have been reported in various other

studies [37, 39, 40, 43, 49], underscoring how a persistent shortage of nursing personnel, coupled with a disproportionate nurse-to-patient ratio, significantly limits the ability to conduct structured health promotion. This systemic issue is exacerbated in low-resource settings where both human and material capacities are stretched, further impeding the integration of health education into routine care activities [71, 72]. Ensuring optimal staffing levels and clearly delineated roles is therefore essential for enhancing nurses' capacity to provide meaningful health education [73].

This study also identified environmental factors as a significant barrier contributing to the ineffectiveness of patient education. Consistent findings have been echoed in multiple studies [34, 35, 39, 49, 50], highlighting that many healthcare settings lack designated, private, and quiet areas suitable for delivering health education. The presence of excessive noise, overcrowded wards, and frequent interruptions negatively impacts both the educator's ability to communicate effectively and the patient's capacity to absorb information. These unfavourable environmental conditions reduce the overall quality and reach of educational interventions, thereby limiting their success. Additionally, the lack of infrastructure to support structured learning sessions in clinical environments poses ongoing challenges in embedding health education into routine care [74].

Overcoming these barriers requires strategic administrative reforms, such as integrating health education into core job responsibilities, improving nurse-patient ratios, and restructuring workflows to allocate protected time for education. A multidisciplinary, well-funded health promotion program is essential to addressing the complex socioeconomic determinants of health and fostering positive change [75].

Conclusion

The presence of these barriers significantly undermines the successful implementation of health education within healthcare settings. Addressing these barriers through improved training, resource allocation, policy development, and culturally inclusive education strategies is essential for enhancing the quality and accessibility of health education for both patients and healthcare providers. In the context of health promotion, the effective implementation of health education requires strategic administrative planning, supervisory adaptations, and targeted performance improvement measures.

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