

Evidence-based Communication Practice and Clinical Outcomes

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Abstract

Aim: This study aims to assess the effectiveness of evidence-based communication practice on clinical outcomes among nursing personnel at selected institution.

Methods: The researcher adopted the quantitative evaluatory research approach with one group pre-test and post-test design. The sample size was 30 nursing personnel from selected institutions. The analysis of the data included both descriptive and inferential statistical methods.

Results: Comparing pre-test and post-test scores to assess clinical outcomes, it was reported that 14.81% of adverse events occurred after the post-test, while 33.33% of medication errors occurred after the pre-test. The rate of bedside handover grew from 0% to 16.67%. Clinical documentation were 57.41% in post test. There was a rise in discrepancies from 23.53% to 40.74%. About 12.96% of patients were readmitted. Around 3.7% of subjects saw unexpected patient outcomes. The nurse-to-patient ratio rose from 0% to 3.70%. About 33.33% of the time allotted for handover was sufficient. The structured rating scale (Likert scale) is based on experience related to evidence-based communication practices in healthcare settings. The nursing personnel experience that the Introduction, Situation, Background, Assessment, and Recommendations (ISBAR) format enhances communication up to 100%. About 81.81% feel adequately trained. About 100% of the sample answered that this format improves patient safety. About 5.45% feel that the format was well-received by their colleagues. About 81.82% feel that it promotes a structured approach. About 81.82% feel a reduction in the information gap. About 72.73% of interdisciplinary collaboration improved. Patient outcomes improved by 81.82%. About 72.73% received training on the ISBAR format. About 81.82% recommended ISBAR to other healthcare professionals. About 72.73% agree to include the ISBAR format in nursing education.

Conclusion: The ISBAR tool is useful for enhancing patient safety and treatment quality. It improves patient safety and quality, which is essential for an efficient flow of communication. The study's conclusion highlights the necessity for increasing the utilization of evidence-based communication techniques.

Keywords: Clinical outcome, communication, nursing personnel

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INTRODUCTION

Effective communication between healthcare practitioners protects and improves patient outcomes. When quick decisions and complex information exchanges are common in healthcare, clear, succinct, and structured evidence-based communication is essential. Introduction, Situation, Background, Assessment, and Recommendations (ISBAR) is a renowned framework for improving communication and promoting standard information

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delivery. ISBAR has been used as a form of evidence-based communication practice in this study.^[1]

Effective communication affects patient safety, medical errors, and clinical outcomes. The association between ISBAR implementation and patient outcomes has been examined in this study to see if the tool improves patient care and safety. To assess effectiveness and identify areas for improvement, healthcare practitioners' ISBAR implementation experiences must be understood. This study uses surveys and interviews to examine healthcare professionals' views on the ISBAR communication tool, indicating its usefulness and acceptance. This study has examined how ISBAR influences transdisciplinary collaboration. Comprehensive and coordinated healthcare requires interdisciplinary teamwork. Standardized formats like the ISBAR tool can improve communication between medical specialties, teamwork, and patient understanding.^[2]

A lack of evidence-based communication can harm the healthcare system. Without proof, patients may receive inaccurate or incomplete medical information about their illnesses, therapies, or medications. This may lead to poor health management, ineffective or delayed treatments, and poor health outcomes. Best practices and scientific research should inform healthcare decisions by individuals and practitioners. Without evidence-based communication, decisions may be spontaneous or based on personal experiences, decreasing care, and risking patient safety. In addition, healthcare requires confidence. Patients and healthcare providers can lose trust if evidence-based communication is ignored. This might cause patient dissatisfaction, treatment non-compliance, and medical malpractice claims. Healthcare policy, resource distribution, and patient treatment are also based on data and evidence. Ineffective data exchange may hinder the system's ability to respond to public health emergencies, distribute resources, and make evidence-based policy decisions. Evidence-based communication can save lives in healthcare. Not following these procedures hurts patient outcomes, healthcare professionals' trust, and efficacy.

Clinical handovers in nursing involve transferring patient information and care to another shift's nursing personnel. It is the most common and important communication method among nurses in patient care.^[3]

Safe and effective nursing care needs strong patient interactions and communication. Clinical handover is "the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis."^[4]

MATERIALS AND METHODS

Research approach

The study adopted the quantitative evaluatory research approach.

