BMC Nursing

RESEARCH

Open Access

Barriers and facilitators to patient education from nursing perspectives in West bank hospitals: a Cross-sectional study

Mohammad Hayek[1*], Ibrahim Ghoul[2*], Abdullah Abdullah[3], Nizar Said[1], Aidah Alkaissi[1], Eman Alshawish[1], Fatima Mohammad Hirzallah[1], Amer Asia[4], Murad Jkhlab[5], Nansy Daas[1], Baraa Salah[1], Joud Abutair[1], Nabila Abd-Alkader[1] and Deena Marzook[1]

Abstract

Background Patient education is fundamental to patient-centered care but faces significant implementation challenges. Nurses, ideally positioned to lead education, encounter barriers like time constraints, inadequate environments, and discontinuity across shifts, leading to inconsistent delivery. Understanding these barriers and facilitators from nurses' perspectives is crucial for improving practice, especially in resource-constrained settings like Palestine.

Methodology A cross-sectional study was conducted with 150 nurses (mean age 32.1 ± 11.4 years; 58% female; 62% governmental hospitals; 58.7% open units) across diverse Palestinian hospitals. A validated 20-item questionnaire (Cronbach's α = 0.89 overall) assessed 10 barriers and 10 facilitators using a 5-point Likert scale. Data analysis employed descriptive statistics, non-parametric tests (Mann-Whitney U, Kruskal-Wallis H), and ordinal logistic regression via SPSS v25.

Results Top barriers were time limitations (37.3%; mean = 3.52 ± 1.06), unsuitable environment (33.3%; 3.46 ± 1.16), and discontinuity across shifts (32.0%). Key facilitators included prioritizing education evaluation (48.0% agreed; 3.63 ± 1.10), using educational technology (44.0% agreed; 3.67 ± 1.07), and dedicated nurse-educators (46.0% agreed). Significant predictors of higher barriers were older age ($p < 0.001$), governmental hospitals ($p = 0.005$), and lower education (Diploma/Bachelor vs. PhD, $p < 0.05$). Facilitators were more recognized by older nurses ($p < 0.001$), those in urban areas (B = 1.034, $p = 0.016$), and governmental staff ($p = 0.015$).

Conclusions Systemic barriers (time, environment, staffing) and actionable facilitators (technology, evaluation protocols, specialized roles) critically impact patient education in Palestine. Interventions must prioritize resource allocation, protected education time, Arabic-language tools, and leveraging experienced nurses. Policy reforms addressing nurse-patient ratios and institutional support are essential to enhance education quality and patient outcomes.

*Correspondence:
Mohammad Hayek
m.hayek@najah.edu
Ibrahim Ghoul
i.ghoul@najah.edu

Full list of author information is available at the end of the article

Clinical trial registration This research did not involve a clinical trial; no clinical trial registration is applicable.

Keywords Patient education, Nursing barriers, Healthcare facilitators, Cross-sectional study, Palestine, Time constraints, Educational technology, Hospital resources

Background

Patient education is a foundational element of patient-centered care, defined as the process of enhancing a patient's knowledge and capabilities to support the mindset and actions required for maintaining or improving health [1]. This type of education includes all initiatives focused on the patient, encompassing therapy [2], hygiene [3], and clinical health improvement [4], with the ultimate aim of fostering self-care [5], reducing mortality [6], and mitigating the adverse effects of treatment [7]. It plays a vital role in enhancing the effectiveness and quality of care, improving patient satisfaction, reducing anxiety, and helping individuals adapt to their health conditions [1].

Despite widespread recognition of its importance, patient education is not always implemented effectively in clinical practice. Nurses, who are ideally positioned to lead these educational efforts, often report numerous challenges that hinder their ability to deliver structured and impactful education. Studies suggest that in many cases, patient education is informal, inconsistently delivered, and perceived as a secondary task compared to clinical duties [8]. These limitations are especially problematic given the growing burden of chronic diseases, which require patients to manage complex treatment regimens and make daily health-related decisions. This growing demand underscores the need for well-prepared nurses who are equipped with both the knowledge and resources necessary to provide effective patient education [9]. Ghoul et al. emphasized the importance of integrating safety huddle training into inter-professional education curricula, guided by administrative and policy-level support, to enhance collaborative skills among healthcare providers an essential facilitator for effective patient education [10].

There is a pressing need to better understand the specific barriers that prevent nurses from fully engaging in patient education, as well as the factors that enable and support these efforts. From the nursing perspective, barriers may include time constraints, lack of training, heavy workloads, insufficient institutional support, and inadequate educational environments. At the same time, facilitators may include enhanced nurse training, institutional recognition of the educational role of nurses, and patient motivation [8, 9]. A systematic review by Shadadi et al. indicated that the barriers to patient education were more prominent than the facilitators, highlighting the complexity and urgency of this issue [9].

Unresolved challenges in patient education not only limit the effectiveness of healthcare delivery [4] but also widen the knowledge gap between patients and their conditions [4], reducing patients' ability to engage in self-care and make informed decisions [11]. Investigating these barriers and facilitators from the perspectives of nurses is essential for developing practical strategies that enhance the quality and consistency of patient education. Insights from such studies can inform the design of training programs, resource allocation, and policy decisions aimed at strengthening the educational role of nurses across healthcare settings.

Therefore, this study was conducted to explore and assess the barriers and facilitators to patient education from the nursing perspective. The findings are intended to support decision-makers in implementing interventions that address these barriers and enhance facilitators, ultimately contributing to improved patient outcomes through more effective education.

Methods

Study design

This study employed a cross-sectional design to explore the barriers and facilitators to patient education from the perspective of nurses. The cross-sectional approach was deemed appropriate for achieving the study's aims, as it allowed the researchers to investigate multiple independent variables simultaneously. Additionally, this design enabled the assessment of correlations between the independent variables—such as nurses' characteristics and workplace settings—and the dependent variables, which are the perceived barriers and facilitators to patient education.

Study setting and site

Hospitals were selected to represent Palestine's healthcare diversity, including governmental (e.g., Rafedia, Al-Watani) and private institutions (e.g., An-Najah National University Hospital). Governmental hospitals were included due to their high patient volumes and resource constraints, which are critical to understanding systemic barriers. Private hospitals provided a contrast in operational dynamics, such as staffing ratios and institutional support. This dual approach aimed to capture variability in patient education practices influenced by organizational structure. These hospitals served as diverse clinical environments and included Rafedia Hospital, Al-Watani Hospital, Thabet Thabet Governmental Hospital, Jenin Governmental Hospital, and An-Najah National

University Hospital. Nurses from various departments within these hospitals participated in the study, allowing the researchers to gather a wide range of perspectives on patient education practices and the challenges or supports encountered in these clinical settings. The study included nurses from both open (e.g., general wards, outpatient clinics) and closed units (e.g., ICUs, emergency departments) to reflect diverse patient education challenges. Open units were prioritized (58.7% of participants) due to their higher patient turnover and greater emphasis on self-care education, while closed units (41.3%) provided insights into acute care settings where education may be more time-constrained. This stratification ensured a comprehensive evaluation of barriers and facilitators across care contexts.

