



## Determinants of Patient Loyalty in Healthcare: The Multifaceted Influence of Demographics and Nurses' Caring Behavior

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### KEYWORDS

Caring Behavior;  
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### ABSTRACT

**Introduction:** Patient loyalty is a crucial factor in providing quality healthcare services. One effective strategy to enhance healthcare service standards is improving the caring behavior of nurses. The success of nurses in delivering caring and empathetic care can significantly influence patient loyalty, making it an essential focus for healthcare providers

**Objective:** This study aims to explore the factors influencing patient loyalty within a healthcare context.

**Methods:** A cross-sectional design was utilized in this study, involving 144 inpatients selected through purposive random sampling from private and government hospitals. Data were collected using questionnaires and analyzed using chi-square and ANOVA tests.

**Results:** The analysis identified three factors significantly correlated with patient loyalty: Caring Behavior of Nurses:  $p < 0.0001$ , Education:  $p < 0.007$ , Marital Status:  $p < 0.001$ . The most influential factor was the caring behavior of nurses, with effect sizes indicating a strong relationship. In contrast, demographic factors such as age and gender did not show a significant correlation with patient loyalty.

**Conclusion:** The findings highlight that the most significant determinant of patient loyalty is the caring behavior of nurses, followed by education and marital status. To enhance patient loyalty and overall healthcare quality, it is crucial to strengthen nurse training programs that focus on empathy and caring behaviors. Additionally, implementing services tailored to patients' demographic characteristics can further improve loyalty. These insights can guide policymakers and practitioners in developing targeted training and healthcare policies that prioritize compassionate care, ultimately benefiting patient satisfaction and retention.

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## INTRODUCTION

In health services, patient loyalty is a crucial factor that has major implications for the continuity of medical care, patient satisfaction, and the overall performance of health organizations (1–4). In Indonesia, achieving adequate levels of patient loyalty in hospitals is an important challenge. Data shows that in several cases, patient loyalty has still not reached the expected level, as can be seen from the loyalty level which only reached 36.8% in one Indonesian hospital in 2017 (Afifah et al., 2019). A low level of patient loyalty indicates problems in the quality of health services provided (Prakoeswa et al., 2022). Satisfied and loyal patients tend to use services more frequently and contribute positively to the organization's financial results (5,6).

Previous research shows several factors as possible drivers of increasing customer loyalty. These factors include patient demographic characteristics (7–9), quality of service (6,9,10), customer satisfaction (2,7,8,11,12), service providers and service provider environment (13). Previous research has also reported the relationship between patient characteristics and patient satisfaction and patient loyalty at one of the community health centers in Indonesia (8). Additionally, S. S. Liu et al. (2010) revealed a relationship between caring behavior shown by medical personnel in the emergency unit and patient loyalty. However, to date, there are limitations in research that comprehensively investigates how patient demographic characteristics and caring behavior, especially nurses, contribute to the formation of patient loyalty in the hospital environment.

Patient characteristics are an important factor in shaping customer satisfaction and loyalty. The characteristics are unique attributes possessed by each patient that differentiate them from other patients, including gender, age, occupation, education, income, and source of medical costs (5). In addition, the display of attentive nursing behavior plays a pivotal role in the establishment of patient loyalty (13). Caring behaviors – such as ensuring that patients know details regarding care, working with a caring touch, and clearly explaining care procedures to patients – significantly influence patient (14). In a dynamic and often stressful healthcare environment, nurses' well-behaved and empathetic behavior can be the basis for building patient trust and loyalty. Caring behavior in the context of health services is closely related to the provision of empathetic care, which can create a sense of comfort and fulfill individual patient needs. This, in turn, contributes to a positive hospital service experience, which ultimately fosters patient (15). This is in line with the opinion expressed by previous research which states that when nursing services effectively meet patient expectations, there is a higher tendency for patients to choose and reuse nursing services (15,16).

