

Examining the Influence of Nurse-Led Rounds on Patient Satisfaction and Patient Clinical Outcomes in a Middle Eastern Country: A Mixed-Methods Research

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DOI: [10.36348/sjnhc.2023.v06i12.008](https://doi.org/10.36348/sjnhc.2023.v06i12.008)

| Received: 07.11.2023 | Accepted: 15.12.2023 | Published: 28.12.2023

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Abstract

Background: In recent years, there has been a growing interest in exploring innovative approaches to healthcare delivery that prioritize patient-centred care and enhance clinical outcomes. Nurse-led rounds have emerged as a promising strategy to foster patient engagement, improve communication among healthcare team members, and optimize patient care delivery. Therefore, the objective of the present study was to examine the impact of Nurse-Led Rounds on patient satisfaction and patient clinical outcomes in a Middle Eastern Country. **Methods:** A mixed-method research design was used in this study. A Clinical trial was carried out by using a non-equivalent control group design was adopted to design to assess the impact of Nurse-led Rounds on patient satisfaction and patient clinical outcomes through quantitative data collection and semi-structured individual interviews identified the benefits of hourly rounding to enhance patient satisfaction through qualitative data collection. The study was conducted at New Najran General Hospital, Najran Saudi Arabia. The quantitative data was collected from 68 clients and qualitative data with 10 participants. **Results:** The results of the quantitative analysis showed that the experimental group's mean score significantly improved when nurse-led rounds were implemented, reflecting the quality of care given by nurses. Compared to the control group, which had a mean score of 4.75 (SD=1.578) on the first day of hospitalization, the experimental group had a higher mean score of 6.06 (SD=0.531). This early disparity implies that the experimental group had a higher standard of care from the beginning. The qualitative study revealed two primary themes about individual advantages and organizational benefits were found, according to the qualitative study. The deployment of Nurse-led rounds was judged by clients to offer many specific benefits related to patient satisfaction and overall clinical result levels. Theme 1: Better communication, reduced anxiety, support for drug administration and patient safety, and general increases in patient satisfaction. The second theme focuses on improving overall client healthcare outcomes, improving interprofessional collaboration and teamwork, and reducing readmission rates. **Conclusion:** The implementation of nurse-led rounds has demonstrated a significant positive impact on both patient satisfaction and clinical outcomes. Through the integration of nursing expertise, patient-centred care principles, and effective communication strategies, nurse-led rounds have enhanced the overall patient experience and contributed to improved clinical outcomes.

Keywords: Nurse-led rounds, patient satisfaction, clinical outcomes mixed methodology.

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INTRODUCTION

In recent years, there has been a growing interest in exploring innovative approaches to healthcare delivery that prioritize patient-centred care and enhance clinical outcomes. Nurse-led rounds have emerged as a promising strategy to foster patient engagement, improve

communication among healthcare team members, and optimize patient care delivery [1]. Nurse-led rounds have become increasingly popular in healthcare settings as a way to improve patient satisfaction and clinical outcomes [2]. Nurse-led rounds involve nurses taking the lead in patient care, conducting regular rounds to assess patient needs, and communicating with other healthcare

providers to ensure coordinated care. This approach has been shown to improve patient satisfaction and clinical outcomes in several studies [3].

Existing literature suggests that nurse-led rounds have been associated with various benefits in healthcare settings globally. For instance, studies conducted in Western countries have reported improvements in patient satisfaction, communication between patients and healthcare providers, and patient safety outcomes following the implementation of nurse-led rounds [4]. Moreover, nurse-led rounds have been linked to enhanced nurse job satisfaction and teamwork, which may further contribute to improved patient care delivery [5]. A study by Spano-Szekely *et al.*, found that nurse initiated rounds led to a significant reduction in the incidence of hospital-acquired pressure injuries in a medical-surgical unit [6]. Similarly, a study by Brosey found that INR was associated with higher patient satisfaction scores. PRTCS has also been shown to have a positive impact on patient safety [7]. A study by Daniels found that hourly rounding, combined with a prompt response to call bell system, led to a significant reduction in the incidence of falls and call light use [8].

Numerous studies have examined patient satisfaction with nursing care in Saudi Arabia. Patients' satisfaction with the quality of nursing care was assessed using the Patient Satisfaction with Nursing Care Quality Questionnaire in a cross-sectional study conducted in a private hospital in Saudi Arabia. Patient satisfaction with nursing care was judged to be high [9]. Patient satisfaction with the quality of care provided by nurses was the subject of another study conducted in three tertiary hospitals in Hail, Saudi Arabia. The findings of this study underscored the significance of comprehending patients' happiness with nursing care in order to support nurses and hospital administrators [10]. Thus, the implementation of nurse-led rounds has been shown to improve patient satisfaction and overall clinical outcome levels. These benefits include improved communication, reduced anxiety, increased patient safety and medication management, and an overall increase in patient satisfaction that also lowers readmission rates and fosters interprofessional collaboration and teamwork. Therefore, the objective of the present study was to examine the impact of Nurse-Led Rounds on patient satisfaction and patient clinical outcomes in a Middle Eastern Country.