Study sample and recruitment

The study targeted all graduate nurses working in selected governmental and private hospitals across Palestine during the data collection period, as they are directly involved in patient education. Inclusion was limited to those who completed the questionnaire in full, while undergraduate nurses and incomplete responses were excluded. A total of 150 participants were recruited based on a sample size calculated using the Raosoft calculator with a 95% confidence level and 5% margin of error. Due to logistical constraints, convenience sampling was used, allowing for sequential recruitment of eligible participants across various departments and shifts. Due to logistical constraints, including limited access to a randomized sample across diverse hospital settings and time restrictions, convenience sampling was employed. While this method introduces potential selection bias and may limit the generalizability of the findings, it was deemed practical for capturing a broad range of nursing perspectives within the study timeframe. This limitation is explicitly acknowledged in the 'Limitations' section of the Discussion.

Data collection

In this study, data were collected using a previously developed and validated questionnaire that focused on the barriers and facilitators to patient education, each comprising 10 items. Responses were recorded on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The reliability of the instrument was confirmed through Cronbach's alpha, with scores of 0.89 for the overall tool, 0.87 for the barriers subscale, and 0.85 for the facilitators subscale [12, 13]. Expert review was conducted by a panel of five nursing educators and two clinical practitioners to assess relevance, clarity, and comprehensiveness of the items. A pilot study was conducted on 10% of the sample to assess the clarity and structure of the questionnaire. The results indicated that the items were clear and well-structured, and no modifications were necessary. Exploratory Factor Analysis (EFA) using Principal Axis Factoring with Varimax rotation was conducted to examine the construct validity of the 20-item scale related to barriers and facilitators to patient education. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.887, indicating excellent sampling adequacy, and Bartlett's test of sphericity was significant ($\chi^2(190) = 1104.81$, $p < 0.001$), supporting the factorability of the correlation matrix. Two factors were extracted, explaining 39.89% of the total variance. The rotated factor matrix revealed a clear two-factor structure consistent with theoretical expectations. Items representing barriers (e.g., "Lack of trust between patients and staff," "Discontinuity of patient education across shifts") loaded primarily on Factor 1, while items representing facilitators (e.g., "Enhancing the knowledge and skills of educators," "Planning for suitable time and place for education") loaded on Factor 2. All retained items had loadings above the 0.50 threshold, supporting the construct validity of the tool. Therefore, the original version of the questionnaire was used in the main study without any changes. Data collection commenced after receiving ethical approval and administrative permissions from all involved institutions. Researchers visited each hospital and introduced the study to the nursing staff in person. Interested participants were provided with detailed information about the study's objectives, potential benefits, and the voluntary nature of their participation.

Ethical considerations

Ethical considerations were thoroughly observed throughout the study. Approval was secured from the Institutional Review Board (IRB) at An-Najah National University, and all procedures adhered to the university's ethical guidelines. This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. All procedures involving human participants were performed in compliance with the relevant guidelines and regulations stated in the Declaration. Ethical approval was obtained from the appropriate institutional review board, and written informed consent was obtained from all participants after providing a full explanation of the study's purpose, procedures, and their rights as participants. Confidentiality and anonymity were strictly maintained. Participants were assured that their responses would be used solely for research purposes and that they could withdraw from the study at any time without any consequences. Additionally, formal requests for study approval were submitted and granted by the administrations of the participating hospitals, ensuring full institutional support and transparency.

Data analysis

All collected data were entered and analyzed using SPSS software version 25. Descriptive statistics, including frequencies and percentages, were calculated for categorical variables to summarize the participants' responses. The normality of continuous data was assessed using the Shapiro-Wilk test. As the data were not normally distributed, non-parametric statistical tests were applied. The Mann–Whitney U test was used to compare differences between two independent groups, while the Kruskal–Wallis test was used for comparisons across three or more groups. These analyses enabled the researchers to explore the relationships between nurse demographics and their perceptions of barriers and facilitators to patient education. In addition to non-parametric tests, we performed ordinal logistic regression analyses to examine the simultaneous influence of multiple demographic and professional variables on perceived barriers and facilitators. The regression models included age, gender, years of experience, hospital type, and department type as covariates. This approach allowed us to control for potential confounders while assessing the independent associations of each variable with our outcomes.

Table 1 Sociodemographic data

Category	Item	Frequency	Percentage
Gender	Male	63	42.0
	Female	87	58.0
	Total	150	100.0
Age	20–30 y	90	60.0
	31–40 y	26	17.3
	41–50 y	20	13.3
	> 50	14	9.3
	Total	150	100.0
Living Location	City	64	42.7
	Village	58	38.7
	Camp	28	18.7
	Total	150	100.0
Educational Level	Diploma	44	29.3
	Bachelor	76	50.7
	Master	25	16.7
	PhD	5	3.3
	Total	150	100.0
Social Status	Married	60	40.0
	Single	63	42.0
	Divorced	24	16.0
	Widow	3	2.0
	Total	150	100.0
Years of Experience	Less than 1 year	43	28.7
	1 to 5 years	55	36.7
	More than 5 years	52	34.7
	Total	150	100.0
Type of Hospital	Private	57	38.0
	Governmental	93	62.0
	Total	150	100.0
Type of Department	Open Unit	88	58.7
	Closed Unit	62	41.3
	Total	150	100.0

Results

Sociodemographic characteristics of study sample

The study included 150 participants, with an average age of 32.1 ± 11.4 years. The Majority of participants (58%) were women. In terms of age distribution, 60% of participants were aged 20 to 30 years old. The majority (42.7%) lived in the city. In terms of education level, the majority of participants (50.7%) had a bachelor's degree. In terms of social status, the majority (42%) were single. Regarding employment experience, the majority (36.7%) had 1 to 5 years of experience. Participants also worked in a variety of hospital settings, most of them 62% working in government facilities. Finally, 58.7% worked in open spaces. Table 1 shows more detailed data.

Barriers to patient education

The study revealed three primary barriers to patient education, with the most significant challenges being time limitations (37.3%), a lack of a suitable environment for patient education (33.3%), and discontinuity of patient education across shifts (32.0%). Furthermore, a significant proportion of participants agreed that patient education is not prioritized in comparison to other nursing duties (32.0%), while a significant percentage also identified a lack of physical and emotional preparation for patients (35.3%) and a lack of trust between patients and staff (35.3%) as barriers. Other barriers were a lack of knowledge and abilities (31.3%) and a shortage of nurses (30.0%), although the discontinuity of nurses' cooperation in patient education was more evenly spread, with 26.7% remaining Neutral. other related data shown in Table 2.