This study aims to investigate the factors that impact patient loyalty within the healthcare services sector, with a specific focus on hospitals in Indonesia. Within the healthcare domain, several internal patient characteristics including age, gender, education, and marital status have the potential to influence patients' views and experiences of healthcare services. Understanding these factors is crucial, as it can enhance the efficiency and effectiveness of the services provided. Hospitals hold a significant position within the healthcare system due to their multifaceted roles. In addition to delivering intricate medical services and emergency treatment, hospitals act as referral centers and hubs of knowledge and experience. To optimize patient satisfaction, it is essential for hospitals, as providers of healthcare services, to deliver exceptional quality. Nevertheless, many hospitals continue to encounter obstacles in providing healthcare services that meet acceptable quality standards. Therefore, maintaining patient loyalty within hospital settings is a vital factor for assessing the quality of patient care. Understanding these variables can inform strategies to enhance the caring attitudes of nurses and foster patient loyalty, which, in turn, will contribute to improving healthcare service quality within hospitals. Thus, the objective of this study is to examine the correlation between patient characteristics, nurses' caring behavior, and the level of patient loyalty within hospital settings.

## METHOD

### Study design

The research design employed in this study was a descriptive correlational design, utilizing a cross-sectional approach. This study following STROBE guideline to enhance the quality article. The STROBE (STrengthening the Reporting of Observational studies in Epidemiology) guidelines provide a checklist for reporting cross-sectional studies. It includes items like explaining the study design, describing the population and data sources, presenting results, and discussing limitations. Adhering to these guidelines ensures transparency and quality in reporting observational research.

## **Sample/Participants**

This study used a purposive random sampling method to select 144 respondents treated at a hospital in West Java, Indonesia. The inclusion criteria for respondents in this study included patients who were undergoing treatment in a hospital in an inpatient setting and aged between 18 and 60 years. Meanwhile, the exclusion criteria encompass several categories; a) patients with emergency conditions that make it impossible to participate in the research; b) patients undergoing treatment in outpatient units or polyclinics; c) patients who refused to participate in the study; and d) patients with mental disorders, substantial cognitive impairment, or communication difficulties that may impede their ability to provide valid responses.

## **Instruments**

The data collection instrument employed in this study was a questionnaire that assessed nurse caring behavior, as defined by Jean Watson's theory, and patient loyalty, as conceptualized in Boluglu's theory. The questionnaire for assessing caring behavior utilizes the Caring Assessment Tool (CAT) (17). The researcher modified the questionnaire to suit the study area and study population. Modification of the Caring Assessment Tool (CAT) exhibited by nurses comprises a set of 20 questions that pertain to various dimensions, namely Altruism, Hope, Sensitivity, Helping, Problem Solving, Expression, Environment, Teaching and Learning, Human Needs, and Spirituality. The data collected in this study were obtained through the use of the Likert scale, which is a commonly employed method for measuring responses in research. The responses to the questionnaire indicate that positive caring behavior is assigned a code of 5 (always), 4 (often), 3 (sometimes), 2 (rarely), and 1 (never), whereas negative statements are coded in the opposite manner. The total score is subsequently classified as indicative of Good caring behavior if the T score exceeds 86.6. It is considered unfavorable if the T score is less than 86.6.

The questionnaire for assessing patient loyalty utilizes the loyalty assesment tools (18). The researcher modified the questionnaire to suit the study area and study population. Modification of the the loyalty assesment tools encompasses a set of ten interconnected questions that pertain to various dimensions, including trust, psychological commitment, switching cost, and word of mouth. The loyalty questionnaire employs a coding system wherein a rating of 5 indicates strong agreement, 4 indicates agreement, 3 indicates disagreement, 2 indicates strong disagreement, and 1 indicates strong disagreement. Additionally, negative statements are coded differently. The resulting scores are then categorized as "Loyal" if the T score exceeds 40.8, and as "Less loyal" if the T score is below 40.8. The two questionnaires have been implemented in the Indonesian context and subjected to validation and reliability testing. The obtained Cronbach's alpha value of 0.63 suggests satisfactory reliability. In preliminary studies or exploratory research, a lower reliability may be acceptable as researchers are often more interested in generating hypotheses rather than confirming them. This allows for the identification of potential trends or relationships. The context in which the tool was applied and highlight how it can still yield valuable insights, while also acknowledging the potential impact of marginal reliability on the findings.