METHODOLOGY

Study Design

A mixed-method research design was used in this study. A Clinical trial was carried out by using a non-equivalent control group design was adopted to design to assess the impact of Nurse-led Rounds on patient satisfaction and patient clinical outcomes through quantitative data collection and semi-structured individual interviews identified the benefits of hourly rounding to enhance patient satisfaction through

qualitative data collection. Creswell and Clark (2011, pp. 9093) [11] described embedded mixed-method research designs as follows: "The researcher combines the collection and analysis of both quantitative and qualitative data within a traditional quantitative research design or qualitative research design." The collection and analysis of the secondary data set may occur before, during, and/ or after the implementation of the data collection and analysis procedures traditionally associated with the larger design [12].

Participants and Settings

The study collected quantitative data from 68 clients and qualitative data from 10 participants who voluntarily consented to participate in the study. The participants were recruited from New Najran General Hospital, which serves as a referral facility for the Najran Region and is CBAHI accredited. The study included every single client admitted to the medical and surgery ward who served as the study's sample population, age above 25, communication skills, and a minimum 5-day stay in a surgical or medical unit. Patients admitted with chronic illness and spent a long time in the hospital for observation, and patients who were discharged from the hospital within 72 hours were not included in the study. The nursing personnel included in the studies were registered nurses, charge nurses, and nursing supervisors in the medical and surgical unit.

Sampling Method

The participants for the study were selected from the medical and surgical ward of Najran General Hospital based on a convenient sampling method.

Measurements

Part 1: The effect of Nurse-led rounds on patient satisfaction and Patient clinical outcomes was evaluated using the Newcastle Satisfaction with Nursing Scale (NSNS) developed by Piredda *et al.*, (2015) [13]. The NSNS is a self-administered questionnaire that measures patients' experiences and satisfaction with nursing care [13]. The scale consists of 19 items rated on a 5-point Likert scale ranging from 1 (not at all satisfied) to 5 (completely satisfied) to assess various aspects of the experience of nursing care. Participants were asked to rate their level of satisfaction with various aspects of nursing care by selecting the one number that most accurately reflected their feelings for each scale item [14]. The original English-language version of the tool was translated into Arabic for consistency.

Data Collection Procedure

Quantitative Data Collection

The necessary permission was obtained from the hospital administrators, and the objectives of the study were explained to the clients, with their informed consent being secured. To encourage cooperation, a therapeutic rapport was developed with the clients by the researcher. For both groups, the demographic information on the patients was gathered after gaining

formal ethical approval and permission from the respective authorities, the researcher contacted the nurses and the clients in their hospital settings. Researchers provided a brief introduction and explanation of the questionnaire and then asked the nurses to distribute it to the clients to complete it. The questionnaire took approximately 30 minutes to complete. The researchers remained in the hospital to provide any further necessary clarification in the understanding of the language of the questionnaire. The nurses and nursing supervisors received training on how to conduct patient rounds. Nurses visited individually for whom they provided care regularly and carried out nursing hourly rounds while paying attention to their pain, urination, pulse, posture, pallor, paralysis, and surrounding environment and ensuring proper performance throughout the rounds. The study group received the nurse-led hourly rounds and the control group received the routine care. Patients were asked to rate their level of satisfaction with various aspects of nursing care and overall patient clinical outcomes on the first and fifth days of their hospital stay. Two supervisors strictly monitored the data collection procedure.

Qualitative Data Collection

To gain an in-depth understanding of the patient's satisfaction with Nurse-led Rounds with various aspects of nursing care and overall patient clinical outcomes admitted to the medical and surgical unit at Najran General Hospital. Qualitative individual interviews were conducted among 10 clients using a semi-structured interview guide containing one open-ended question and follow-up questions were utilized to get more specific details about their satisfaction. The researcher facilitated the interview, which took place in person. The interviews were all audio-recorded, and each one lasted 20 to 30 minutes. The interviewers transcribed the audio recordings verbatim and double-checked for accuracy. Participants' interviews and data analysis were done concurrently until data saturation was achieved.

Ethical Approval

The Institutional Review Board (IRB) with registration number KACST, KSA, approved the study H-11-N-081 in Najran, Saudi Arabia. Formal permission was obtained from the hospital authority and corresponding departments before collecting data. The researchers explained the purpose, benefits, and voluntary nature of the research to the participants and assured them of their anonymity and confidentiality. The questionnaire was distributed without any personal identification data, and participants were given the option to enroll voluntarily and sign the consent voluntarily. Nurses collected the filled questionnaire from the participants, and the data collection process did not affect the routine care and treatment modalities. Each data sheet was coded, and all data and results were kept in a password-protected file. Two supervisors strictly monitored the data collection process.

Statistical Analysis

Both descriptive and inferential statistical analyses were calculated using the Statistical Package for Social Sciences (SPSS) version 23.0. Frequency and percentage distribution were used to describe the sample properties. An independent sample t-test was used to compare if there was a statistically significant difference between the two groups' mean satisfaction levels on the first and fifth days of hospitalization. The significance level for the statistical tests was set at $p < 0.05$.