Facilitators to patient education

The study revealed numerous major facilitators of patient education, with the most support for the importance of evaluating patient education (48.0% agreed, 18.7% strongly agreed). Other notable facilitators were implementing education gradually (46.0% agreed), increasing patient participation in learning (42.7% agreed), and improving instructors' expertise and skills (42.0% agreed). Furthermore, 44.0% of participants agreed to use educational help technologies, with 20.7% strongly agreeing. Other key elements included hiring one or two nurses as committed educators (46.0% agreed), determining the best time and place for education (38.0% agreed), and gathering knowledge and instructions to teach specific topics (46.0% agreed). Overall, these data point to numerous measures that might enhance the effectiveness

Table 2 Barriers to patient education

Item	Strongly disagree *N* (%)	Disagree *N* (%)	Neutral *N* (%)	Agree *N* (%)	Strongly agree *N* (%)
Lack of appropriate educational facilities	10 (6.7%)	31(20.7%)	40(26.7%)	44(29.3%)	25 (16.7)
Time limitations	7 (4.7)	18(12.0)	42(28.0)	56(37.3)	27 (18.0)
Inadequate knowledge and skills	12 (8.0)	36(24.0)	34(22.7)	47(31.3)	21 (14.0)
Patients' lack of physical and emotional preparation	12 (8.0)	29(19.3)	32(21.3)	53(35.3)	24 (16.0)
Lack of proper environment for patients' education	8 (5.3)	27(18.0)	34(22.7)	50(33.3)	31 (20.7)
Lack of trust between patients and staff	10 (6.7)	30(20.0)	29(19.3)	53 (35.3)	28 (18.7)
Discontinuity of nurse's collaboration in patients' education	18 (12.0)	27(18.0)	40(26.7)	37(24.7)	28 (18.7)
Discontinuity of patient's education in different shifts	11 (7.3)	28 (18.7)	37 (24.7)	48 (32.0)	26 (17.3)
Patient education not a priority compared to other nursing duties	14 (9.3)	24 (16.0)	34 (22.7)	48 (32.0)	30 (20.0)
Shortage of nurses	12 (8.0)	19 (12.7)	38 (25.3)	45 (30.0)	36 (24.0)

Table 3 Facilitators to patient education

Item	Strongly disagree *N* (%)	Disagree *N* (%)	Neutral *N* (%)	Agree *N* (%)	Strongly agree *N* (%)
Enhancing the knowledge and skills of educators	22 (14.7)	14 (9.3)	27(18.0)	63(42.0)	24(16.0)
Raising the interest of education	5 (3.3)	16(10.7)	36(24.0)	67(44.7)	26(17.3)
Implementing the education step by step	6 (4.0)	21(14.0)	33(22.0)	69(46.0)	21(14.0)
Raising the participation of patients in learning	10 (6.7)	16(10.7)	38(25.3)	64(42.7)	22(14.7)
Considering one or two nurses to be educators for patients	6 (4.0)	19(12.7)	31(20.7)	69(46.0)	25(16.7)
More importance to the evaluation of patient's education	11 (7.3)	12 (8.0)	27(18.0)	72(48.0)	28(18.7)
Using education assistance devices	9 (6.0)	10 (6.7)	34(22.7)	66(44.0)	31(20.7)
Planning for suitable time and place for education	8 (5.3)	25(16.7)	30(20.0)	57(38.0)	30(20.0)
Considering information and guidelines to teach specific topics	11 (7.3)	11 (7.3)	32(21.3)	69(46.0)	27(18.0)
Greater emphasis of teachers and administrators on patient education	9 (6.0)	16(10.7)	32(21.3)	65(43.3)	28(18.7)

of patient education. Other related data illustrated in Table 3.

Barriers to patient education - Mean, standard deviation, and priority

From the students' viewpoint, the most important barriers to patient education were: Time limitations (3.52 ± 1.06), Shortage of nurses (3.493 ± 1.21), Lack of proper environment for patient education (3.46 ± 1.16), and Lack of trust between patients and staff (3.393 ± 1.19). On the other hand, the most important facilitators were Using educational assistance devices (3.667 ± 1.0661), More importance to the evaluation of patient education (3.627 ± 1.1024), and rising the interest of education (3.620 ± 1.00). other related detailed in Figs. 1 and 2. The 'Priority' ranking in Figs. 1 and 2 refers to the relative importance of each barrier/facilitator as determined by mean score values, with 1 indicating the highest priority. This ordinal ranking system allows for comparison of the relative magnitude of different factors while accounting for their measured impact.

Correlations

The Shapiro-Wilk test, A test was conducted to determine if the data was normally distributed, revealed that the data was not normally distributed ($p < 0.001$), as illustrated in Figs. 3 and 4. Therefore, nonparametric analyses, such as the Mann-Whitney and Kruskal-Wallis tests were used to investigate the correlations between independent and dependent variables.