## **Data Collection**

The data collection period spanned from January through May 2023. The researcher met potential volunteers in their respective clinical settings and furnished them with pertinent information on the study. Participants who provided their consent were requested to sign a document affirming their agreement, followed by the completion of the survey. The researcher was present during the participant's completion of the questionnaire in order to address any potential inquiries and to retrieve the finished form. To mitigate these biases, the study employed the following steps: Clear inclusion and exclusion criteria were established to ensure a representative sample of the patient population, Efforts were made to include patients from diverse demographic backgrounds within the chosen hospitals.

## **Data Analysis**

Descriptive analysis is employed to provide a comprehensive depiction of the frequency distribution of characteristic demographic, nurse caring behavior, and patient loyalty levels. The chi-square test was employed to assess the association between categorical variables, such as demographic characteristics and patient loyalty, which aligns with the study's objective to explore factors influencing loyalty. ANOVA was utilized to compare means across multiple groups, providing insights into how different patient characteristics relate to variations in perceived care quality and loyalty. This rationale explicitly links the statistical methods to the research objectives.

## Ethical approval

This study received approval from the Ethics Committee under the reference number No.012.02/E.01/KEPK-BTH/III/2023.

## RESULTS

### Characteristics demographic

The patient's characteristics encompass various factors such as mood variability, gender, level of education, and marital status.

**Table 1.** Participant's characteristics (n = 144)

Characteristics / Variables	n	%
Age		
< 25 Years	23	16,0
26-35 Years	68	47,2
36-45 Years	39	27,1
> 45 Years	14	9,7
Gender		
Male	47	32,6
Female	97	67,4
Educational Background		
Primary School	15	10,4
Junior High School	22	15,3
Senior High School	32	22,2
Bachelor Degree	40	27,8
Other	35	24,3
Marital Status		
Married	121	84,0
Unmarried	19	13,2
Widow/Widower	4	2,8

A total of 144 patients were included in the study. Among them, individuals younger than 25 years constituted 16% (n = 23), those aged 26-35 years accounted for 47.2% (n = 68), patients aged 36-45 years constituted 27.1% (n = 39), and individuals older than 45 years accounted for 9.7% (n = 14). In terms of gender, the study observed that there were 47 male patients, accounting for 32.6% of the total, while there were 97 female patients, comprising 67.4% of the sample. According to the educational attainment of the patients, it is observed that individuals with an primary school education constitute a total of 15 individuals, representing 10.4% of the sample. Patients with a junior high school education account for 22 individuals, comprising 15.3% of the sample. Furthermore, patients with senior high school education make up 32 individuals, accounting for 22.2% of the sample. Those with a Bachelor's degree are represented by 40 individuals, constituting 27.8% of the sample. Lastly, individuals falling into the "others" category amount to 35 people, representing 24.3% of the sample. Furthermore, in terms of marital status, the data reveals that the majority of patients, specifically 121 individuals (84%), are married. Additionally, there are 19 patients (13.2%) who are unmarried, while 4 patients (2.8%) are classified as widows or widowers. (Please refer to Table 1.

### Description of Caring Behavior of Nurses and Patient Loyalty

The caring behavior exhibited by nurses can be characterized by several key attributes, including altruism, hope, sensitivity, assistance, problem-solving, expression, environmental considerations, teaching and learning, recognition of human needs, and acknowledgement of spiritual dimensions. Patient loyalty can be characterized by several factors, namely trust, psychological commitment, switching costs, and word of mouth.

**Table 2.** Frequency Distribution of Caring Behavior and Patient Loyalty (n = 144)

Variable	Not		Good		Total
	Good		Good		
	(n)	(%)	(n)	(%)	
Caring Behavior of Nurses	64	44,4	80	55,6	144
Altruistic/Humanistic	39	27,1	105	72,9	144
Hope	42	29,2	102	70,8	144
Sensitivity	67	46,5	77	53,5	144
Helping	67	46,5	77	53,5	144
Expression	62	43,1	82	56,9	144
Problem Solving	55	38,2	89	61,8	144
Teaching Learning	51	35,4	93	64,6	144
Environment	49	34,0	95	66,0	144
Human Need	45	31,3	99	68,8	144
Spiritual	49	34,0	95	66,0	144
Variable	Less Loyal		Loyal		Total
	n	(%)	n	%	
Patient Loyalty	66	45,8	78	54,2	144
Trust	82	56,9	62	43,1	144
Switching cost	84	58,3	60	41,7	144
Word-of-mouth	96	66,7	48	33,3	144
Psychological commitment	61	42,4	83	57,6	144

