RJNMSR
Review Journal of Neurological & Medical Sciences Review

Volume 4, Issue 1, 2026

ASSESMENT OF COMPLIANCE WITH STANDARDIZED BEDSIDE HANDOVER PRACTICES AMONG NURSES AT A TERTIARY CARE HOSPITAL IN MARDAN

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DOI: https://doi.org/10.5281/zenodo.18268859

Received	Accepted	Published
16 November 2025	29 December 2025	16 January 2026

ABSTRACT

Background:

Effective nursing handover is a critical component of patient safety and continuity of care. Communication failures during shift changes are recognized as a major cause of adverse events in hospital settings. The Situation, Background, Assessment, and Recommendation (SBAR) framework has been widely adopted to standardize nursing handovers and improve communication clarity.

Objective:

To assess nurses' compliance with standardized bedside handover practices using the SBAR framework and to identify factors influencing compliance among nurses working in a tertiary care hospital.

Methods:

A descriptive cross-sectional study was conducted among 175 registered nurses working in medical, surgical, and critical care wards of a tertiary care hospital. Data were collected using a structured SBAR compliance checklist and a questionnaire assessing influencing factors. Data analysis was performed using SPSS version 27. Descriptive statistics summarized demographic variables and compliance levels, while inferential statistics (independent sample t-test, one-way ANOVA, and Pearson correlation) examined associations between demographic and organizational factors and SBAR compliance.

Results:

The findings revealed moderate to high compliance with SBAR handover practices among nurses. Female nurse's demonstrated significantly higher compliance compared to male nurses ($p < 0.05$). Age was not significantly associated with overall SBAR compliance, although differences were observed in specific SBAR components. Organizational factors such as teamwork, training, and adequate time allocation showed a significant positive correlation with SBAR compliance ($r = 0.386$, $p < 0.001$). The study instrument demonstrated good reliability (Cronbach's alpha = 0.867).

Conclusion:

Nurses showed satisfactory compliance with SBAR-based bedside handover practices; however, compliance was influenced by gender and organizational factors. Strengthening training programs, promoting teamwork, and improving institutional support may further enhance standardized handover practices and patient safety outcomes.

Keywords: *SBAR: Situation, Background, Assessment, Recommendation PS: Patient Safety, NH: Nurse Handover BScN: Bachelors of Science in Nursing RN: Registered Nurse, RM: Registered Midwife ANOVA: Analysis of Variance Nursing handover; Bedside handover; Nurse compliance; Patient safety Tertiary care hospital Communication*

INTRODUCTION

1.1 Background of the Study

Clear and effective communication during patient handovers is essential for maintaining safe nursing practices and ensuring high-quality healthcare. Nursing handover involves the organized transfer of responsibility and accountability for patient care between nurses or care teams. When handovers are poorly conducted or lack structure, they can lead to communication breakdowns, medical mistakes, delays in treatment, and a decline in patient safety.

The SBAR (Situation, Background, Assessment, and Recommendation) framework has emerged as a widely recognized method to standardize handovers and enhance communication. Studies have shown that using SBAR can improve clarity, reduce errors, and maintain continuity of care, making it a vital tool in hospital environments.

1.2 Rationale of the Study

Despite the established benefits of structured handover protocols, many nurses do not consistently follow them. Factors such as high workload, limited training, and lack of awareness can affect adherence. This study seeks to evaluate nurses' compliance with SBAR during handovers and to explore the factors influencing their practice. The insights gained from this research can guide interventions to improve handover quality, enhance patient safety, and strengthen overall healthcare delivery.

1.3 Research Questions

1. How compliant are nurses with the SBAR framework during patient handovers?
2. What factors affect nurses' adherence to SBAR?
3. Is there an association between nurses' demographic characteristics (e.g., age, years of experience) and their compliance with SBAR?

1.4 Significance of the Study

The study has practical and academic importance:

- For Nursing Staff: It highlights areas where handover practices can be improved and identifies opportunities for professional development.
- For Patients: Enhanced handover practices contribute to safer care and reduce the likelihood of errors.
- For Healthcare Facilities: Findings can inform hospital policies and training programs to ensure standardized and effective communication during handovers.

1.5 Operational Definitions

- **Nursing Handover:** The structured process of transferring responsibility and accountability for patient care from one nurse to another.
- **SBAR:** A communication tool with four components—Situation, Background, Assessment, Recommendation—designed to organize and standardize handovers.
- **Compliance:** The degree to which nurses consistently follow the SBAR framework during handovers.