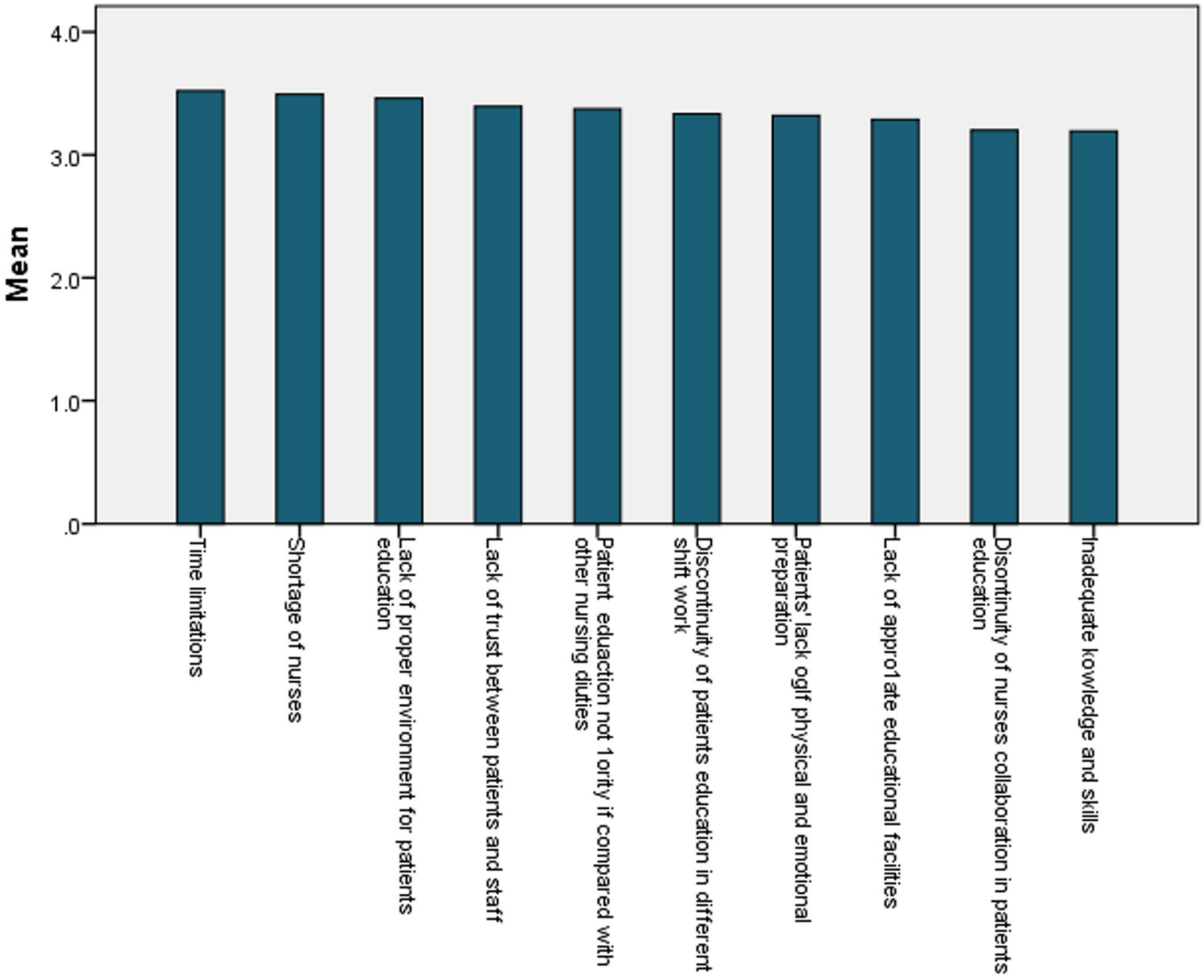

Fig. 1 Barriers to patient education – Mean, standard deviation, and priority

Sociodemographic data – barriers to patient education correlation

In Table 4, the findings show significant relationships between various demographic characteristics and observed barriers to patient education. There was a significant association between age and reported barriers, with older participants (above 50 years) reporting higher challenges than younger participants (20–30 years) ($p < 0.001$). Social status also showed a significant difference, with widowed people having the most perceived barriers ($p = 0.003$). Years of experience showed a link, with those with more than five years of experience seeing greater hurdles than those with less experience ($p = 0.001$). Furthermore, the kind of institution had a significant impact, with individuals in government hospitals reporting higher restrictions than those in private hospitals ($p = 0.005$). Other factors, such as gender, living location, educational level, and type of department, showed no significant link with perceived barriers to patient education.

Sociodemographic data – facilitators to patient education correlation

In Table 5, the findings show that certain demographic characteristics and patient education facilitators have substantial connections. Participants over 50 reported higher mean values for facilitators (4.05) compared to younger groups ($p < 0.001$). This suggests that older adults perceive more facilitators in the educational process. Social status also showed a significant difference, with widowed people reporting the most facilitators (3.7), followed by married, divorced, and single people ($p = 0.003$). Years of experience also had a significant impact, with those with more than five years of experience perceiving more facilitators (3.67) than those with less experience ($p = 0.001$). Furthermore, the type of institution played a difference, with individuals at public hospitals reporting

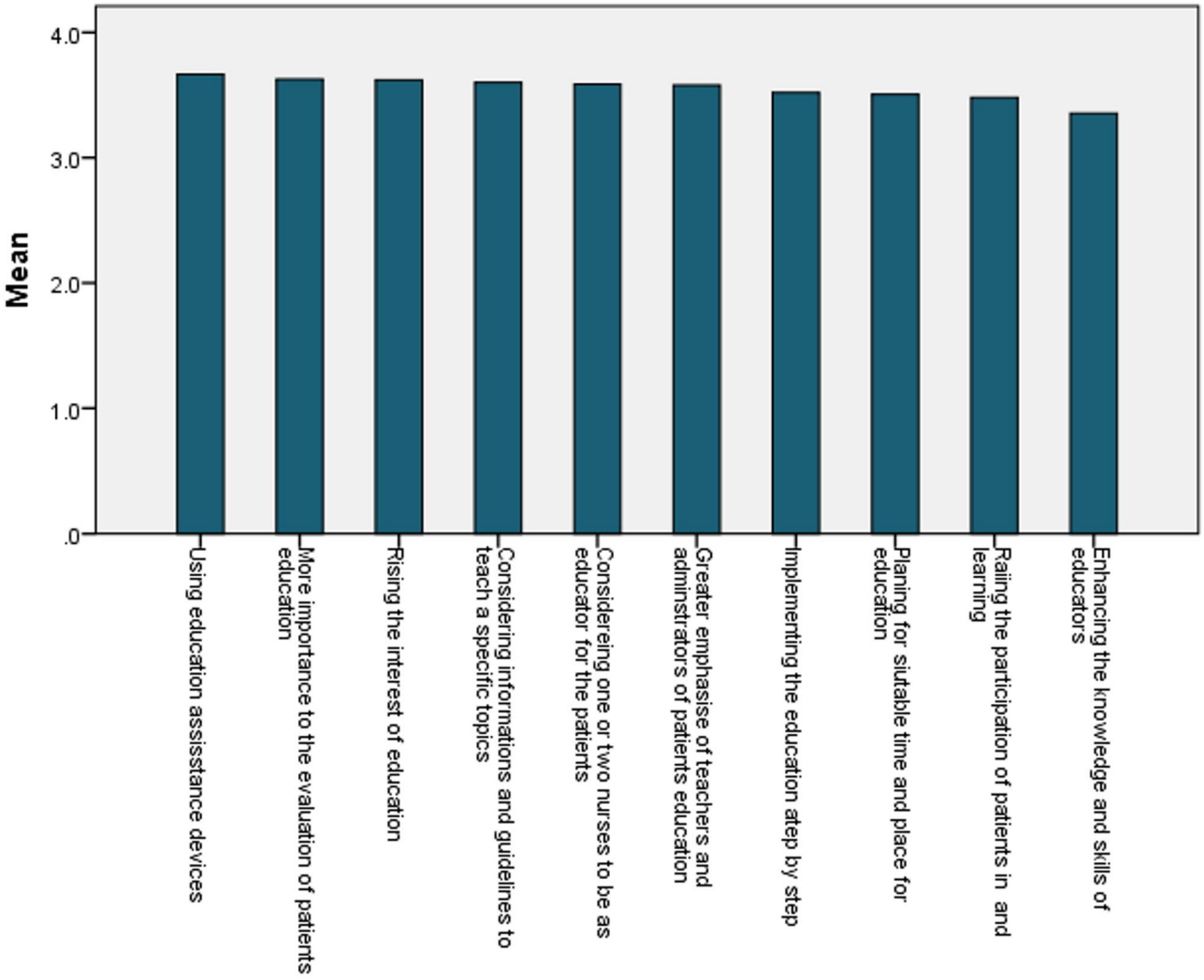

Fig. 2 Facilitators to patient education – mean, standard deviation, and priority

more facilitators (3.6) than those in in private hospitals (3.4) ($p = 0.005$). Gender, living location, educational level, and type of department did not show significant differences in facilitators.

Predictors of perceived barriers to patient education: ordinal logistic regression analysis

In the ordinal logistic regression model assessing the perceived barriers among healthcare workers, the overall model was statistically significant ($\chi^2 = 51.724$, $p < 0.001$), indicating that the set of predictors reliably distinguished between levels of perceived barriers. The model demonstrated acceptable fit (Pearson $\chi^2 = 4563.888$, $p = 0.729$; Deviance $\chi^2 = 903.407$, $p = 1.000$). The Nagelkerke pseudo R-square was 0.292, suggesting that approximately 29% of the variance in perceived barriers could be explained by the model. In Table 6 significant predictors of higher perceived barriers included age (B = 0.101, $p = 0.014$), educational level (Diploma vs. PhD: B = 2.325, $p = 0.029$; Bachelor vs. PhD: B = 2.117, $p = 0.042$), and hospital type (Private vs. Governmental: B = -0.741, $p = 0.021$). These results indicate that older age, lower educational attainment, and working in governmental hospitals were associated with higher perceived barriers. Gender, years of experience, living location, department type, and social status did not significantly predict perceived barriers.