Qualitative Analysis

To analyze the qualitative data the interviews were transcribed and thematic analysis was used to extract common themes. To become comfortable with the data, the researchers initially read through each tape several times and made notes of their initial thoughts. All the data segments that were pertinent to the research topics were categorized and arranged thematically. After themes were examined, information that corroborated the themes was taken out of the data and grouped according to the topic. Two main themes concerning individual benefits and organizational benefits were identified. Patients stated that the introduction of nurse-led rounds had improved patient satisfaction in multiple ways. Theme 1: Improvement in clients' Communications, decreases Anxiety Levels, Promotes patient safety and Medication Management, and Overall Improvement in Patient Satisfaction. The second theme focused on improving overall client healthcare outcomes, improving inter-professional collaboration and teamwork, and reducing readmission rates.

RESULTS

Quantitative Analysis

Table:1 Impact of Nurse-led rounds on patient Satisfaction levels and Patient clinical outcomes on the first and fifth day of hospitalization in the control and study groups

The specifics of the hourly mean scores for nurses who visited patients in the experimental group and the control groups on the first and fifth days of hospitalization are shown in Table 1. The mean scores reflect the quality of care provided by nurses, and the results indicate a significant improvement in the experimental group after the implementation of nurse-led rounds. On the first day of hospitalization, the experimental group demonstrated a higher mean score of 6.06 (SD=0.531), compared to the control group's mean score of 4.75 (SD=1.578). This initial difference suggests that the experimental group may have started with a higher baseline level of care. However, the noteworthy observation and the substantial improvement in the experimental group's mean score to 8.21 (SD=0.632) on the fifth day, while the control group is mean score only increased to 5.76 (SD=2.227). The statistically significant improvement in the mean score of the experimental group, as indicated by the t-test ($t=2.66$, $p=0.001$), underscores the positive impact of nurse-led rounds on the quality of care provided. The lower p-value

suggests that the observed improvement is unlikely to be due to chance, providing confidence in the reliability of the results.

With reference to the nursing staff's professional proficiency, responsiveness to your call for assistance, availability at all times, and degree of awareness regarding your care. The results shed light on the multifaceted nature of nursing care and its implications for patient comfort and satisfaction. The initial analysis of the first day of the trial revealed a higher mean score in the experimental group (8.65, SD=2.321) compared to the control group (7.25, SD=2.578). This discrepancy suggests that the experimental group started with a more favorable perception of nursing care. On the fifth day, both groups demonstrated an identical mean score of 8.94 (SD=3.603), indicating that the experimental group maintained its high level of satisfaction, while the control group caught up to match the same level. While the mean scores on the fifth day were comparable between the experimental and control groups, it is important to note the overall high satisfaction levels observed in both groups. The consistently high scores, even in the control group, may be indicative of a generally proficient and patient-centered nursing care environment in the studied hospital.

The mean scores on the first and fifth days of hospitalization revealed significant differences between the experimental and control groups. On the first day, the experimental group exhibited a higher mean score (6.12, SD=3.321) compared to the control group (3.69, SD=1.622). By the fifth day, the experimental group's mean score further increased to 12.50 (SD=0.345), while the control group's mean score was 7.25 (SD=2.595). These results suggest a notable improvement in the patient experience within the experimental group. The substantial increase in mean scores for the experimental group, particularly by the fifth day, indicates a positive impact of specialized nursing care on patient satisfaction. The higher scores reflected on the effectiveness of personalized attention, emotional support, and clear communication provided by the nurses in the experimental group. It is noteworthy that the control group's scores also increased, albeit to a lesser extent, suggesting a general improvement in the hospital experience over time. The observed variations between the two groups on the fifth day were statistically significant ($t=4.408$, $p=0.001$), highlighting the effectiveness of the experimental nursing care intervention. The p -value less than 0.05 indicates that these differences are unlikely due to random chance alone. Therefore, it can be inferred that the specialized nursing care had a meaningful impact on enhancing the overall patient experience.

Regarding the degree of privacy granted by the nurses, the degree of freedom you enjoyed on the ward, the openness with which the nurses greeted your requests,

and the extent of their knowledge regarding your needs. On the first day of hospitalization, the experimental group's mean score was 5.42 (SD=1.652), while the control group total mean score was 4.71 (SD=1.744). On day five, the experimental group received a score of 10.31 (SD=1.295) whereas the control group had a score of 6.01 (SD=3.194). Significant differences between the experimental group and the control were seen on the fifth day of hospitalization ($t=4.205$, $p=0.001$) due to the effect of nurse led rounds.

Qualitative Analysis

Two main themes concerning individual benefits and organizational benefits were identified. Clients identified several perceived individual benefits to the implementation of Nurse-led rounds on patient satisfaction and overall patient clinical outcome levels. Theme 1: Improvement in communication, decreased anxiety level, and promotes patient safety and medication management, and overall improvement in patient satisfaction. Theme 2: includes, decreases in readmission rates, enhancement in inter-professional collaboration and teamwork, and improvements in overall client healthcare outcomes.