LITERATURE REVIEW

2.1 Introduction

This chapter reviews current research on nursing handover practices with an emphasis on the Situation, Background, Assessment, Recommendation (SBAR) tool. It highlights how SBAR is used in clinical settings, its effectiveness, compliance levels among nurses, and factors affecting its implementation.

2.2 Nursing Handover and Structured Communication

Effective handover between nurses is a key element of clinical safety and quality care. Handover communication provides critical updates on patients' status, and failures in this process are linked to adverse outcomes and clinical errors. Standardized methods such as SBAR have been introduced across healthcare

settings to make handovers more systematic and reliable, helping to prevent information loss and misinterpretation during shift changes. Structured communication frameworks have demonstrated improvements in clarity and completeness of nursing reports compared to unstructured handovers.

2.3 SBAR Framework and Its Use in Nursing

The SBAR framework organizes clinical information into four sections—Situation, Background, Assessment, and Recommendation—to provide a clear picture of a patient's current needs and anticipated care actions. Research shows that SBAR improves communication effectiveness, enhances clinical decision-making, and supports continuity of care. Its structured nature encourages nurses to include all critical information and reduces the likelihood of missing or incomplete handover details.

For example, in a descriptive study at a cancer center, most nurses reported that SBAR followed a logical order and reduced communication errors during handovers, with many recommending the tool's use across clinical units.

2.4 Compliance with SBAR and Influencing Factors

Many studies evaluate how consistently nurses use SBAR during handovers and what affects adherence. One recent study reported that SBAR compliance varied across the four components of the communication model, with significant differences in adherence depending on nurses' age and clinical experience.

Factors that influence compliance include:

- Workload and time pressure: High patient loads can reduce the thorough use of SBAR.
- **Knowledge and training:** Nurses with greater familiarity and targeted training showed improved SBAR implementation.
- **Organizational support**: Hospitals with clear protocols and leadership encouragement reported better adherence.

Another qualitative evaluation revealed that insufficient knowledge about SBAR leads to confusion between theoretical understanding and practical use, highlighting the need for standard operating procedures and clearer training materials.

2.5 Factors Affecting SBAR Compliance

Multiple studies indicate that nurses' adherence to SBAR is influenced by a combination of personal, organizational, and educational factors. Key determinants include:

1. **Experience and Age** – Nurses with more clinical experience often demonstrate better compliance with structured handovers, possibly due to greater familiarity with patient care processes. Younger or less experienced nurses may struggle to include all SBAR components consistently.
2. **Training and Knowledge** – Nurses who receive formal training on SBAR and communication protocols show higher compliance rates. Ongoing education programs and refresher courses are critical in maintaining consistent adherence.
3. **Workload and Time Constraints** – High patient-to-nurse ratios and heavy workloads often lead to rushed handovers, resulting in incomplete SBAR usage. Implementing measures to manage workload can enhance compliance.
4. **Organizational Support and Culture** – Hospitals that promote patient safety culture, clear policies, and supervision see higher levels of SBAR compliance. Supportive leadership and availability of standardized handover tools encourage nurses to follow the protocol.
5. **Attitudes and Perceptions** – Nurses' perception of the importance and usefulness of SBAR affects their willingness to comply. Positive attitudes towards structured communication are associated with better adherence.

2.6 Effects of SBAR on Patient Safety and Quality of Care

SBAR implementation is strongly associated with improvements in patient safety outcomes and nursing care quality. Research shows that structured handovers reduce the risk of adverse events, prevent miscommunication, and enhance nurses' confidence in clinical decision-making.

- **Communication Clarity:** SBAR ensures that all relevant information is shared clearly and systematically.
- **Error Reduction:** Consistent use of SBAR has been linked to fewer incidents of medical errors and omissions during shift changes.
- **Continuity of Care**: By providing a standardized approach, SBAR supports continuity of care between shifts and across different clinical units.

These findings demonstrate that structured handovers like SBAR are not only tools for communication but also mechanisms for improving overall healthcare quality.

2.7 Knowledge Gaps and Study Justification

Although SBAR is widely recognized as an effective communication tool, gaps remain in understanding how demographic, organizational, and educational factors simultaneously affect nurses' compliance. Few studies have explored these relationships in a comprehensive manner within specific ward settings. Moreover, there is limited research evaluating compliance rates in hospitals in developing countries, which may face unique challenges related to staffing, training, and resource availability.