Predictors of perceived facilitators to patient education: ordinal logistic regression analysis

A multinomial logistic regression analysis was conducted to examine the predictors of perceived facilitators of patient education among healthcare workers. In Table 7 the final model showed a statistically significant improvement over the intercept-only model, $\chi^2(17) = 30.450$, $p = 0.023$, indicating that the included variables contributed to the prediction of facilitator levels. The goodness-of-fit indices showed an adequate model fit, with Pearson $\chi^2(4478) = 4450.703$, $p = 0.611$, and Deviance

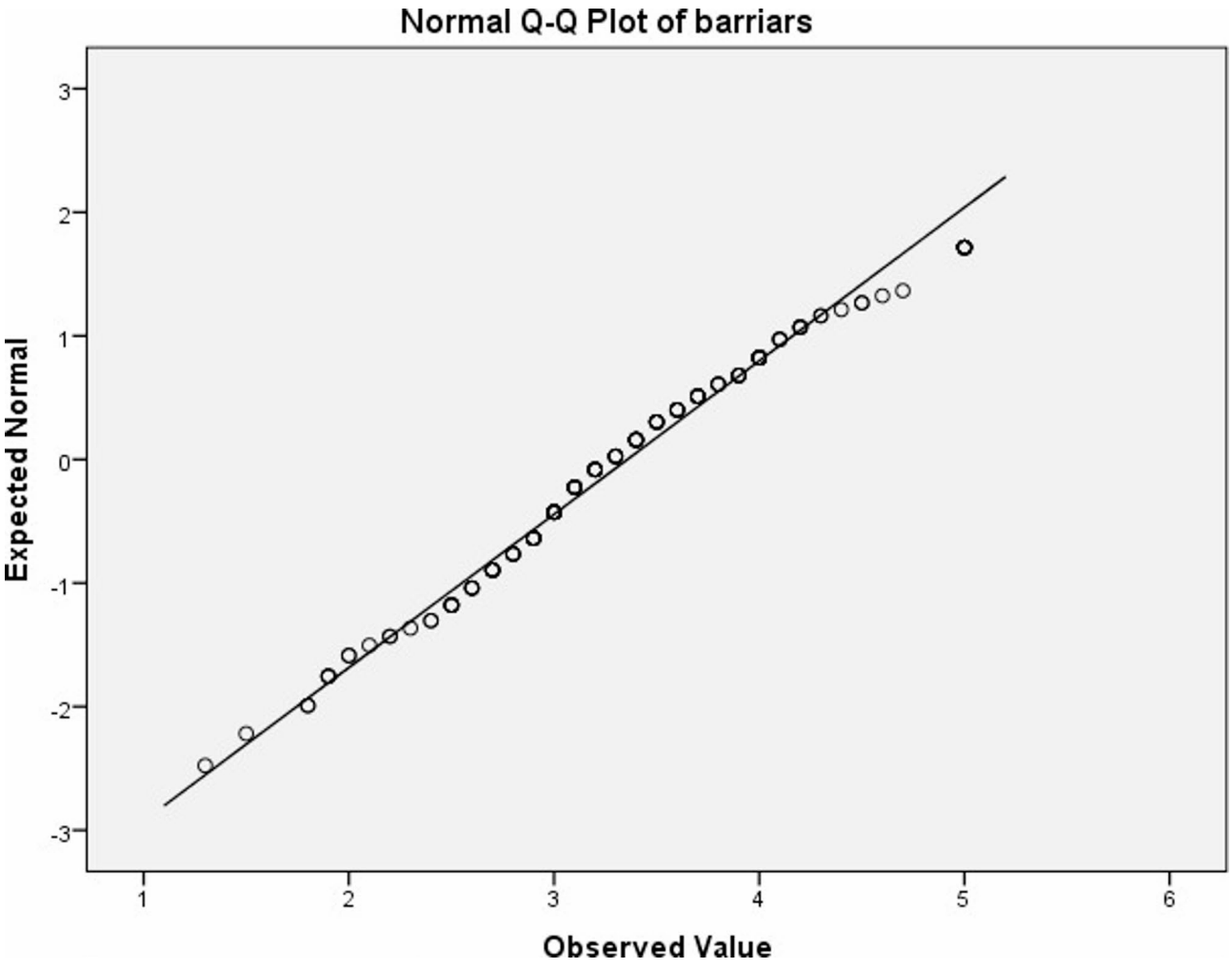

Fig. 3 Normal Q-Q plot of barriers

$\chi^2(4478) = 885.742$, $p = 1.000$. The pseudo R-square values indicated a modest level of explained variance (Cox and Snell = 0.184; Nagelkerke = 0.184; McFadden = 0.033). Among the predictors, living in a city was significantly associated with higher levels of reported facilitators compared to those living in camps (B = 1.034, $p = 0.016$). Additionally, working in governmental hospitals was a significant negative predictor of facilitators compared to private hospitals (B = -0.784, $p = 0.015$). Other variables such as gender, age group, educational level, marital status, years of experience, and type of department were not significant predictors (all $p > 0.05$).

Discussion

This study identified key barriers and facilitators to patient education among nurses working in various Palestinian healthcare settings. The findings showed that time constraints, lack of an appropriate environment for educational activities, and organizational workload pressures were among the most significant barriers. Facilitators included promoting patient participation in education and higher levels of nursing experience, particularly associated with older age. The diversity of the study sample drawn from different hospital types and encompassing a range of sociodemographic characteristics supports the generalizability and external validity of the findings.

The representativeness of the sample and the inclusion of participants from governmental and private hospitals contributed to a low rate of missing data and enhanced the credibility of the research. The systemic barriers identified, especially time constraints, reflect broader challenges in the Palestinian healthcare system. High nurse-to-patient ratios and increased workload burden were consistently reported as major obstacles to effective patient education, with nurses often forced to prioritize urgent clinical responsibilities over educational efforts. This resulted in rushed, inconsistent educational interactions and diminished quality of care [14–16]. These findings are consistent with previous studies that have