Research design

The research design used was the One Group pre-test post-test design.

Setting of study

The intended study was carried out at a selected institution.

Population of study

The population for the study consisted of nursing personnel.

Sample technique

For this study probability, simple random sampling technique was used.

Sample size

Thirty nursing personnel who met the inclusion criteria were selected as the sample size.

Description of the tool

Section A

Structured questionnaire for demographic and clinical information among nursing personnel.

Section B

Structured questionnaire on awareness regarding evidence-based communication practice among nursing personnel.

Section C

Observation checklist for assessing the clinical measures.

Section D

Structured rating scale (Likert scale) regarding the use of evidence-based communication practice.

Data collection process

Before data collection, a formal written permission was obtained from the head of the Hospital Committee for conducting research study. The purpose of the study was explained to the nursing personnel to ensure their cooperation and prompt response. After introduction, the investigator explained about the study and provided the subjects with the information. All the doubts were clarified and their confidentiality and anonymity in the study was assured. The investigator obtained written consent after establishing the subject's willingness to participate. Pre-assessment of all the available subjects was done and a sampling frame was prepared of the subjects. The investigator collected data for all the available samples. Intervention was given to selected samples according to the teaching materials prepared regarding evidence based communication practice. Post-test was done after the 7th day. The findings of the data were recorded. The investigator assured not to interfere with routine functioning of the ward and thanked the participants and hospital management for their cooperation.

Statistics

Descriptive analysis was used to summarize demographic information and baseline characteristics of participants. For the outcome measures, descriptive statistics was present mean, median, standard deviation, and frequency distributions.

Inferential analysis was conducted to assess the impact of evidence-based communication practices on clinical outcomes. Statistical tests, such as t-tests or ANOVA, have been used to compare variables before and after the intervention. Correlation analysis has explored relationships between variables.

RESULTS

Section A

This section deals with the demographic and clinical data of the subjects under study.

Table 1 depicts the distribution of the subjects about their education, years of experience, clinical specialty, and average number of patient handovers per shift. The majority of the respondents 54.55% have done BSC education and 45.45% GNM. Pertaining to years of experience in health care, 72.73% have 1–3 years and 9.09% have more than 10 years. By clinical specialty, 54.55% were working in the medical-surgical ward, 27.27% were in Intensive care unit (ICU), and in less proportion, 18.18% were in a private room. Around 81.82% has more than 10 patient handover per shift and 18.18% has 7–10 handovers.

Table 2 reveals the use of formal communication during the handover, reception of formal training, comfort with the present handover, place of conducting handover, and completeness of handover. About 72.73% use formal communication during handover, 45.45% have received formal training in performing handover, 90.91% were comfortable with the present handover method used in their institute, 72.73% were familiar with ISBAR format of communication, pertaining to the place of conducting handover 54.55% confirms that they do it at the nursing station, and remaining 45.45% at patient's bedside. More than half of the staff 54.55% remain confused due to incomplete handover.

Section B

This section deals with structured questionnaire on awareness regarding evidence-based communication practice among nursing personnel.

Table 3 reveals that out of all the respondents, 63.63% have adequate awareness about evidence-based communication practice, and the remaining 36.36% have inadequate awareness.

Section C

This section deals with the pre-test and post-test observation checklist for clinical measures.

Table 4 reveals that 20.59% of adverse events such as delayed essential tests and treatment occurred during pre-test surveillance of clinical measures. About 79.41% of errors go unrecorded. About 17.65% of pharmaceutical errors occur. About 100% of handovers were not patient-side. About 67.65% of clinical paperwork were accurate. About 23.53% have handover discrepancies. About 5.88% were readmitted. About 5.88% of patients had pharmaceutical side effects. No floor or ward has a nurse-to-patient ratio. The right handover

Table 1: Distribution of demographic data

Sr. No	Demographic	Variables	Percentage
1	Education	a. GNM b. BSC	45.45 54.55
2	Year of experience in healthcare	a. 1–3 b. 7–10 c. >10	72.73 18.18 9.09
3	Clinical specialty	a. ICU b. medical ward c. Private ward	27.27 54.55 18.18
4	Average number patient Handovers per shift	a. 7–10 b. >10	18.18 81.82