This gap justifies the present study, which aims to evaluate nurses' compliance with SBAR and investigate the factors influencing adherence in a clinical hospital setting. The results of this study can guide interventions to improve handover quality, patient safety, and nursing practice.

2.8 Summary

This chapter reviewed literature on nursing handovers, focusing on the SBAR framework and compliance factors. Evidence suggests that SBAR improves communication, reduces errors, and enhances continuity of care. Compliance, however, is affected by factors such as nurse experience, training, workload, organizational culture, and attitudes. Despite substantial evidence, gaps exist in understanding the multifactorial determinants of compliance, particularly in diverse clinical contexts. The current study aims to address these gaps and provide actionable insights for improving SBAR implementation in hospital wards.

METHODOLOGY

3.1 Study Design

This study employed a descriptive cross-sectional design to assess nurses' compliance with the SBAR handover framework and identify factors influencing adherence. The cross-sectional design was chosen because it allows the researcher to examine compliance levels and associated factors at a single point in time, providing a snapshot of current practices in the hospital setting.

3.2 Study Setting

The study was conducted at a tertiary care hospital in Mardan, Pakistan. The study setting included medical, surgical, and critical care wards where nurse handovers are routinely conducted. These wards were selected to ensure representation of different clinical areas and to capture variations in handover practices.

3.3 Study Population

The population of this study comprised registered nurses working in a tertiary care hospital in Mardan who are directly involved in patient care and handover processes. Both male and female nurses were included. Nurses who were on leave, interns, or not involved in direct patient care were excluded from the study.

3.4 Sample Size and Sampling Technique

A total of 175 nurses were selected using a non-probability convenience sampling technique. This sampling method was chosen due to accessibility and availability of nurses during the study period. All participants who met the inclusion criteria and consented to participate were included in the study.

3.5 Inclusion and Exclusion Criteria

Inclusion Criteria:

- Registered nurses working in selected wards
- Nurses involved in direct patient care and handover
- Nurses willing to participate in the study

Exclusion Criteria:

- Nurses on leave during the study period
- Interns and trainee nurses
- Nurses not involved in direct patient handover

3.6 Data Collection Tool

Data were collected using a structured questionnaire/checklist designed to assess compliance with SBAR and factors influencing adherence. The tool was divided into the following sections:

1. **Demographic Information:** Age, gender, years of experience, educational level.
2. **Compliance with SBAR:** Assessment of how consistently nurses followed each component of SBAR during handover (Situation, Background, Assessment, Recommendation).
3. **Factors Influencing Compliance:** Questions on training, workload, organizational support, and attitudes towards SBAR.

The tool was pre-tested on a small group of nurses to ensure clarity and reliability before full- scale data collection.

3.7 Ethical Considerations

Ethical approval for this study was obtained from a Tertiary care Hospital Ethics Committee. Participation was voluntary, and informed consent was obtained from all nurses. Confidentiality and anonymity of participants were maintained throughout the study. Data were stored securely and used only for research purposes.

3.8 Data Collection Procedure

Data collection was conducted over 4 weeks. Nurses were approached during their shifts, and the purpose of the study was explained. Questionnaires were distributed, and participants were asked to complete them independently. The completed questionnaires were collected and checked for completeness before analysis.

3.9 Data Analysis

Collected data were analyzed using SPSS version 27. Descriptive statistics such as frequency, percentage, mean, and standard deviation (SD) were used to summarize demographic characteristics and SBAR compliance scores. Inferential statistics, including independent sample T-TEST, one-way ANOVA and Correlation were applied to examine associations between demographic variables and compliance with SBAR.

Graphs and tables were generated using SPSS to present compliance rates and factors influencing adherence clearly. Findings were interpreted in light of previous literature and research objectives.

3.10 Summary

This chapter described the methodology used to assess nurses' compliance with SBAR handovers, including study design, setting, population, sampling, data collection tools, and analysis methods. Ethical considerations and procedures for ensuring data validity and confidentiality were also addressed. The next chapter will present the results of the study, including descriptive statistics, compliance levels, and factors influencing SBAR adherence.

RESULTS

4.1 Introduction

This chapter presents the results of the study conducted to assess nurses' compliance with standardized bedside handover practices using the SBAR framework and to identify factors influencing compliance. Data were analyzed using **SPSS version 27**. Results are presented in **tables and figures**, followed by interpretations.