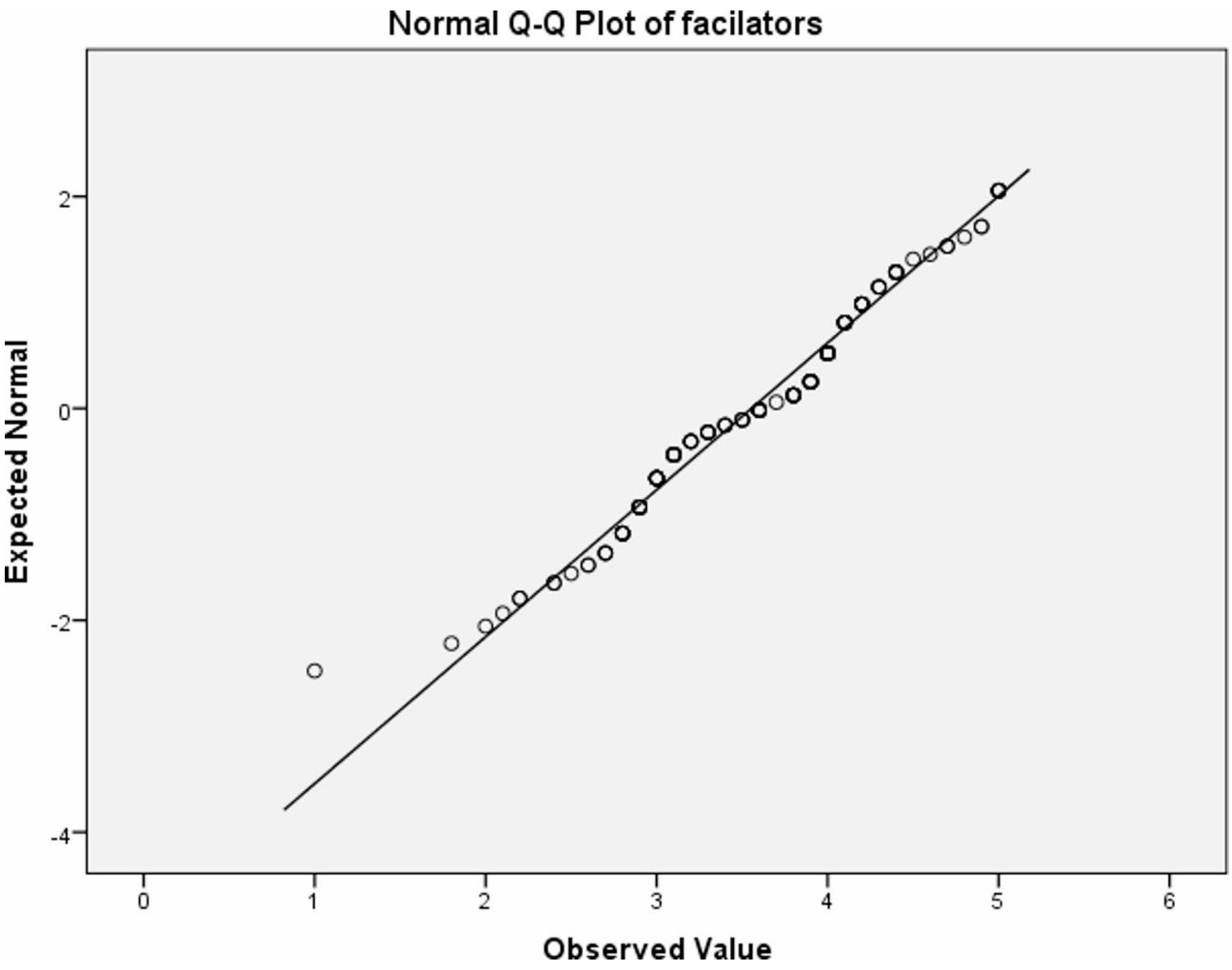

Fig. 4 Normal Q-Q plot of facilitators

documented how organizational issues, such as staffing shortages and inefficient time management, reduce opportunities for structured and meaningful patient education. Both healthcare workers' perceptions and national-level reports confirm that nursing shortages significantly affect patient care, timely service delivery, and the overall quality of communication within clinical settings [17, 18]. The alignment between frontline staff experiences and workforce data suggests that staffing-related challenges are deeply embedded in the healthcare system and pose a risk to patient safety and care continuity. Further contributing factors include limited training environments, the absence of culturally appropriate materials, and inadequate institutional support for educational initiatives. These were compounded by the irregular presence of medical staff and a lack of suitable resources to facilitate learning, all of which undermine efforts to promote patient understanding and self-management [19–22]. Communication practices such as shift discontinuity and a task-oriented nursing culture—also disrupted continuity of care and weakened nurse-patient relationships. Cultural norms, language barriers, and perceived power dynamics between patients and providers further complicated interactions and reduced trust [19, 22]. Trust between patients and healthcare professionals was found to be essential for effective education. Mistrust or lack of rapport discouraged patients from asking questions or adhering to instructions. Although educational tools and devices could bridge gaps in understanding, their use remained limited due to resource constraints and the unavailability of materials in the Arabic language [19, 21]. The broader context of political and economic instability in Palestine adds additional pressure, deprioritizing patient education and leading to lower levels of health literacy and poorer health outcomes. Quantitative data from this study further substantiated these themes. The lack of a suitable environment for educational activities was reported with a mean score of 3.46 ± 1.16, and 32.0% of participants stated that patient education is often not prioritized relative to other

Table 4 Sociodemographic data – barriers to patient education correlation

Category	subcategory	Mean ± St. Deviation	*P*-value
Gender	Male	3.3 ± 0.7	0.894
	Female	3.4 ± 0.8	
Age	20–30 years	3.1 ± 0.7	< 0.001
	31–40 years	3.4 ± 0.5	
	41–50 years	3.6 ± 1.0	
	> 50 years	4.2 ± 0.6	
Living Location	City	3.3 ± 0.9	0.398
	Village	3.2 ± 0.7	
	Camp	3.5 ± 0.8	
Educational level	Diploma	3.3 ± 0.7	0.725
	Bachelor	3.3 ± 0.8	
	Master	3.5 ± 0.9	
	PhD	3.8 ± 0.9	
Social statuse	Married	3.5 ± 0.8	0.003
	Single	3.1 ± 0.7	
	Divorced	3.7 ± 0.7	
	Widow	4.2 ± 1.3	
Years of experience	Less than 1 year	3.2 ± 0.8	0.001
	1 to 5 years	3.2 ± 0.9	
	More than 5 years	3.7 ± 0.8	
Type of hospital	Private	3.1 ± 0.7	0.005
	Governmental	3.5 ± 0.8	
Type of department	Open Unit	3.4 ± 0.9	0.443
	Closed Unit	3.3 ± 0.7	

Table 5 Sociodemographic data – facilitators to patient education correlation

Category	subcategory	Mean ± St. Deviation	*P*-value
Gender	Male	3.4 ± 0.7	0.894
	Female	3.6 ± 0.7	
Age	20–30 years	3.5 ± 0.7	< 0.001
	31–40 years	3.3 ± 0.4	
	41–50 years	3.5 ± 0.7	
	> 50 years	4.0 ± 0.2	
Living location	City	3.6 ± 0.8	0.398
	Village	3.4 ± 0.6	
	Camp	3.4 ± 0.6	
Education level	Diploma	3.4 ± 0.7	0.725
	Bachelor	3.5 ± 0.7	
	Master	3.6 ± 0.6	
	PhD	3.7 ± 0.6	
Social Statues	Married	3.5 ± 0.6	0.003
	Single	3.5 ± 0.8	
	Divorced	3.5 ± 0.7	
	Widow	3.7 ± 0.6	
Years of experiance	Less than 1 year	3.5 ± 0.8	0.001
	1 to 5 years	3.4 ± 0.6	
	More than 5 years	3.6 ± 0.6	
Type of hospital	Private	3.4 ± 0.6	0.005
	Governmental	3.6 ± 0.7	
Type of department	Open Unit	3.6 ± 0.7	0.443
	Closed Unit	3.4 ± 0.6	

nursing responsibilities. These findings are consistent with those of Abbasi et al. [8], despite methodological differences between the studies. Similarly, the facilitative role of patient involvement in the educational process aligns with prior research [13, 23, 24], which consistently emphasized that patient engagement enhances the effectiveness of educational interventions. Time constraints were reaffirmed as a prominent barrier, echoing findings from Velarde-García et al. [25]. Another important observation was the effect of hospital type: nurses in governmental institutions, where workloads are generally heavier, reported significantly more barriers than their counterparts in private hospitals. This supports Boyde et al.'s findings [26], which linked increased educational