Theme 1: Individual Benefits. Clients identified several perceived individual benefits to implementation of Nurse-Led hourly rounds on patient satisfaction level and overall patient clinical outcomes including improvement in communication, decreased anxiety level, Promoted patient safety and medication management, and overall improvement in patient satisfaction.

Subtheme: Improvement in Client Communications. Clients consistently experience enhanced communication during their hospitalization. For instance, one respondent said, "For me, during my difficult situations the nurses answered all my questions and discussed any concerns that were addressed efficiently and confidently making me feel respected and cared for my well-being". (P3). Another interviewee stated that she had "difficulty understanding the prognosis of her condition, but the nurse communicated clearly about her conditions, medications, and treatment process and informed her about the progress that made her satisfied with their care overall" (P10).

Subtheme: Decreases Anxiety Level. Respondents also expressed a notable reduction in anxiety levels and reduced stress during their stay in the hospital. One client said that "regular checks from the nurses have consistent support and don't feel like they're being rushed or ignored which often helps make an often-frightening environment more comfortable" (P8). Another participant stated that the "supportive and improved communication, coupled with a better understanding of my medical condition, contributed to a sense of reassurance which decreased anxiety and allowed me to engage more actively in their care, positively impacting my overall well-being".

Subtheme: Promotes patient safety and Medication Management: Participants consistently reported a favorable shift in how they managed their prescriptions. Clear communication and understanding led to increased adherence to prescribed drug regimens (P4). For example, according to one interviewee, "The nurse gave me advice on how to take my medications, which in turn helped with better symptom management, fewer complications, and an overall improvement in my health condition and quality of life" (P2).

Subtheme: Overall Improvement in Patient Satisfaction. Clients conveyed an overarching sense of satisfaction with their Nurse-led rounding process. The combination of improved communication, reduced anxiety, and better medication management collectively contributed to an enhanced overall perception of my care. One client stated that he was "satisfied with nursing care, better client engagement, and treatment plans" (P5). Another participant stated that "overarching satisfaction with the significance of addressing individual needs, a complete understanding of medication timing, dosage, and frequency, and also offers an opportunity to ask questions and have complete clarity and a complete understanding of discharge plans and received complete information on post-discharge care in promoting a positive healthcare environment" (P7).

Theme 2: Organizational Benefits: In addition to individual benefits, the investigator identified several institutional-level benefits including decreases in readmission rates, enhancement in inter-professional collaboration and teamwork, and improvements in overall client healthcare outcomes.

Subtheme: Decreases in Readmission Rates. Organizational benefits were evident through a noticeable decline in readmission rates. The implementation of improved communication, collaborative care models, and effective medication management collectively contributed to a more comprehensive and lasting approach to healthcare. One nurse leader reported that conducting initial assessments, including extensive medication reviews, in collaboration with pharmacists, provides accurate discharge medication charts, adjusts medications, and orders

medication renewals. As a result, hospital admissions were reduced from 12% to 8% in 60 days after participation in the program (N4). Another Nurse leader responded said, "Nurse-initiated rounds have shown improvement in patient satisfaction, reduced falls decreased call light usage, and improved patient outcomes (N3).

Subtheme: Enhancement in Inter-Professional Collaboration and Teamwork. Clients identified marked improvement in the collaboration and teamwork among healthcare professionals involved during their care. One participant said, "I am always observing trust, mutual respect, and shared values within interprofessional teams have to be seen as fundamental prerequisites (P10). Another client acknowledged a significant improvement in collaboration and teamwork among healthcare professionals involved in their care (P6). Another client also noticed the team and the whole experience was professional they showed concern" and "worked on medications as a team, which was a big deal to me(P7).

Subtheme: Improvements in Overall Client Healthcare Outcomes

The majority of clients expressed that significant improvement in patient-centered approaches and overall health indicators. Their emphasis on communication, collaboration, and patient-centered care is crucial for fostering positive treatment outcomes and enhancing the quality of care provided. Most of the participants stated, "Discussing important data such as tests, diagnoses, care plans, and discharge plans during rounds reflects a commitment to transparency and information sharing, which contributed to better-informed decision-making". Another client also highlighted that "the importance of organizational strategies in shaping the healthcare landscape and focused on improving health outcomes, enhancing patient satisfaction, patient experience, client-centered care, individualized attention, and building loyalty speaks to a comprehensive approach that goes beyond individual treatments. By prioritizing these aspects, healthcare organizations can create a more holistic and patient-centric environment" (P1).