Table 4.1: Demographic Characteristics of Nurses

		age group	gender	academic qualification	total years of clinical experiance	working shift	attended any training/workshop on bedside handover
N	Valid	175	175	175	175	175	175
	Missing	0	0	0	0	0	0
Mean		1.34	1.54	2.35	1.35	1.74	1.24
Median		1.00	2.00	2.00	1.00	2.00	1.00
Mode		1	2	2	1	1	1
Std. Deviation		.564	.511	.685	.661	.800	.536
Variance		.319	.262	.470	.437	.640	.287
Skewness		1.615	-.020	.291	1.880	.498	3.089
Std. Error of Skewness		.184	.184	.184	.184	.184	.184
Sum		235	269	411	237	305	217

Interpretation (Table 4.1: Descriptive Statistics of Demographic Variables)

Age Group

The majority of participants were aged 20–29 years (69.7%), followed by 30–39 years (26.9%). A smaller proportion belonged to the 40–49 years (2.9%) group, while only 0.6% were aged 50 years and above. This indicates that the nursing workforce was predominantly young.

Gender

Both male and female nurses were well represented in the study. Female nurses slightly outnumbered males, reflecting the general gender distribution in the nursing profession.

Academic Qualification and Experience

Most participants held diploma or bachelor-level nursing qualifications. The majority had less than five years of clinical experience, indicating a relatively early-career workforce. This demographic profile is important in interpreting compliance and training needs.

Table 4.1 summarizes the descriptive statistics of the demographic characteristics of the nurses who participated in the study (N = 175). All demographic variables contained complete responses, with no missing data recorded.

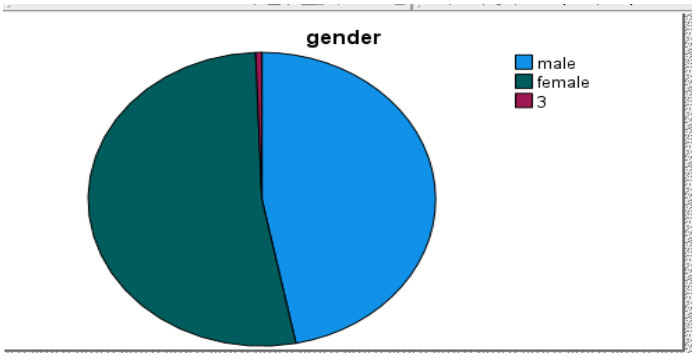
The mean score for age group (Mean = 1.34, SD = 0.56) indicates that most participants were from the younger age categories. Gender distribution showed representation from both males and females, as reflected by a mean value of 1.54 (SD = 0.51).

In terms of academic qualification, the mean score was 2.35 (SD = 0.69), suggesting that the majority of nurses possessed diploma or bachelor-level nursing education. The mean score for total years of clinical experience was 1.35 (SD = 0.66), indicating that many participants had limited to moderate professional experience.

Regarding work schedules, the working shift variable yielded a mean score of 1.74 (SD = 0.80), demonstrating that a substantial number of nurses were engaged in rotating shifts. Additionally, attendance at training programs or workshops related to bedside handover showed a mean value of 1.24 (SD = 0.54), suggesting that although several nurses had received relevant training, a proportion had not been formally trained in standardized bedside handover practices.

Overall, the findings reflect a nursing workforce predominantly composed of younger professionals with moderate experience, varied work shifts, and differing levels of exposure to handover-related training, factors that may influence compliance with standardized bedside handover practices.

Figure 4.1: Gender Distribution of Nurses



Interpretation:
Figure 4.1 illustrates the gender distribution of participants, indicating that both male and female nurses were adequately represented in the study.

4.2 Nurses' Compliance with Standardized Bedside Handover (SBAR)

Overall, mean scores for SBAR components ranged from 3.66 to 4.00, indicating moderate to high compliance.

- Highest mean scores were observed for:
  - Explaining the reason for admission (Mean = 4.00)
  - Ensuring the oncoming nurse understands patient status (Mean = 4.00)
- Slightly lower mean scores were noted for:
  - Providing past medical history (Mean = 3.66)
  - Discussing interventions and patient response (Mean = 3.70)

The standard deviations indicate acceptable variability, while negative skewness values suggest that most responses were clustered toward higher agreement levels.

4.3 Overall Agreement among SBAR Items

Inter-rater reliability analysis showed an overall agreement (Kappa = 0.135, $p < 0.001$) among the SBAR items. Although the kappa value indicates fair agreement, the result is statistically significant, suggesting consistency in nurses' responses regarding bedside handover practices.