Table 6 Ordinal logistic regression predicting perceived barriers

Predictor	B	SE	Wald χ^2	*p*	OR	95% CI for OR
Age (continuous)	0.101	0.041	6.027	0.014*	1.106	[1.020, 1.199]
Gender (Male vs. Female)	0.014	0.314	0.002	0.966	1.014	[0.548, 1.873]
Education						
Diploma vs. PhD	2.325	1.063	4.780	0.029*	10.23	[1.273, 82.10]
Bachelor vs. PhD	2.117	1.043	4.121	0.042*	8.30	[1.076, 64.05]
Master vs. PhD	1.479	1.014	2.126	0.145	4.39	[0.601, 32.00]
Hospital Type (Private vs. Govt)	-0.741	0.322	5.298	0.021*	0.477	[0.254, 0.896]
Department Type (Open vs. Closed)	-0.061	0.329	0.034	0.853	0.941	[0.493, 1.794]
Years of Experience						
< 1 year vs. >5 years	0.186	0.668	0.078	0.780	1.204	[0.325, 4.457]
1–5 years vs. >5 years	-0.395	0.551	0.514	0.473	0.674	[0.229, 1.981]
Living Location						
City vs. Camp	0.360	0.426	0.712	0.399	1.434	[0.621, 3.303]
Village vs. Camp	-0.208	0.442	0.222	0.638	0.812	[0.342, 1.930]

Note: Reference groups: Female (Gender), PhD (Education), Governmental (Hospital), Closed (Department), > 5 years (Experience), Camp (Location)

*Significant at $p < 0.05$

Table 7 Significant predictors of patient education facilitators (Multinomial logistic Regression)

Predictor	B (Estimate)	SE	Wald χ^2	df	*p*-value	95% CI (Lower - Upper)	Significance
Living location: City	1.034	0.430	5.788	1	0.016	0.192–1.877	Significant
Living location: Village	0.370	0.440	0.708	1	0.400	-0.492–1.233	NS
Hospital type: Private	-0.784	0.322	5.945	1	0.015	-1.414– -0.154	Significant
Age	0.053	0.040	1.765	1	0.184	-0.025–0.132	NS
Gender (Male vs. Female)	-0.182	0.313	0.339	1	0.561	-0.795–0.431	NS
Department Type (Open vs. Closed)	0.377	0.330	1.303	1	0.254	-0.270–1.023	NS

Note: NS = Not Significant

challenges to the higher patient volumes in public healthcare settings. Age was found to be significantly associated with facilitators of patient education. Older nurses scored higher on facilitator items (mean = 4.0571, $p < 0.001$), which is consistent with the results of Pađen et al. [27], who reported that older nurses often demonstrate more effective patient education practices, possibly due to greater clinical experience. Conversely, gender was not found to be a significant factor in this study, a finding that aligns with the results of Pađen et al. as well.

This study's findings suggest that targeted training and organizational reform are needed to overcome barriers to patient education. Short-term recommendations include focused educational programs for nurses on how to manage barriers and leverage facilitators in clinical settings. For example, a 3-hour certification course on micro-education techniques and quarterly workshops focusing on trust-building, cultural sensitivity, and trauma-informed communication could enhance skills and awareness. Institutions should allocate protected time for patient education, designate "education champions," and integrate education-related metrics into performance evaluations. Resource improvements are also needed. These include equipping clinical areas with tablets preloaded with Arabic-language content and creating dedicated "Education Corners" in inpatient wards to provide a private and appropriate setting for teaching. Monthly audits and interdisciplinary "education rounds" involving physicians, IT personnel, and administrators could help institutionalize patient education as a core component of care. At the national level, healthcare policy should support efforts to reduce nurse-to-patient ratios and establish mandatory continuing education requirements in patient education.

Despite its strengths, this study is not without limitations. The cross-sectional design prevents the establishment of causal relationships or the analysis of changes over time. Political instability posed significant challenges to data collection and may have affected response rates. Additionally, the use of self-reported measures introduces the risk of bias, as participants may over- or understate their perceptions. Convenience sampling may have resulted in selection bias, and the study's focus on certain hospital types and departments may not fully reflect the diversity of the Palestinian healthcare system. While the questionnaire demonstrated strong face validity and internal consistency, future studies should include confirmatory factor analysis (CFA) to further validate the tool in varied clinical settings.

In conclusion, this study sheds light on the multifaceted challenges surrounding patient education in Palestine, driven by systemic, organizational, and cultural barriers. By addressing these issues through structured training, institutional support, and policy reforms, healthcare systems can enhance patient education, ultimately improving patient outcomes and health literacy in resource-constrained environments.

Conclusion

This study, which included 150 healthcare workers mostly females with bachelor's degrees, averaging 32 years of age and working mainly in government hospitals explored what helps and hinders patient education. The main barriers identified were limited time, unsuitable environments for teaching, and poor continuity between nursing shifts, all worsened by staff shortages and low levels of patient trust. On the other hand, key facilitators were giving more importance to evaluating patient education, using educational technologies, delivering education in gradual steps, and assigning specific nurses as educators. The analysis showed that older age, being widowed, more years of experience, and working in government hospitals were linked to perceiving more barriers and facilitators. Regression results further showed that older workers, those with lower education levels, and those in government hospitals reported more barriers, while those living in urban areas saw more facilitators. These findings point to clear areas for improvement such as managing time better, improving the education environment, using technology, emphasizing evaluation, and assigning education roles—to make patient education more effective in this context.

Acknowledgements
The authors would like to thank An-Najah National University (www.najah.edu) for the technical support provided to publish the present manuscript.

Author contributions
M.H. conceptualized and designed the study; I.G. supervised the research and secured institutional approvals; A.A. contributed to data collection

and methodology; N.S. performed statistical analyses; A.A. (Aidah Alkaissi) conducted literature reviews; E.A. assisted in ethical compliance and participant recruitment; F.M.H. contributed to instrument validation and pilot testing; A.A. (Amer Asia) coordinated interdepartmental collaboration; M.J. supported data interpretation and visualization; N.D. and D.M managed data curation and coding; B.S. drafted sections of the manuscript; J.A. reviewed and edited the manuscript; N.A.-A. contributed to results synthesis; I.G. provided critical revisions and finalized the manuscript. All authors read and approved the final version.

Funding
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data availability
The data that support the findings of this study are available from the corresponding author upon a reasonable request.