Table: 1 Impact of Nurse –Led rounds on patient satisfaction levels and Patient clinical outcomes on First and fifth day of Hospitalization in the control and study Groups

Items of Scale	Patient satisfaction level on first day of hospitalization		Patient satisfaction level on fifth day of hospitalization		t-value	p-value
	Mean (SD) Control group	Mean (SD) Experimental group	Mean (SD) Control group	Mean (SD) Experimental group		
How long the nurse stays with you.	4.75 (1.578)	5.76(2.227)	6.06 (0.531)	8.21(0.632)	-2.662	0.001
How competent nurses were in their work	6.44 (3.232)	7.23(3.212)	7.19 (0.743)	12.543(2.631)	-4.408	0.001
There always being a nurse around if you needed on.	3.77(1.686)	5.26 (3.267)	4.04 (1.249)	16.88(1.233)	-2.205	0.001
How much the nurses were aware of your care	4.36 (1.342)	5.42(1.462)	5.94 (1.603)	17.21(0.133)	10.704	0.001

Items of Scale	Patient satisfaction level on first day of hospitalization		Patient satisfaction level on fifth day of hospitalization		t-value	p-value
	Mean (SD) Control group	Mean (SD) Experimental group	Mean (SD) Control group	Mean (SD) Experimental group		
How quickly nurses responded to your call for assistance.	5.71(3.766)	6.21(2.136)	6.01 (1.194)	14.56(0.634)	6.316	0.001
How comfortable the nurses made you feel.	4.18 (3.220)	5.32(3.347)	7.04 (1.295)	16.64(0.246)	11.623	0.001
How much information nurses provided you on your condition and care.	4.69 (1.922)	6.51(2.923)	6.12 (2.159)	11.97(0.224)	-6.205	0.001
How frequently nurses asked if you were all right.	5.71 (2.944)	7.12(1.282)	6.98 (1.224)	12.78(0.621)	4.574	0.001
Nurses' helpfulness.	6.35 (1.677)	6.21(1.567)	8.25 (2.595)	14.32(1.331)	2.552	0.001
The way nurses explained things to you	7.25 (2.578)	8.65(2.321)	8.94 (3.603)	16.04(1.234)	-6.129	0.001
How nurses helped ease the anxieties of your friends or family members.	4.62 (1.232)	5.32(2.372)	6.01 (2.194)	12.19(0.249)	.3241	0.001
The way nurses conduct themselves as they work.	6.34(1.686)	6.12(1.823)	7.04 (2.295)	13.21(0.159)	.6205	0.001
The nature of the information nurses provided you regarding your condition and care.	5.46(2.342)	4.32(2.321)	6.12 (3.159)	14.04(0.603)	-8.407	0.001
Your personal treatment by nurses.	4.17(2.121)	5.17(3.212)	6.98 (3.224)	13.94(0.843)	-2.163	0.001
The nurses carefully heard your issues and concerns.	3.69 (1.622)	6.12(3.221)	7.25 (2.595)	12.56(0.345)	-4.408	0.001
The amount of freedom you were given on the ward.	4.71 (1.744)	5.42(1.652)	6.01 (3.194)	10.31(1.295)	-4.205	0.001
How willing nurses were to reply to your demands.	5.35 (2.532)	5.34(1.324)	7.04 (2.295)	9.31(0.261)	3.231	0.001
How much privacy the nurses provided to you	3.56 (1.758)	4.61(1.262)	4.12 (3.159)	8.32(1.621)	3.132	0.001
Your needs are known to the nurses.	2.52 (1.321)	3.31(1.432)	4.98 (2.124)	7.31(2.621)	0.623	0.001