Group Statistics

	gender	N	Mean	Std. Deviation	Std. Error Mean
introduce self and identify patient	male	82	3.39	1.530	.169
	female	92	3.98	1.359	.142
explain reason for admission	male	82	3.74	1.322	.146
	female	92	4.23	1.039	.108
ensure oncoming nurse understands status	male	82	3.78	1.207	.133
	female	92	4.20	1.019	.106
provide past medical history	male	82	3.45	1.209	.133
	female	92	3.84	1.170	.122
procedures/investigations and updates	male	82	3.59	1.276	.141
	female	92	4.05	1.093	.114
communicate meds/allergies accurately	male	82	3.70	1.429	.158
	female	92	3.91	1.237	.129
report vitals, labs and assessment	male	82	3.62	1.402	.155
	female	92	3.89	1.279	.133
discuss interventions and response	male	82	3.51	1.298	.143
	female	92	3.85	1.026	.107
inform patient about shift change	male	82	3.46	1.326	.146
	female	92	4.05	1.133	.118
highlight pending tasks	male	82	3.78	1.296	.143
	female	92	3.84	1.328	.138
provide recommendations	male	82	3.67	1.228	.136
	female	92	3.89	1.104	.115
allow time for questions	male	82	3.57	1.306	.144
	female	92	4.05	1.073	.112

Interpretation (Table: Gender-wise Comparison of SBAR Compliance Items)

The table presents gender-wise descriptive statistics for individual items related to standardized bedside handover practices based on the SBAR framework. A total of 82 male and 92 female nurses were included in the analysis.

Across all SBAR items, female nurses demonstrated higher mean scores compared to male nurses, indicating better reported compliance with standardized bedside handover practices. Higher mean values among female participants were observed for key components such as introducing oneself and identifying the patient, explaining the reason for admission, ensuring the incoming nurse understands the patient's current status, and communicating medications and allergies accurately.

Similarly, female nurses showed higher mean scores in reporting vital signs, laboratory results, and assessments, discussing nursing interventions and patient responses, informing patients about shift changes, and allowing time for questions. These findings suggest a more consistent adherence to structured communication practices among female nurses.

Overall, the results indicate observable gender-based differences in compliance levels, with female nurses reporting relatively stronger performance across SBAR components. However, as this analysis is descriptive in nature, no statistical inference regarding the significance of these differences is implied.

Statistics

		heavy workload limits compliance	lack of time affects handover	training improves compliance	teamwork promotes compliance	lack of privacy affects communication
N	Valid	175	175	175	175	175
	Missing	0	0	0	0	0
Mean		3.67	3.59	3.50	3.82	3.75
Std. Deviation		1.171	1.260	1.259	1.278	1.252
Skewness		-.391	-.507	-.466	-.789	-.667
Std. Error of Skewness		.184	.184	.184	.184	.184

4.1 Factors Influencing Compliance with Bedside Handover

Interpretation (Table: Descriptive Statistics of Factors Influencing Compliance)

Descriptive Findings

The mean scores for influencing factors ranged from 3.50 to 3.82, indicating that participants generally agreed these factors affected compliance.