A significant proportion (55.6%) of hospitalized individuals expressed satisfaction with the caring behavior exhibited by nurses. Based on the indicators of caring behavior as delineated by Jean Watson, it is evident that a significant majority exhibit commendable trait. The top ten attributes identified by participants in the study were as follows: altruistic (72.9%), hope (70.8%), sensitivity (53.5%), helping (53.5%), problem-solving (56.9%), expression (61.8%), environment (64.6%), teaching learning (66.0%), human need (68.8%), and spiritual (66.0%).

The majority of patients, comprising 54.2% of the sample, demonstrated loyalty within the good loyal category. The analysis of patient loyalty, as determined by indicators of trust, reveals that a significant proportion (56.9%) of patients exhibit less levels of loyalty. The analysis of patient loyalty, as determined by switching cost, reveals that a significant proportion of patients (58.3%) exhibit less levels of loyalty. Similarly, when examining patient loyalty based on indicators of word-of-mouth, it is observed that a majority (66.7%) tend to display diminished loyalty. The data presented in Table 2 indicates that a significant proportion of patients (57.6%) exhibit loyalty towards psychological commitment, as evidenced by their reluctance to switch to alternative services.

### Relationship between Patient Characteristics, Caring Behavior of Nurses, and Patient Loyalty

The present study aimed to examine the association between patient characteristics, the caring behavior of nurses, and patient loyalty at RS X. This investigation employed bivariate tests utilizing the Chi-Square statistical method for data analysis. The findings of the analysis are displayed in Table 3.

**Table 3.** Differences in Patient Loyalty Levels based on The Characteristics and Caring Behavior Of Nurses (n = 144)

Table 5: Differences in Patient Loyalty Levels based on the Characteristics and Eating Behavior of Patients (n = 147)						
Characteristics / Variables	Patient Loyalty				Total	p-value
	Less Loyal		Loyal			
	n	%	n	%		
Age						
< 25 Years	16	11,1	7	4,9	23	0.082
26-35 Years	27	18,8	41	28,5	68	
36-45 Years	16	11,1	23	16,0	39	
> 45 Years	7	4,9	7	4,9	14	

Characteristics / Variables	Patient Loyalty				Total	p-value
	Less Loyal		Loyal			
	n	%	n	%		
Gender						
Male	23	16,0	24	16,7	47	0.603
Female	43	29,9	54	37,5	97	
Educational Background						0.007
Primary School	4	2,8	11	7,6	15	
Junior High School	11	7,6	11	7,6	22	
Senior High School	14	9,7	18	12,5	32	
Bachelor Degree	15	10,4	25	17,4	40	
Other	22	15,3	13	16,7	35	
Marital Status						0.001
Married	48	33,3	73	50,7	121	
Unmarried	16	11,1	3	2,1	19	
Widow/Widower	2	1,4	2	1,4	4	
Nurses' Caring Behavior						<
Not Good	42	29,2	22	15,3	64	0.0001
Good	24	16,7	56	38,9	80	

Table 3 presents an overview of the association between patient characteristics, nurses' caring behavior, and patient loyalty. Out of the five potential factors that may contribute to patient loyalty, it was observed that only three factors exhibited a significant correlation. These factors include the level of education, marital status, and the caring behavior exhibited by nurses. In the study, it was observed that nurses with higher levels of education exhibited a significantly higher proportion of loyalty among patients (17.4%,  $p < 0.007$ ). Additionally, patients who were married demonstrated a significantly higher percentage of loyalty (50.7%,  $p < 0.001$ ). Furthermore, a substantial majority of patients who expressed positive perceptions of nurse caring behavior tended to exhibit loyalty (38.9%,  $p < 0.000$ ). The chi-square test results indicated that there was no statistically significant association between age, sex, and due loyalty ( $p > 0.05$ ) (Table 3).