ICU: Intensive care unit

Table 2: Demographic data regarding evidence-based communication

Sr. No	Demographic	Variable	Percentage
1	Handover formal communication	a. Yes b. No	72.73 27.27
2	Formal training	a. Yes b. No	45.45 54.55
3	Comfortable with the present handover	a. Yes b. No	90.91 9.09
4	ISBAR familiarity	a. Yes b. No	72.73 27.27
5	Place of handover	a. Nursing station b. patient's room	54.55 45.45
6	Incomplete handover	a. Yes b. No	54.55 45.55

ISBAR: Introduction, Situation, Background, Assessment, and Recommendations

Table 3: Distribution of samples according to level of awareness

S. No	Level of awareness	Score	Percentage
1	Adequate awareness	≥8	63.63
2	Inadequate awareness	<8	36.36

time was 32.35%. Post-test clinical measures observation showed 44.44% adverse outcomes such as delayed critical testing and therapy. About 85.19% of errors go unrecorded. About 33.33% of pharmaceutical errors occur. About 83.33% of handovers occurred away from the patient. About 57.41% of clinical paperwork were correct. About 40.74% have handover inconsistencies. About 12.96% were readmitted. About 3.70% of patients experienced pharmaceutical side effects. About 96.30% nurse-to-patient ratio has not been maintained in any floor or ward. The right handover time was 33.33%.

Figure 1 reveals the comparison of pre-test and post-test scores for observation of clinical outcomes. The time interval between the pre-test and post-test was not ideal in this study for better effectiveness reassessment of clinical measures at regular intervals to be done. About 44.44% of adverse events were after the post-test, and errors recorded were 14.81. About 33.33% medication error present after pre-test. Bedside handover increased from 0% to 16.67%. Clinical documentation were 57.41% in post test. Discrepancies increased from 23.53% to 40.74%. About 12.96% of readmission were seen. About 3.7% of adverse patient outcomes were seen. Nurse-to-patient ratio

Table 4: Distribution of pre-test and post-test observation of clinical outcomes

S. No	Clinical measures	Pre-test observation		Post-test observation	
		Variable	Percentage	Variable	Percentage
1	Adverse events	a. Yes	20.59	a. Yes	44.44
		b. No	79.41	b. No	55.56
2	Errors recorded	a. Yes	20.59	a. Yes	14.81
		b. No	79.41	b. No	85.19
3	Medication error	a. Yes	17.65	a. Yes	33.33
		b. No	82.35	b. No	66.67
4	Bed side handover	a. Yes	0	a. Yes	16.67
		b. No	100	b. No	83.33
5	Clinical documentation	a. Yes	67.65	a. Yes	57.41
		b. No	32.35	b. No	42.59
6	Discrepancies in handover	a. Yes	23.53	a. Yes	40.74
		b. No	76.47	b. No	59.26
7	Readmission	a. Yes	5.88	a. Yes	12.96
		b. No	94.12	b. No	87.04
8	Adverse patient outcome	a. Yes	5.88	a. Yes	3.70
		b. No	94.12	b. No	96.30
9	Nurse-to-patient ratio	a. Yes	0	a. Yes	3.70
		b. No	100	b. No	96.30
10	Adequate time spent	a. Yes	32.35	a. Yes	33.33
		b. No	67.65	b. No	66.67

increased from 0% to 3.70%. About 33.33% adequate time were spent on handover.

Section D

This section deals with structured rating scale. Data to be collected post intervention.

Figure 2 depicts the structured rating scale (Likert scale) based on experience related to evidence-based communication practices in healthcare settings. The nursing personal experience that the ISBAR format enhances communication up to 100%. About 81.81% feel adequately trained. About 100% of the sample answered format improves patient safety. About 54.55% were neutral for time that 45.45% of colleagues had well well-received format. About 81.82% feel that it promotes a structured approach. About 81.82% feel a reduction in the information gap. About 72.73% of interdisciplinary collaboration improved. About 81.82% of patient outcomes were improved. About 72.73% receive training on ISBAR format. About 81.82% have recommended ISBAR to other healthcare professionals. About 72.73% agree to include the ISBAR format in nursing education.