Declarations

Ethics approval and consent to participate
Ethical approval for this study was obtained from the Institutional Review Board at An-Najah National University, ensuring compliance with the university's ethical guidelines. The study adhered to the principles outlined in the Declaration of Helsinki, and all procedures involving human participants were conducted in line with these ethical standards. Written informed consent was obtained from all participants after providing a full explanation of the study's purpose, procedures, and their rights. Participants were assured that their responses would remain confidential and anonymous, and they could withdraw from the study at any time without any negative consequences. Additionally, formal requests for study approval were submitted to and granted by the administrations of the participating hospitals, ensuring transparency and institutional support throughout the research process.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

Author details
[1]Faculty of Medicine and Health Sciences, Nursing and Midwifery Department, An-Najah National University, Nablus, Palestine
[2]Oncology and Hematology Department, An-Najah National University Hospital, An-Najah National University, Nablus, Palestine
[3]Quality and Patient Safety Department, An-Najah National University Hospital, An-Najah National University, Nablus, Palestine
[4]Internal Medicine Department, An-Najah National University Hospital, An-Najah National University, Nablus, Palestine
[5]Urology Center of Excellence, An-Najah National University Hospital, An-Najah National University, Nablus, Palestine

Received: 24 April 2025 / Accepted: 17 June 2025
Published online: 01 July 2025

References

1. Narva AS, Norton JM, Boulware LE. Educating patients about CKD: the path to self-management and patient-centered care. Clin J Am Soc Nephrol. 2016;11(4):694–703.
2. Falvo DR. Effective patient education: A guide to increased compliance. Jones & Bartlett Learning; 2004.
3. McGuckin M, Taylor A, Martin V, Porten L, Salcido R. Evaluation of a patient education model for increasing hand hygiene compliance in an inpatient rehabilitation unit. Am J Infect Control. 2004;32(4):235–8.
4. Adams RJ. Improving health outcomes with better patient Understanding and education. Risk Manage Healthc Policy. 2010;3:61–72. https://doi.org/10.2147/RMHP.S7500. Epub 2010 Oct 14. PMID: 22312219; PMCID: PMC3270921.
5. Levin LS. Patient education and self-care. Int J Self Help Self Care. 2000;1(1):21–32.
6. Golper T. Patient education: can it maximize the success of therapy? Nephrol Dialysis Transplantation. 2001;16(suppl7):20–4.
7. Strömberg A. The crucial role of patient education in heart failure. Eur J Heart Fail. 2005;7(3):363–9.
8. Abbasi M, Rabiei L, Masoudi R. Experience of nursing students about the barriers to patient education: a qualitative study in Iran. Korean J Med Educ. 2018;30(4):327.
9. Shadadi H, Sheyback M, Balouchi A, Shoorvazi M. The barriers of clinical education in nursing: A systematic review. Biomed Res. 2018;29(19):3616–23.
10. Ghoul I, Abdullah A, Awwad F, Dardas LA. Safety huddle in healthcare settings: a concept analysis. BMC Health Serv Res. 2025;25(1):393.
11. Tinoco JMVP, Figueiredo LS, Flores PVP, Padua BLRd, Mesquita ET, Cavalcanti ACD. Effectiveness of health education in the self-care and adherence of patients with heart failure: a meta-analysis. Rev Latinoam Enferm. 2021;29:e3389.
12. Jahromi ZB. A study of the barriers and facilitators of patient education from the viewpoint of nursing students at Jahrom college of nursing. Bangladesh J Med Sci. 2016;15(3):471–6.
13. Ramezanli S, Badiyepeymaie Jahromi Z. Iranian nurses' views on barriers and facilitators in patient education: A Cross-Sectional study. Glob J Health Sci. 2015;7(5):288–93.
14. Wang S, Liu K, Tang S, Wang G, Qi Y, Chen Q. Barriers and facilitators to patient education provided by nurses: A mixed-method systematic review. J Clin Nurs. 2024;33(7):2427–37.
15. Zyoud RN. Factors contributing to Time-Wasting activities among Palestinian nurses: A Cross-Sectional study. J Nurs Adm Manag. 2024;2024(1):6480929.
16. Albelbeisi AH, Albelbeisi A, El Bilbeisi AH, Taleb M, Takian A, Akbari-Sari A. Barriers of adherence among Palestinian healthcare professionals towards the protocol of health education and counselling on healthy behaviours for non-communicable diseases. Ethiop J Health Sci 2021, 31(1).
17. Buerhaus PI, Donelan K, Ulrich BT, Norman L, DesRoches C, Dittus R. Impact of the nurse shortage on hospital patient care: comparative perspectives. Health Aff. 2007;26(3):853–62.
18. Buerhaus PI, Donelan K, Ulrich BT, Norman L, Williams M, Dittus R. Hospital RNs' and CNOs' perceptions of the impact of the nursing shortage on the quality of care. Nurs Econ 2005, 23(5).
19. Karjawlly M, Agbaria N, Nubani Husseini M, Zwas D. Assessment of needs and barriers to healthcare care in Arab Palestinian mothers in East Jerusalem. Eur J Pub Health. 2020;30(Supplement5):ckaa166.
20. Abu-Odah H, Molassiotis A, Liu JYW. Assessment of the educational and health care system–related issues from physicians' and nurses' perspectives before developing a palliative care program within the Palestinian health care system: a cross-sectional study. J Hospice Palliat Nurs. 2022;24(3):E59–75.
21. Waterston T, Nasser D. Access to healthcare for children in Palestine. BMJ Paediatrics Open. 2017;1(1):e000115.
22. Mosleh M, Al Jeesh Y, Dalal K, Eriksson C, Carlerby H, Viitasara E. Barriers to managing and delivery of care to war-injured survivors or patients with non-communicable disease: a qualitative study of Palestinian patients' and policy-makers' perspectives. BMC Health Serv Res. 2020;20:1–11.
23. Busca E, Savatteri A, Calafato TL, Mazzoleni B, Barisone M, Dal Molin A. Barriers and facilitators to the implementation of nurse's role in primary care settings: an integrative review. BMC Nurs. 2021;20:1–12.
24. Mohammed NY, Elkaluby EA, Mohamed AM. Nursing students' perspectives regarding challenges and barriers of health education at different community clinical settings in alexandria, Egypt. Int J Novel Res Healthc Nurs. 2019;6:488–502.
25. Velarde-García JF, Álvarez-Embarba B, Moro-Tejedor MN, Rodríguez-Leal L, Arrogante O, Alvarado-Zambrano MG, Pérez-Corrales J, Palacios-Ceña D. Barriers and facilitators to the learning and acquisition of research competencies among nursing students through active methodologies: A qualitative study using reflective writing. Healthcare: 2023. MDPI; 2023. p. 1078.
26. Boyde M, Tuckett A, Ty J. Teacher-as-actor: investigating the barriers and facilitators of patient education among hospitalized patients in a cardiology clinical unit. Nurs Health Sci. 2021;23(4):871–9.
27. Pađen L, Gschwind G, Vettorazzi R, Probst S. Facilitators and barriers for nurses when educating people with chronic wounds–A qualitative interview study. J Tissue Viability. 2024;33(2):174–8.

Publisher's note