#### Influence between Patient Characteristics, Caring Behavior of Nurses, and Patient Loyalty

The study aimed to examine the relationship among patient characteristics, nurses' caring behavior, and patient loyalty at RS X through the utilization of multivariate tests employing ANOVA. The findings of the analysis are displayed in Table 4.

**Table 4.** Factors Affecting the Level of Patient Loyalty Based on The Characteristics and Caring Behavior of Nurses (n = 144)

Factors of Patient Loyalty	B	SE	Beta	t	p-value
Age	0.013	0.046	0.022	0.281	0.779
Gender	0.069	0.087	0.064	0.791	0.430
Education	-0.087	0.032	-0.224	-2.722	0.007
Marital Status	-0.227	0.087	-0.208	-2.620	0.010
Nurses' Caring Behavior	0.348	0.078	.347	4.453	0.000

Based on Table 4, the most influential factor on patient loyalty in this study is the nurse's caring attitude, followed by the patient's education and marital status. The effect size for nurses' caring behavior (Beta = 0.347) indicates a moderate to strong relationship with patient loyalty, with a confidence interval that likely excludes zero, further supporting its significance. Other variables, such as age and gender, have no significant impact (p-values of 0.779 and 0.430, respectively). The non-significant results for age and gender suggest that these demographic factors may not play a crucial role in influencing patient loyalty in this context. This finding aligns with some existing literature, which also indicates that while patient demographics can be important, they may not always correlate directly with loyalty. In contrast, the significant impact of education and marital status on patient loyalty supports findings from similar studies, which highlight the importance of these factors in shaping patient experiences and

satisfaction. Overall, the results emphasize the critical role of nurses' caring behavior in fostering patient loyalty, underscoring the need for targeted training programs to enhance empathetic care.

## **DISCUSSION**

Hospitals play a crucial role within the healthcare system due to their provision of intricate medical services and emergency care, their function as referral centers, and their status as hubs of competence and expertise. In order to ensure patient satisfaction, it is imperative for hospitals, as providers of healthcare, to deliver services of high quality. Nevertheless, it is evident that a significant number of hospitals continue to face challenges in delivering healthcare services of satisfactory quality. This is supported by the numerous grievances expressed by patients (19,20). In order to enhance satisfaction levels, it is imperative for the hospital to enhance the quality of service to align with customer expectations. This can be achieved by focusing on improving the overall quality of service, thereby fostering patient loyalty towards the institution (15). Based on the results of statistical analysis, the findings provide valuable insight into the factors that influence patient loyalty in the context of health services which include caring behavior of nurses and education and marital status of patients. Meanwhile, other factors such as age and gender do not have a significant influence.

In hospitals, the behavior of compassionate nurses has the greatest impact on patient loyalty. According to previous research (21,22). There is a significant positive relationship between nurses' compassionate behavior and patient satisfaction. Patient satisfaction is one of the most influential factors on patient loyalty (23,24). Specifically, when patients are pleased with the compassionate behavior exhibited by nurses, this can contribute to the formation of a sense of loyalty towards the health service provider (11). Consequently, hospitals and other health care institutions must continue to encourage nurses' caring behavior and foster an environment in which nurses can provide empathetic and compassionate care to patients. This can be accomplished by providing nurses with additional training in communication skills and empathy and by ensuring that nurses have sufficient resources to provide quality care to patients (25,26).

The caring behaviors exhibited by nurses towards patients, as identified by previous study encompass various aspects of nurse-patient interactions. These behaviors have been found to positively impact patients in terms of enhanced levels of independence and autonomy, improved immunity, better quality of life, and increased overall satisfaction with the care received (27). According to Watson's Theory of Human Care, the caring approach emphasizes the importance of establishing a caring relationship between the provider and recipient of nursing care. This relationship is crucial in enhancing and safeguarding the well-being of patients, ultimately influencing their capacity to recover. The presence of compassionate nurses has the potential to enhance patient recovery by addressing their physical, emotional, and spiritual well-being, thereby fostering a sense of fulfillment among patients (28). Consistency in the implementation of caring practices is essential across all nursing activities within hospital settings, as it directly influences the quality of nursing services (29). The demonstration of caring behavior by nurses has a positive impact on patient loyalty towards the hospital (15).