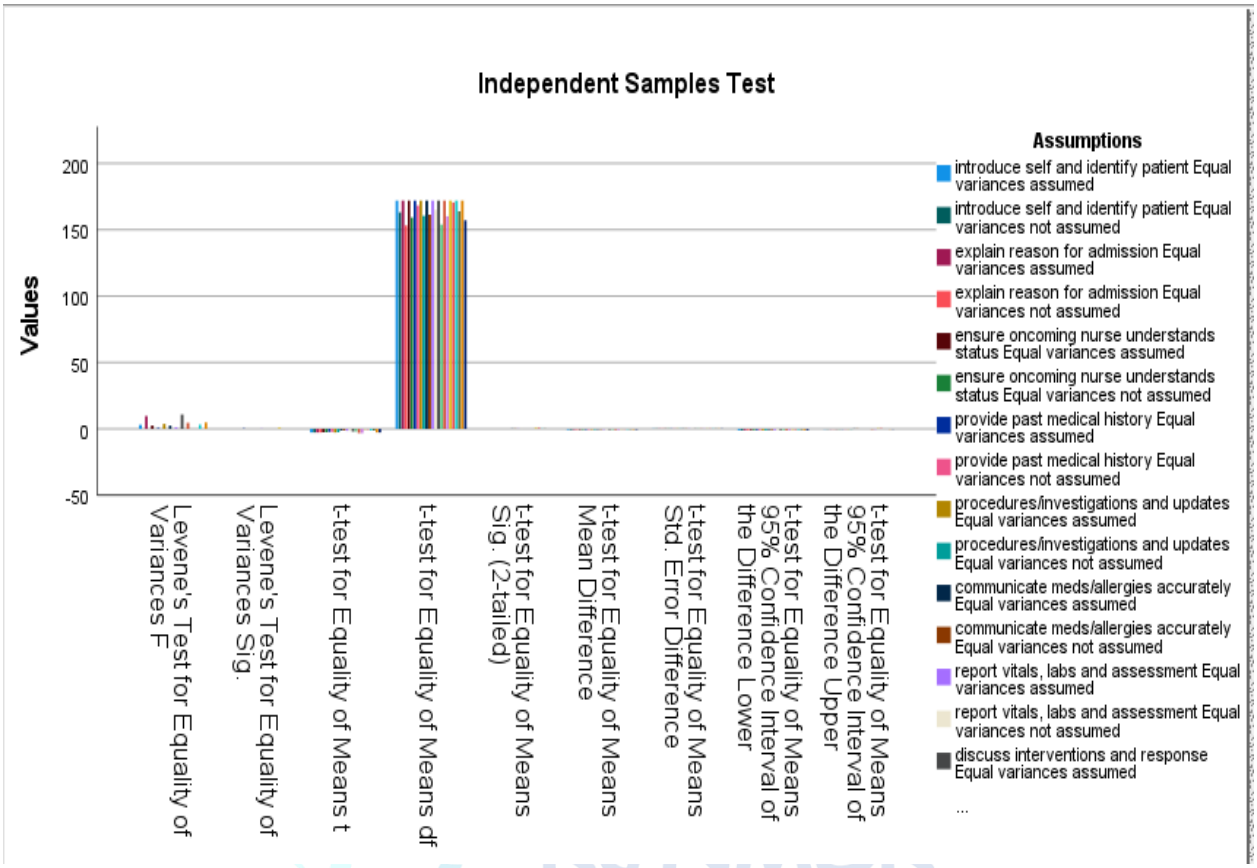
- Teamwork promotes compliance had the highest mean score (Mean = 3.82)
- Lack of time affects handover showed a comparatively lower mean (Mean = 3.59)

These findings highlight the importance of organizational and interpersonal factors in effective bedside handover.

4.2 Comparison of SBAR Compliance by Gender

An **independent sample t-test** was conducted to compare SBAR compliance between male and female nurses.

Interpretation (Table: Independent sample T-Test)



Item-Wise Comparison

Female nurses scored significantly higher than male nurses in several SBAR components, including:

- Introducing self and identifying the patient (p = 0.008)
- Explaining the reason for admission (p = 0.008)
- Ensuring oncoming nurse understands patient status (p = 0.015)
- Informing the patient about shift change (p = 0.002)
- Allowing time for patient questions (p = 0.008)

No statistically significant differences were observed in some items such as reporting vital signs and highlighting pending tasks.

Total SBAR Score

Female nurses demonstrated significantly higher overall SBAR compliance (Mean = 47.78) compared to male nurses (Mean = 43.27), with p = 0.002, indicating a meaningful gender difference in bedside handover practices.

4.6 Association between SBAR Compliance and Age Group

A one-way ANOVA was conducted to assess differences in SBAR compliance across age groups.

Interpretation (Table: one-way ANOVA)

- No statistically significant difference was found in the total SBAR score among age groups (F = 0.399, p = 0.754).
- However, significant differences were observed in selected SBAR components, such as ensuring oncoming nurse understands patient status (p = 0.002) and reporting vital signs and assessment (p = 0.047).