Table 5 reveals the experience related to evidence-based communication among nursing personnel, which has been a 100% positive experience.

Table 6 reveals an association between demographic variables and evidence-based communication awareness. Fisher's exact test was used to find out the association between demographic variables and the level of awareness regarding evidence-based communication. Communication at the level of significance $P = 0.05$. It was found that all the values of the Fisher exact test were >0.05 enhance that the significance was not present for any of the demographic variables with evidence-based communication.

Table 5: Experience related to evidence-based communication check list

S. No	Experience	Score	Percentage
1	Positive experience	24–36	100
2	Negative experience	<24	0

Table 6: Association between demographic variables and evidence-based communication awareness

S. No	Particulars	Fisher's exact test value	Significance (yes/no)
1	Education	1	No
2	Year of experience in health care	1	No
3	Clinical specialty	1	No
4	Average number of patient handover per shift	0.49	No
5	Hand over formal communication	0.087	No
6	Formal training	0.06	No
7	Comfortable with present hand over	0.36	No
8	ISBAR familiarity	0.49	No
9	Place of handover	0.54	No
10	Incomplete handover	0.307	No

DISCUSSION

Evidence-based communication techniques improve cooperation in interdisciplinary teams and enable efficient knowledge transfer between shifts. One of the most important factors in determining the course of care for a critically ill patient is the efficacy of the clinical team's communication. It might improve healthcare workers' collaboration and communication, as well as the level of care and security provided to patients in clinical environments.

A questionnaire survey was utilized in research by Pun (2023) to determine the variables and precise impact paths