This study also emphasizes the influence of patient demographics, such as education and marital status, on patient loyalty. Patients with a higher level of education and a particular marital status tend to be more loyal. This research provides additional support for the significance of incorporating patient demographics into the design of health services. Meesala and Paul (2018) explain that there is no statistically significant relationship between demographic variables such as marital status and education level and the level of patient loyalty. However, these findings contradict this conclusion. Although these findings contradict previous research, they suggest that it is worthwhile to investigate how demographic characteristics of patients may affect patient loyalty to health services. Consequently, services tailored to the requirements and preferences of patients based on their demographic characteristics can contribute to an increase in both service quality and patient loyalty.

Apart from the aforementioned factors, other studies have examined the impact of additional factors on hospital patient loyalty. Several studies have found that the quality of health services and patient satisfaction have a substantial impact on patient loyalty (6,9–12,30,31). Another study conducted in a Turkish hospital revealed that patient perceptions of value have both direct and indirect effects on patient loyalty. This suggests that when patients perceive that they are receiving excellent value from health services, they tend to be more contented and loyal to the hospital or provider of health services (32). However, Taiwanese research indicates that hospital brand image has both direct and indirect effects on patient loyalty. This study argues that hospital administrators should construct and

sustain a positive brand image to increase patient loyalty (33). In addition, Lan Y-L et al. (2016) found that hospital image, perceived quality of medical services, and patient satisfaction are positively correlated with patient loyalty and are significant predictor variables at 51.4%. Further, Hajikhani et al. (2015) demonstrate a significant correlation between patient loyalty and hospital service process dimensions, human resources, and Customer Relationship Management (CRM).

The variety of factors influencing patient loyalty in the healthcare context demonstrates the complexity of the patient-provider relationship. Studies encompassing factors such as demographic characteristics, perceived value, hospital brand image, quality of medical services, patient satisfaction, and compassionate behaviour of nurses reveal that no single factor can completely explain patient loyalty. This suggests that patients are distinct individuals with varying preferences, experiences, and expectations. Some patients may be more concerned with the quality of medical services, while others may be influenced more by their personal relationships with nurses or the hospital's brand image. Consequently, strategies to increase patient loyalty must be varied and customised to the patient's profile and preferences. The key to success in maintaining and enhancing long-term relationships between patients and healthcare providers is to combine a holistic approach with a concentration on the various factors that influence patient loyalty.

In this discussion, we critically analyze the non-significant findings related to age and gender. One possible reason for the lack of association could be cultural norms that influence patient expectations and perceptions of care, which may not vary significantly across these demographic groups. This indicates that factors beyond age and gender, such as socioeconomic status or cultural background, might play a more pivotal role in shaping patient loyalty. To translate our findings into practice, we recommend implementing targeted strategies, such as designing empathy training programs for nurses. These programs can enhance interpersonal skills, ensuring that nurses are equipped to meet the diverse emotional needs of patients. Additionally, developing demographic-tailored interventions can help healthcare organizations address specific needs of different patient groups, ultimately fostering greater patient engagement and loyalty. We also expand on the study's limitations, particularly the cross-sectional design and reliance on self-reported data. The cross-sectional nature of the study limits our ability to draw causal conclusions, as it captures a snapshot in time rather than changes over a period. Furthermore, self-reported data may introduce biases, as patients might overstate their loyalty or satisfaction levels. These limitations may affect the generalizability of the results, highlighting the need for future research to explore these relationships in different contexts and populations to validate our findings.

### **Implications for Public Health**

The implementing nurse can propose and plan competency development nurses in building a more caring relationship with patients, so as to increase patient loyalty through strengthening the development of nurse training in empathy and caring behavior and meeting individual patient needs, healthcare providers can increase patient satisfaction and improve the overall quality of their services.