This suggests that while overall compliance is similar across age groups, specific communication behaviors may vary.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
introduce self and identify patient	Between Groups	6.983	3	2.328	1.088	.356
	Within Groups	365.966	171	2.140		
	Total	372.949	174			
explain reason for admission	Between Groups	9.191	3	3.064	2.176	.093
	Within Groups	240.809	171	1.408		
	Total	250.000	174			
ensure oncoming nurse understands status	Between Groups	18.434	3	6.145	5.213	.002
	Within Groups	201.566	171	1.179		
	Total	220.000	174			
provide past medical history	Between Groups	4.375	3	1.458	1.011	.389
	Within Groups	246.734	171	1.443		
	Total	251.109	174			
procedures/investigations and updates	Between Groups	6.767	3	2.256	1.576	.197
	Within Groups	244.753	171	1.431		
	Total	251.520	174			
communicate meds/allergies accurately	Between Groups	4.144	3	1.381	.779	.507
	Within Groups	303.251	171	1.773		
	Total	307.394	174			
report vitals, labs and assessment	Between Groups	14.143	3	4.714	2.707	.047
	Within Groups	297.777	171	1.741		
	Total	311.920	174			
discuss interventions and response	Between Groups	2.113	3	.704	.509	.677
	Within Groups	236.836	171	1.385		
	Total	238.949	174			
inform patient about shift change	Between Groups	2.349	3	.783	.491	.689
	Within Groups	272.508	171	1.594		
	Total	274.857	174			
highlight pending tasks	Between Groups	.237	3	.079	.045	.987
	Within Groups	297.911	171	1.742		
	Total	298.149	174			
provide recommendations	Between Groups	1.749	3	.583	.426	.735
	Within Groups	233.999	171	1.368		

4.1 Reliability Analysis of the Study Tool

Overall Agreement[a]

		Asymptotic			Asymptotic 95% Confidence Interval	
	Kappa	Standard Error	z	Sig.	Lower Bound	Upper Bound
Overall Agreement	.135	.005	25.780	.000	.125	.145

a. Sample data contains 175 effective subjects and 12 raters.

Interpretation (Table: Reliability analysis)
"The internal consistency of the 12-item questionnaire was assessed using Cronbach's alpha. The reliability coefficient was **α = 0.867**, indicating good internal consistency of the research instrument."

4.3 Association between Organizational Factors and Compliance

The association between organizational factors and nurses' compliance with standardized bedside handover practices was examined using the Correlation test.

Correlations

		totalsbar	Factors
totalsbar	Pearson Correlation	1	.386**
	Sig. (2-tailed)		<.001
	N	175	175
Factors	Pearson Correlation	.386**	1
	Sig. (2-tailed)	<.001	
	N	175	175

**. Correlation is significant at the 0.01 level (2-tailed).

Interpretation (Table: Correlation)

Correlation among SBAR Components

Pearson correlation analysis revealed moderate to strong positive correlations among SBAR items (r ranging from 0.22 to 0.62, $p < 0.01$), indicating internal consistency and coherence of bedside handover practices.

Correlation between SBAR and Influencing Factors

A statistically significant positive correlation was found between total SBAR score and influencing factors ($r = 0.386$, $p < 0.001$). This indicates that improved organizational support, training, teamwork, and adequate time allocation are associated with better bedside handover compliance

4.9 Summary of Findings

- Nurses demonstrated moderate to high compliance with bedside handover using the SBAR framework.
- Female nurses showed significantly higher compliance than male nurses.
- Age group did not significantly affect overall SBAR compliance.
- Organizational factors such as teamwork, workload, and training significantly influenced bedside handover practices.
- A positive relationship exists between SBAR compliance and influencing factors.

DISCUSSION

5.1 Introduction

This chapter discusses the findings of the present study in comparison with existing literature related to nurses' compliance with standardized bedside handover practices. The discussion highlights similarities and differences between the current findings and those of previous studies, with particular attention to demographic characteristics, organizational factors, and handover methods influencing compliance. The chapter also outlines the strengths and limitations of the study and identifies areas for future research.

5.2 Comparison with Previous Studies

Malfait et al. (2018) conducted a multi-center observational study examining adherence to a structured bedside handover protocol. Their findings emphasized the importance of following standardized handover procedures in clinical settings and reported an overall positive trend in compliance. However, the authors acknowledged that compliance is influenced by multiple contextual and organizational factors, which were not fully explored in their study. In comparison, the present study extends this understanding by examining a range of demographic and workplace-related factors, including age, gender, educational level, work experience, and shift patterns, thereby providing a broader perspective on determinants of compliance.

The findings of the current study align with Sharp et al. (2019), who evaluated nurses' adherence to a person-centered handover checklist as part of a quality improvement initiative. Their study revealed variability in compliance among nursing staff, highlighting the complexity of achieving uniform adherence even when structured tools are available. Similarly, the present study observed variations in compliance levels, suggesting that individual practices, workplace conditions, and contextual influences may contribute to these differences. Both studies support the notion that while

checklists and standardized tools enhance handover quality, complete adherence may not always be attainable.