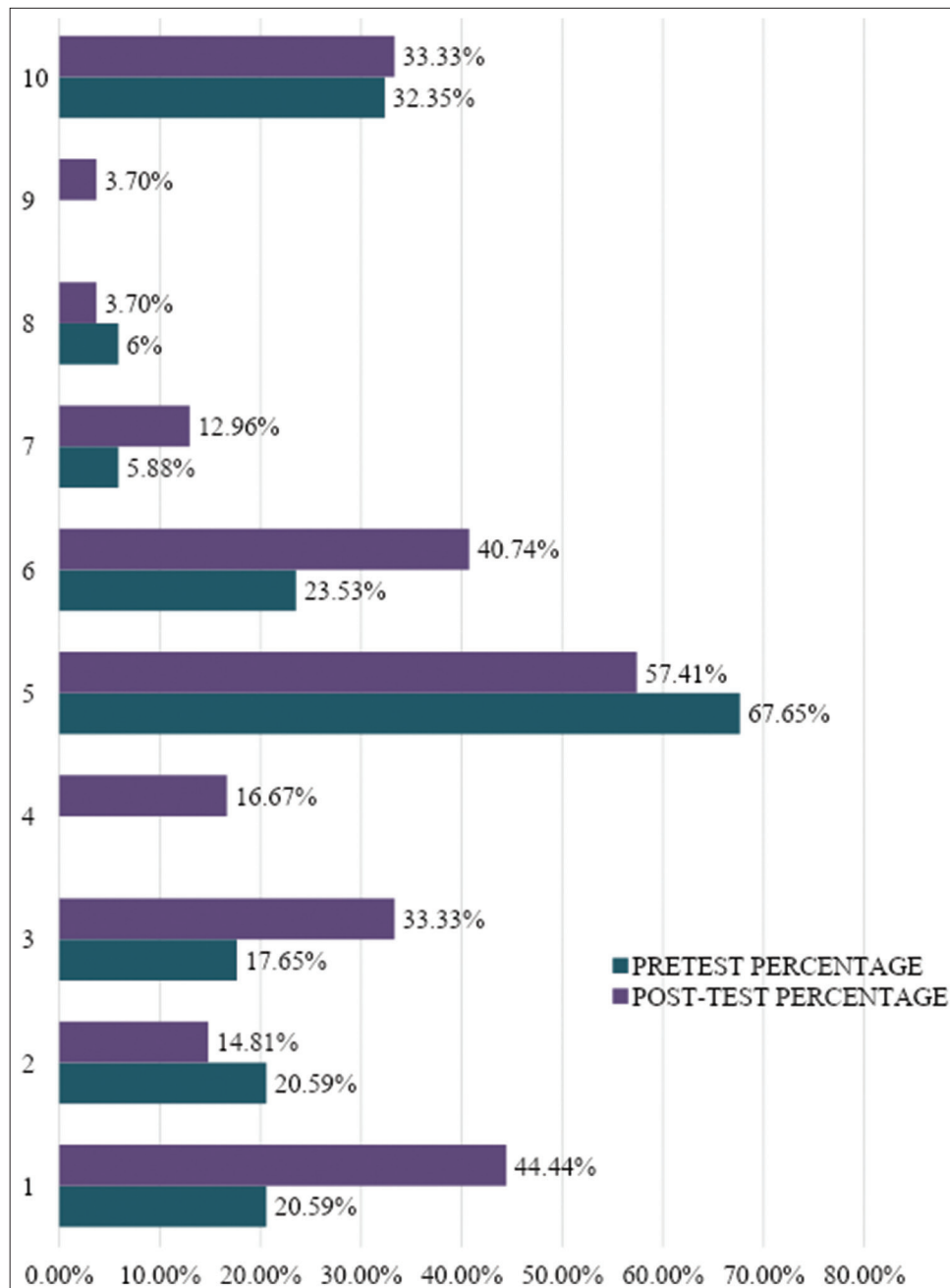


Figure 1: Comparison of pre-test and post-test scores for observation of clinical outcomes

between nurses' perceptions of clinical handover and their communication skills and quality, as well as the nursing staff from nearby hospitals in Hong Kong.^[3] Drach-Zahavy and Hadid (2015) conducted a prospective study that used demographic data and questionnaires to examine the relationship between the strategies used by the nurses during handover and the number and types of treatment errors in patient care in the following shifts.^[5] Using a structured questionnaire to gather data, Gnanarani *et al.* carried out an experimental study to evaluate the impact of the ISBAR handoff protocol on safe handover competence among nursing interns. These studies assisted the researcher in creating

a three-sectioned, organized questionnaire for the current investigation.^[6]

In a similar study, Hada *et al.* conducted a quasi-experimental study involving 88 nurses and 152 handover observations to translate the Ottawa model's best practice nursing shift handover recommendation for use in an acute care setting for research purposes and investigate its impact on patient outcomes.^[7] Spooner *et al.* conducted a focus group study with 17 senior nurses in Australia's medical-surgical ICU's intensive care unit. The present study was conducted among nursing staff who met the inclusion criteria in specific situations, thanks to the investigator's insights gained from this study.^[8]