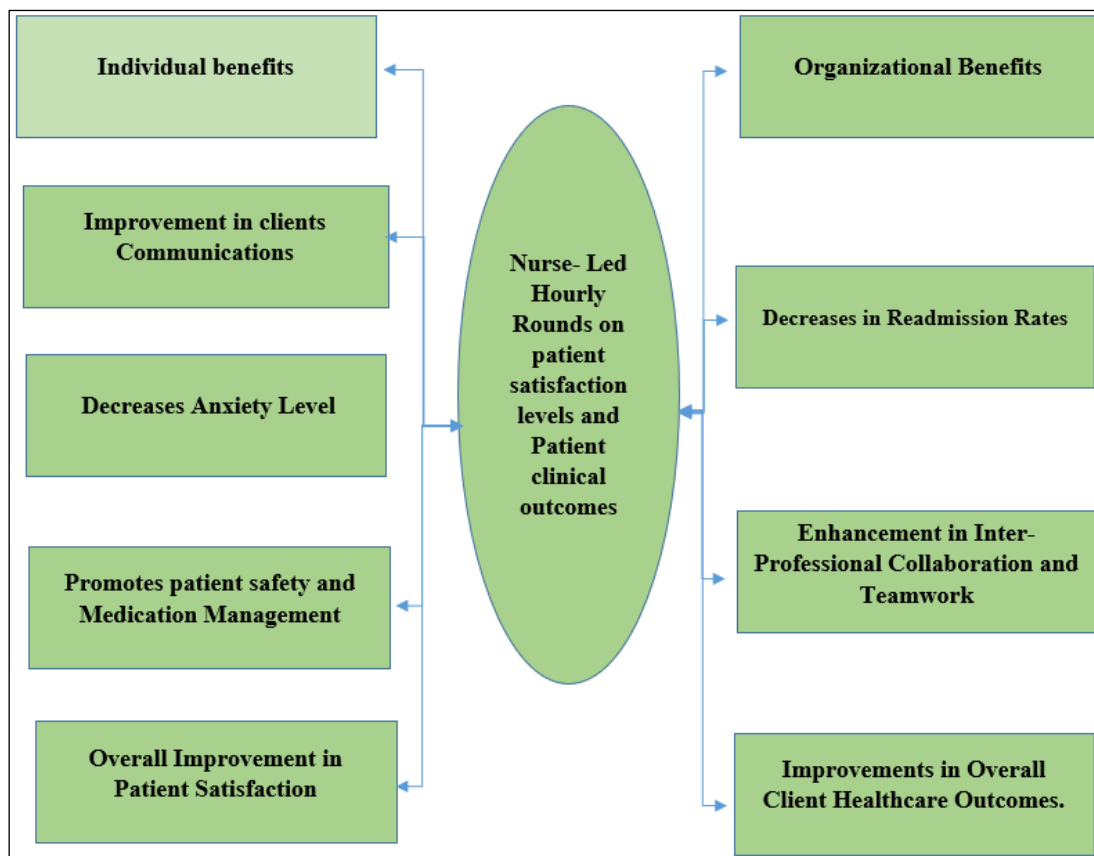


Figure 1: Nurse-Led Hourly Rounds on patient satisfaction levels and Patient clinical outcomes

DISCUSSION

The present study aimed to evaluate the impact of Nurse-Led Hourly Rounds on patient satisfaction levels and Patient clinical outcomes. The mixed methodology research demonstrated a magnitude of improvement in the patient satisfaction score and overall patient clinical outcomes including improvement in client communications decreased anxiety levels, promoted patient safety and medication management, promoted patient safety and Overall Improvement in Patient Satisfaction. In addition to that, it also decreases readmission rates, enhances inter-professional collaboration and teamwork, and improves overall client healthcare outcomes.

The quantitative findings from this study revealed that valuable insights into the impact of nurse-led rounds on the hourly mean scores the degree of comfort that patients experienced, the amount of information that nurses provided on their health and course of treatment, the frequency of their check-ins, their helpfulness, and the way in which they explained things to them. The experimental group outperformed the control group in terms of mean score on the first day of the trial. Day five's pre-mean score for both groups was comparable, while day five's mean score for the experimental group was noticeably higher. The implementation of nurse-led rounds appears to have contributed to a more favorable patient care environment in the experimental group compared to the control group. Several factors may have contributed to the observed improvement. Nurse-led rounds often facilitate enhanced communication and collaboration among healthcare professionals, leading to a more comprehensive and individualized patient care approach [15,16]. Additionally, the increased attention and coordination during rounds may have positively influenced the overall nursing care provided to patients in the experimental group. The study results were supported by previous research conducted by Champagne, and Sandra (2020) reported that the nurse-led rounds had a high special insight into the patient's clinical condition and trust-building [17]. Similar to the study results another study also reported that nurse-led intervention has demonstrated the further improvement of patients' perceived nursing quality and their satisfaction with nursing services through intentional nursing rounds [18].

Our study also examines the impact of Nurse-Led Rounds on nursing staff during patient visits, our study also delved into the broader aspects of patient experience, encompassing professional proficiency, responsiveness, availability, awareness, and communication. The study results reported that the experimental group had a higher mean score than the control group, while compared to the first and the fifth day of hospitalization the experimental group maintained a significantly higher mean score. The findings suggest that nurse-led rounds may not have a substantial impact

on certain aspects of patient satisfaction, as both groups ultimately achieved similar mean scores by the fifth day. The findings of the study align with the existing literature, suggesting that while nurse-led rounds may have benefits in certain aspects of patient care, they may not substantially impact overall patient satisfaction. The study results were supported by previous research by Danish *et al.*, [19] reported that nurse-led rounds have a significant improvement in patient experience, communication, and collaboration between providers and patients. While, Leo *et al.*, (2014) also reported that Nurse-led interdisciplinary daily rounding has improved way to improve communication, and patient safety, and increases patient, family, and staff satisfaction [20].

The present study highlighted the mean score of privacy, freedom, request handling, and knowledge understanding. The higher mean scores for the experimental group on both the first and fifth days suggest that nurse-led rounds contribute to an environment where patients feel more supported, respected, and well-informed about their healthcare needs. Nurse-led rounds enhanced privacy by fostering open communication and creating a conducive environment for patients to discuss their concerns. The increased scores for freedom and request handling in the experimental group attributed to the proactive and patient-centered approach employed during nurse-led rounds. This approach ensured that patients felt empowered to voice their needs, leading to a more responsive and individualized care experience. The observed significant differences on the fifth day, as indicated by the t-test ($t=4.205$, $p=0.001$), underscore the effectiveness of nurse-led rounds in positively influencing patient perceptions. The study findings were in line with a study conducted by Morton *et al.*, (2014) reported that nurse leader rounds had a significant magnitude of improvement in patient care and experience and best evidence-based practice in various practices. These findings suggest that nursing care significantly influences patient satisfaction and experience, particularly in terms of privacy, freedom, and responsiveness to patient requests [21]. The qualitative study findings from this study revealed that clients reported several perceived individual benefits to the implementation of Nurse-led rounds on improvement in communication, decreased anxiety level, and promotes patient safety and medication management, and overall improvement in patient satisfaction. These individual benefits are in line with previous research. A 2020 University of San Francisco study emphasized the value of nurse-led multidisciplinary rounds in enhancing patient safety, communication, and the development of trust among patients, families, and medical teams [22]. In the same way the purpose of a University of Kentucky project (2023) is to enhance cooperation and communication during multidisciplinary rounding by implementing a nurse-led daily goals checklist in critically sick patient rounds [23]. Similarly another study highlights the benefits of nurse rounds in the