### **Limitations and Cautions**

Due to the relatively small sample size and focus on study sites that may not reflect global variations in healthcare contexts, the generalizability of the results of this investigation may be limited. Although this study identified factors that correlate with patient loyalty, it is unable to determine their causal relationship. Despite the fact that nurses' caring behavior is associated with patient loyalty, it cannot be concluded that modifying nurses' caring behavior will directly increase patient loyalty. This research is limited to the factors analyzed (demographics and nurses' compassionate behavior), so it is conceivable that other factors that could affect patient loyalty were overlooked. For instance, economic considerations, geographic accessibility, or prior knowledge of the healthcare system.

The following recommendations are made considering the limitations of this research. (1) Further research should investigate using larger geographically diverse samples. This will aid in the generalization of the study's findings to various healthcare contexts. Healthcare institutions can take the initiative to participate in this study to gain a deeper understanding of the factors that influence patient loyalty in different regions. (2) Studies involving multiple locations or regions can provide a more comprehensive understanding of how factors influencing patient loyalty vary by location. This will aid in the design of more targeted and locally tailored strategies. (3) Hospitals and other providers of health care services may monitor patient loyalty on a continuous basis. This can aid in the



comprehension of changes over time and the identification of factors that may influence those changes. (4) Future researchers can devise more in-depth studies to determine the cause-and-effect relationships between patient loyalty-influencing factors. For instance, an intervention study could be conducted to determine whether alterations in nurses' compassionate behavior have a direct impact on patient loyalty. (5) Future studies could also consider additional factors that may affect patient loyalty, such as economic factors, geographic accessibility, and prior experience with the healthcare system. This will provide a more comprehensive understanding of the factors that affect patient loyalty.

### **Recommendations for Future Research**

This research has succeeded in identifying a number of components that influence patient loyalty, including the multifaceted influence of demographics and nurses' caring behavior. However, it is important to acknowledge that many other variables can also significantly impact patient satisfaction and loyalty to the hospital. Future investigations should consider factors such as service quality, human resources, and infrastructure, as these have the potential to influence patient loyalty.

In analyzing the non-significant findings regarding age and gender, it is essential to explore potential reasons for these results. One possible explanation could be that patient loyalty is more strongly influenced by relational factors such as the caring behavior of nurses rather than demographic characteristics. This suggests that interventions should focus on enhancing the quality of interactions between staff and patients rather than merely addressing demographic disparities.

The specific recommendations include designing empathy training programs for nurses and staff to enhance their caring behaviors. Additionally, implementing demographic-tailored interventions could improve service delivery and foster greater patient loyalty.

Moreover, this study has several limitations that should be acknowledged. The cross-sectional design restricts the ability to draw causal conclusions, as it only provides a snapshot of relationships at one point in time. Furthermore, reliance on self-reported data may introduce biases, such as social desirability bias, which can affect the generalizability of the results. Future studies could employ longitudinal designs and incorporate objective measures of patient outcomes to enhance the validity and applicability of findings.

### **CONCLUSION**

In the healthcare setting, patient loyalty is influenced by a number of interconnected factors. The nurse's caring attitude emerges as the most significant influence on patient loyalty, followed by the patient's education and marital status. It is necessary to strengthen the development of nurse training in empathy and compassionate behavior. This will assist nurses in establishing more empathic relationships with patients, which can lead to increased patient loyalty. The findings carry broader implications for healthcare management and policy. For instance, investing in training programs that focus on empathy and compassionate care can be a strategic priority for healthcare organizations. By prioritizing the development of soft skills among nursing staff, healthcare facilities can enhance patient experiences and foster loyalty, ultimately leading to better patient retention and satisfaction.

### **AUTHOR'S CONTRIBUTION STATEMENT**

All authors: Conceptualization, Data Curation, Formal Analysis, Investigation, Writing – Original Draft Preparation; All authors: Writing – Original Draft Preparation, Writing – Review & Editing; All authors: Methodology, writing – Original Draft Preparation, Writing – Review & Editing: Investigation, Methodology, Project Administration, Supervision; Final version of manuscript.

### **CONFLICTS OF INTEREST**

There is no conflict of interest in this research.

## **DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS**

The authors declare that no generative AI tools (e.g., ChatGPT, Bard, etc.) were used in the generating the of this manuscript. However, AI-assisted technologies were utilized solely for language enhancement purposes, including grammar correction, paraphrasing, and clarity improvement.

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