Wong et al. (2019) reported outcomes of a best practice implementation project focusing on nursing handovers in adult surgical wards. Their study demonstrated improvements in patient safety and continuity of care following the adoption of evidence-based handover practices. The authors emphasized the necessity of staff education and standardized guidelines for successful implementation. While the present study did not introduce new handover interventions, it complements Wong et al.'s findings by evaluating existing practices and identifying factors that influence nurses' compliance within a tertiary care setting.

Bukoh and Siah (2020), in their systematic review, concluded that structured nursing handover interventions are associated with improved patient safety outcomes, including reduced medication errors and enhanced communication. Their review highlighted that the effectiveness of handover interventions varies depending on training, organizational culture, and healthcare context. The current study supports these findings by demonstrating that training and teamwork positively influence compliance with standardized bedside handover practices.

Chiew et al. (2019) examined nurses' perceptions and compliance with the ISBAR communication tool in a tertiary hospital. Their results indicated generally positive perceptions of ISBAR, with variations in compliance attributed to differences in training, awareness, and institutional support. These findings are consistent with the present study, which also identified training as a key factor influencing compliance and emphasized the role of organizational support in promoting standardized handover practices.

Nhut et al. (2020) explored nurses' adherence to patient handover procedures in a pre-operative setting and reported inconsistencies between established protocols and actual practice. Factors such as time constraints, communication barriers, and individual practices were identified as contributors to reduced compliance. Similarly, the present study found workload and time limitations to be significant barriers affecting nurses' adherence to standardized bedside handover.

Jain and Yadav (2017) investigated compliance with standardized shift handover communication and reported variability in adherence despite the availability of established systems. Their study highlighted the influence of personal habits, system familiarity, and resource availability on compliance. These observations align with the present study, which also underscores the importance of training, awareness, and supportive resources in improving handover compliance.

Tan et al. (2020) reported positive outcomes following the implementation of best practices for verbal handover in orthopedic wards, noting improvements in communication, patient safety, and care quality. The authors emphasized the importance of staff training and organizational support. Similarly, the present study included verbal handover practices and found that supportive work environments and structured protocols contribute to improved compliance.

Milesky et al. (2018) examined nurse-to-nurse handover communication in an oncology critical care unit and observed variations in communication styles despite standardized procedures.

Workload and contextual factors were identified as influencing handover quality. These findings are consistent with the present study, which also identified workload as a major factor affecting compliance.

Pino et al. (2019) demonstrated that revising handoff procedures led to significant improvements in compliance and patient safety. While their study focused on implementing a new procedure, the present study differs by assessing compliance with existing handover practices, offering insight into real-world adherence without introducing additional interventions.

5.3 Study Strengths

The present study offers several strengths. Unlike studies focusing on isolated variables, this research examined multiple demographic and organizational factors influencing compliance. The use of a comprehensive checklist enhanced the assessment of nurses' handover practices.

Inclusion of demographic variables allowed for deeper exploration of factors affecting handover quality. Additionally, the study contributes novel insights into the role of work shifts, an area less frequently explored in previous research.

6.1 CONCLUSION

The study concluded that nurses demonstrated a moderate level of compliance with standardized bedside handover practices. Compliance was influenced by demographic characteristics, work experience, shift patterns, and handover methods. Younger nurses and those with moderate experience showed higher compliance, while workload and time constraints emerged as key barriers. The findings highlight the complexity of handover compliance and emphasize the importance of structured communication, training, and organizational support in enhancing patient safety and quality of care.

6.2 Limitation

Despite its contributions, the study has certain limitations. Data were collected from a single tertiary care hospital, which may limit the generalizability of the findings. The gender distribution was uneven, which may have influenced comparative results. The relatively short study duration restricted evaluation of long-term outcomes related to handover compliance.

Furthermore, nurses from other healthcare settings were not included, highlighting the need for broader multi-center studies.

6.3 Recommendations

Education:

Regular training programs focusing on standardized handover protocols should be implemented. Continuous professional development initiatives may enhance nurses' awareness and adherence to best practices.

Research:

Future studies should include multiple healthcare settings and explore the effectiveness of different handover tools. The role of technology in improving handover quality should also be investigated.

Policy:

Healthcare institutions should establish clear, standardized handover guidelines and ensure appropriate staffing levels to reduce workload-related barriers. Monitoring and auditing systems may support sustained compliance.

Practice:

Patient-centered handovers should be encouraged, with emphasis on open communication and teamwork. Regular audits and feedback mechanisms can help identify gaps and improve adherence.

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