intensive care unit (ICU) for a number of reasons, including as communication, patient safety, and general satisfaction [24].

The present study also highlighted the Organizational benefits the clients and the nurse leader identified several institutional-level benefits including decreases in readmission rates, enhancement in inter-professional collaboration and teamwork, and improvements in overall client healthcare outcomes. These organizational outcomes are in connections with previous studies conducted by Claire *et al.*, (2023) emphasized the implementation of evidence-based interventions, improved communication, and effective care models, including nurse-led initiatives, have collectively contributed to the reduction in readmission rates, ultimately leading to improved patient outcomes and organizational benefits [26]. Brennan Bosch (2015) *et al.*, reported that improvement in collaboration and teamwork among healthcare professionals is consistent with the recognized benefits of enhanced patient outcomes, reduced medical errors, increased job satisfaction among healthcare workers and healthcare outcomes [27]. Similarly Kira Isabel (2020) reported that organizational communication climate was found to be significantly associated with the implementation of patient-centered care, highlighting the need for positive communication strategies within healthcare organizations [28]. Therefore, it is vital that the nurse, nurse leaders and educators focus on Nurse –Led rounds create a conducive and supportive clinical environments and build supportive cultures to improve the quality of care and over all well-being.

Strength and Limitation of the Study

The present study has several limitations. Firstly, the use of a mixed methodology with a non-randomized control group may have introduced selection bias and confounding variables, potentially affecting the equivalence between the groups. Secondly, the study used purposeful sampling techniques, and finally, samples were selected from a single setting.

CONCLUSION

The implementation of nurse-led rounds has demonstrated a significant positive impact on both patient satisfaction and clinical outcomes. Through the integration of nursing expertise, patient-centred care principles, and effective communication strategies, nurse-led rounds have enhanced the overall patient experience and contributed to improved clinical outcomes. The study also demonstrated improved teamwork and communication among healthcare providers result in better coordinated and effective care delivery. Nurse-led rounds facilitated the detection and resolution of possible concerns or challenges by encouraging interdisciplinary discussions and collaborative decision-making, which ultimately improved patient outcomes. Furthermore, early clinical concern identification and management made possible

by the proactive nature of nurse-led rounds resulted in fewer adverse events, shorter hospital stays, and decreased readmission rates. By means of thorough evaluations, prompt actions, and continuous observation, nurses assume a crucial function in enhancing patient safety and fostering favourable health consequences.

Acknowledgment

The authors would like to express their gratitude to the participants of this study. Their dedication and commitment to completing the study successfully.

Declaration of Conflicting Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

REFERENCES

1. Lee, S. H., Lee, A., Lim, S. N., Koh, M. J., Tan, B., Phan, P. H., ... & Fisher, D. A. (2014). A Pilot Study on Nurse-Led Rounds: Preliminary Data on Patient Contact Time. *International Journal of Technical Research and Applications*, 2(Special Issue 5).
2. Gormley, D. K., Costanzo, A. J., Goetz, J., Israel, J., Hill-Clark, J., Pritchard, T., & Staubach, K. (2019). Impact of nurse-led interprofessional rounding on patient experience. *Nursing Clinics*, 54(1), 115-126.
3. Heip, T., Van Hecke, A., Malfait, S., Van Biesen, W., & Eeckloo, K. (2022). The effects of interdisciplinary bedside rounds on patient Centeredness, quality of care, and team collaboration: a systematic review. *Journal of patient safety*, 18(1), e40.
4. Bourdeaux, C. P., Davies, J., Thomas, M. J., Bewley, J. S., Gould, T. H., & Dornan, T. L. (2018). Nurse-led ward rounds on acute medical wards: Can they enhance patient experience? A cross-sectional survey of medical inpatients. *BMJ Open*, 8(1).
5. Zwarenstein, M., Goldman, J., & Reeves, S. (2009). Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane database of systematic reviews*, (3).
6. Spano-Szekely, L., & Quinn Griffin, M. T. (2019). Nurse-initiated rounds to prevent hospital-acquired pressure injuries. *Journal of Wound, Ostomy, and Continence Nursing*, 46(6), 501-505.
7. Brosey, L., & March, K. (2019). Nurse-led interdisciplinary rounds and patient satisfaction. *Journal of Nursing Care Quality*, 34(3), 201-206.
8. Daniels, J.F. (2016). Purposeful and timely nursing rounds: a best practice implementation project. *JBI Database System Rev Implement Rep* 2016; 14:248-67.
9. Karaca, A., & Durna, Z. (2019). Patient satisfaction with the quality of nursing care. *Nursing open*, 6(2), 535-545.