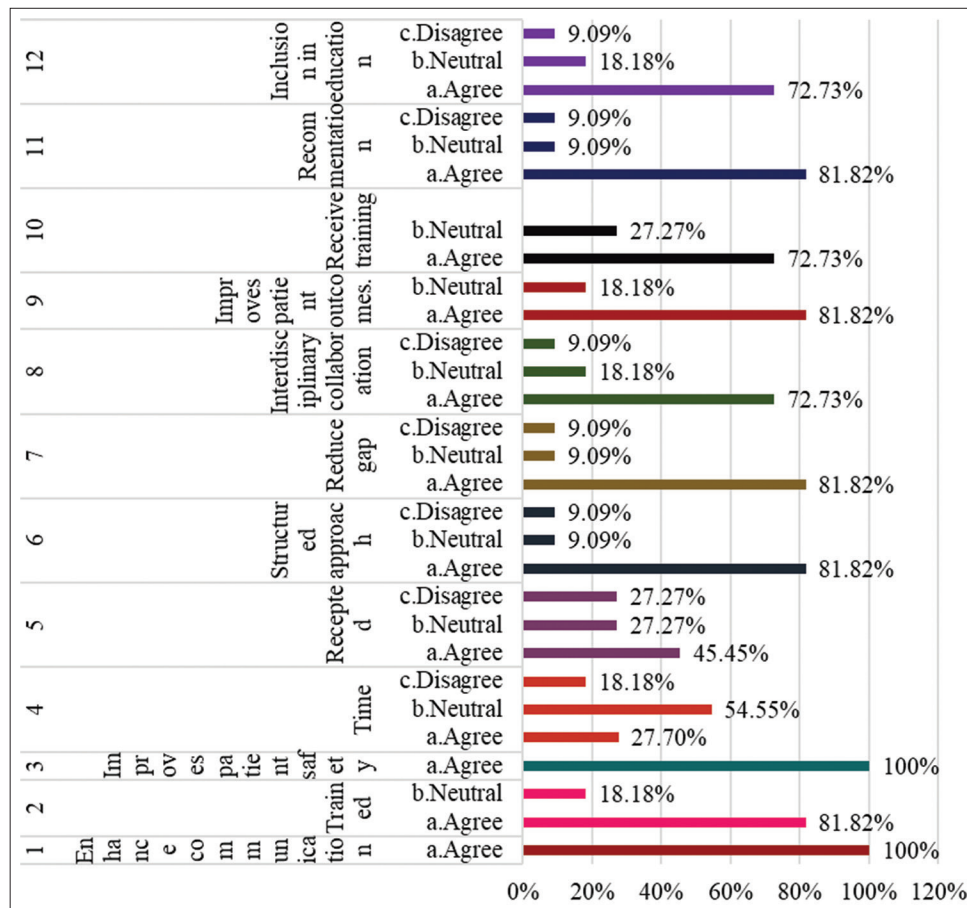


Figure 2: Structured rating scale (Likert scale)

Similarly, Wong *et al.* carried out pre- and post-implementation audits as part of a project to enhance clinical nursing handover between registered nurses. The approach of one group pre-test and post-test for the current investigation was developed with assistance from these studies.^[9]

In three phases, Fahim Yegane *et al.* carried out clinical audit research at Imam Hossein Hospital. The study's objectives were to audit the present clinical handover process using the ISBAR instrument and assess the impact of teaching EMS and EMA staff members how to use the ISBAR tool to improve the clinical handover of patients to the ED. The outcome demonstrated that the clinical handover procedure deviates from the recommended ISBAR (0.0%). After training, nevertheless, 65.3% of the tasks were completed in line with ISBAR.^[10] Comparably, Chiew *et al.* carried out a cross-sectional study among nurses to ascertain their perceptions of and compliance with the ISBAR tool for handoff communication in the tertiary hospital located in Dammam. According to the study's findings, the mean score for overall perception was 7.73, plus or min 0.588. This demonstrated that nurses had a positive perception and complied with the same.^[11]

To determine the impact of the ISBAR handoff protocol on the safe handover competency of Apollo College of Nursing interns in Chennai, Gnanarani *et al.* carried out an experimental

study. According to the study, after receiving instruction on the ISBAR protocol, the majority of interns demonstrated appropriate competence in the post-intervention period (46.9%). The post-test observation of clinical measurements in this study reveals that 33.33% of the time were adequate for handover, 57.41% of clinical documentation were completed accurately, and 85.19% of errors were not reported. About 40.74% of handovers had inconsistencies. Readmission rates for patients were 12.96%. There were 3.70% unfavorable patient outcomes, such as drug side effects. None of the floors or wards maintain a nurse-to-patient ratio of 96.30%. Adverse occurrences, such as missed appointments for necessary testing and treatments, occur 44.44% of the time. A third of drug errors occur. Not all handovers – 83.33% – took place at the patient's bedside.^[6]

Clear communication is the key that opens the door to patient safety, just like ISBAR, according to the literature cited above and the present study. This insight suggests that evidence-based communication practice should be applied consistently for improved clinical outcomes.

CONCLUSION

The ISBAR tool is a useful tool for enhancing patient safety and treatment quality. It improves patient safety and quality, which

is essential for an efficient flow of communication. To achieve the best possible outcomes for patients, healthcare staff must collaborate and communicate with one another. The study's conclusion highlights the necessity for increasing utilization of evidence-based communication techniques.

CONFLICTS OF INTEREST

None.

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None.

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