10. Alsaqri, S. (2016). Patient satisfaction with quality of nursing care at governmental hospitals, Ha'il City, Saudi Arabia. *Journal of Biology, Agriculture and Healthcare*, 6(10), 128-142.
11. Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health*, 2013, 541-545.
12. Yu, X., & Khazanchi, D. (2017). Using embedded mixed methods in studying is phenomena: Risks and practical remedies with an illustration. *Using Embedded Mixed Methods in Studying IS Phenomena: Risks and Practical Remedies with an Illustration*, 41.
13. Shrestha, S., Sapkota, B., Thapa, S., KC, B., & Khanal, S. (2020). Translation, cross-cultural adaptation and validation of Patient Satisfaction with Pharmacist Services Questionnaire (PSPSQ 2.0) into the Nepalese version in a community settings. *PLoS One*, 15(10), e0240488.
14. Sharew, N. T., Bizuneh, H. T., Assefa, H. K., & Habtewold, T. D. (2018). Investigating admitted patients' satisfaction with nursing care at Debre Berhan Referral Hospital in Ethiopia: a cross-sectional study. *BMJ open*, 8(5).
15. Negarandeh, R., Bahabadi, A. H., & Mamaghani, J. A. (2014). Impact of regular nursing rounds on patient satisfaction with nursing care. *Asian Nursing Research*, 8(4), 282-285.
16. Karaca, A., & Durna, Z. (2019). Patient satisfaction with the quality of nursing care. *Nursing open*, 6(2), 535-545.
17. Champagne, S. (2020). Implementation of Nurse-Led Multidisciplinary Rounds in a Critical Care Unit.
18. Marshall, C. D., Fay, M. E., Phillips, B., Faurote, R., Kustudia, J., Ransom, R. C., ... & Weiser, T. G. (2018). Implementing a standardized nurse-driven rounding protocol in a trauma-surgical intensive care unit: a single institution experience. *Cureus*, 10(10).
19. Gormley, D. K., Costanzo, A. J., Goetz, J., Israel, J., Hill-Clark, J., Pritchard, T., & Staubach, K. (2019). Impact of nurse-led interprofessional rounding on patient experience. *Nursing Clinics*, 54(1), 115-126.
20. Lee, S. H., Lee, A., Lim, S. N., Koh, M. J., Tan, B., Phan, P. H., ... & Fisher, D. A. (2014). A Pilot Study on Nurse-Led Rounds: Preliminary Data on Patient Contact Time. *International Journal of Technical Research and Applications*, 2(Special Issue 5).
21. Morton, J. C., Brekhus, J., Reynolds, M., & Dykes, A. K. (2014). Improving the patient experience through nurse leader rounds. *Patient Experience Journal*, 1(2), 53-61.
22. Heip, T., Van Hecke, A., Malfait, S., Van Biesen, W., & Eeckloo, K. (2022). The effects of interdisciplinary bedside rounds on patient Centeredness, quality of care, and team collaboration: a systematic review. *Journal of patient safety*, 18(1), e40.
23. Riley, M. Use of a Nurse-led Daily Goals Checklist to Improve Multidisciplinary Rounds in the ICU.
24. Dittman, K., & Hughes, S. (2018). Increased nursing participation in multidisciplinary rounds to enhance communication, patient safety, and parent satisfaction. *Critical Care Nursing Clinics*, 30(4), 445-455.
25. Patel, S. V., Alshami, A., Douedi, S., Udongwo, N., Hossain, M., Tarina, D., ... & Asif, A. (2023, October). The Utilization of 15-Minute Multidisciplinary Rounds to Reduce Length of Stay in Patients under Observation Status. In *Healthcare* (Vol. 11, No. 21, p. 2823). MDPI.
26. Zhong, C. C., Wong, C. H., Hung, C. T., Yeoh, E. K., Wong, E. L., & Chung, V. C. (2023). Contextualizing evidence-based nurse-led interventions for reducing 30-day hospital readmissions using GRADE evidence to decision framework: A Delphi study. *Worldviews on Evidence-Based Nursing*.
27. Bosch, B., & Mansell, H. (2015). Interprofessional collaboration in health care: Lessons to be learned from competitive sports. *Canadian Pharmacists Journal/Revue des Pharmaciens du Canada*, 148(4), 176-179.
28. Hower, K. I., Venedey, V., Hillen, H. A., Stock, S., Kuntz, L., Pfaff, H., ... & Ansmann, L. (2020). Is organizational communication climate a precondition for patient-centered care? Insights from a key informant survey of various health and social care organizations. *International Journal of Environmental Research and Public Health*, 17(21), 8074.