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Research Article

Effectiveness of an ISBAR-Based Training Program on Knowledge of Clinical Handover among Staff Nurses

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ABSTRACT
Background and Objectives: Effective communication among healthcare professionals is a cornerstone of patient safety. Ineffective clinical handover has been reported as a leading cause of sentinel events and adverse outcomes in hospitals. Structured communication models such as ISBAR (Identify, Situation, Background, Assessment, and Recommendation) have been recommended by WHO and other accrediting bodies to ensure safe transfer of critical information. The present study aimed to evaluate the effectiveness of ISBAR programme on knowledge regarding clinical handover among staff nurses in a selected hospital at Kolhapur.
Objectives:
1. To assess pre-test knowledge scores regarding clinical handover among staff nurses.
2. To evaluate the effectiveness of ISBAR programme on knowledge regarding clinical handover among staff nurses.
3. Find out a significant association between mean pre-test knowledge score
Regarding clinical handover using ISBAR programme among staff nurses and their
Selected socio-demographic variables.

Methods: This study adopted a quantitative evaluative approach with a pre-experimental one-group pre-test and post-test design. Using purposive sampling, 80 staff nurses were selected. A structured knowledge questionnaire, with a reliability coefficient of r = 0.72 (split-half method), was used for data collection. Conducted at Dr. D.Y. Patil Medical College, Hospital, and Research Institute, Kolhapur, the pre-test was followed by the administration of the ISBAR program on the same day. The post-test was conducted on the seventh day to assess changes in knowledge.
Results: The study found that 70% of nurses had average knowledge and 23.8% had good knowledge. The mean score significantly improved from 15.03 to 20.43 after the ISBAR intervention, indicating its effectiveness in enhancing communication and handover practices. A significant association was also found between knowledge scores and gender (p = 0.02), suggesting gender may influence learning outcomes related to ISBAR.
Interpretation and Conclusion: The aim of the study was to evaluate the effectiveness of the ISBAR program on clinical handover among staff nurses. The impact of the program was assessed by comparing pre-test and post-test knowledge scores using a paired t-test. The results demonstrated a significant improvement in knowledge following the intervention, indicating that the ISBAR program effectively enhances communication and handover practices, thereby promoting patient safety and reducing the risk of adverse events.

Keywords: Identification, Situation, Background, Recommendation, Glassgow Coma Scale, Blood Glucose Level Deep Vein Thrombosis, Adverse Events.

INTRODUCTION

Effective communication is the cornerstone of quality healthcare delivery. As George Bernard Shaw once stated, *"The single biggest problem with communication is the illusion that it has taken place."* Nowhere is this more critical than in clinical handover, where the transfer of information, responsibility, and accountability between healthcare providers directly impacts patient outcomes.

Studies have consistently shown that communication failures are a leading cause of

medical errors and adverse events. The Joint Commission in the United States reported that breakdowns in communication were among the top contributors to sentinel events, while an Australian study identified communication lapses in 11% of adverse events across 14,000 hospital admissions. Such findings highlight that improving handover practices is not merely procedural but a patient safety priority.

The ISBAR framework (Identify, Situation, Background, Assessment, Recommendation) was developed as a standardized communication tool to reduce ambiguity and strengthen collaboration among healthcare professionals. Endorsed by the World Health Organization (WHO), the Joint Commission International Accreditation (JCIA), and the National Institute for Health and Care Excellence (NICE), ISBAR ensures a systematic flow of information. Each component has a defined role:

- *Identification* establishes patient and provider details,
- *Situation* presents the immediate clinical concern,
- *Background* summarizes relevant history,
- *Assessment* communicates current clinical status, and
- *Recommendation* outlines required actions or follow-up.

The tool has been shown to improve clarity, reduce misinterpretation, and enhance confidence among nurses and physicians during shift changes, inter-hospital transfers, emergencies, and patient discharges. By fostering shared understanding, ISBAR contributes to fewer errors, better teamwork, and safer patient care.

In India, however, handover practices remain largely unstructured, often relying on memory rather than documentation. This increases the likelihood of incomplete or inaccurate communication, compromising continuity of care. Nurses, who are at the forefront of patient monitoring and reporting, require structured training to strengthen this critical skill.

Therefore, this study was undertaken to evaluate the effectiveness of the ISBAR programme on knowledge regarding clinical handover among staff nurses in a tertiary care setting in Kolhapur. By measuring knowledge gain and exploring associations with demographic factors, the study aims to provide evidence for integrating ISBAR into routine practice and nursing education.

Need For the Study

Clinical handover is a high-risk process where inadequate communication can lead to adverse patient outcomes, contributing to 11% of preventable adverse events (Wilson, 1995). Structured tools like ISBAR have been shown to reduce medication errors and patient complications (Bukoh & Siah, 2019). In India, where nursing handovers often lack standardization, educational interventions are needed to enhance nurses' knowledge and skills. This study addresses this gap by assessing the impact of an ISBAR training program in Kolhapur, India.

Objectives

1. To assess the pre-test knowledge level regarding ISBAR clinical handover among staff nurses.
2. To evaluate the effectiveness of the ISBAR training program on knowledge regarding clinical handover.
3. To determine the association between pre-test knowledge scores and selected socio-demographic variables.

Hypotheses

- **H1**: The mean post-test knowledge score of staff nurses will be significantly higher than their mean pre-test knowledge score at a 0.05 level of significance.
- **H2**: There will be a significant association between pre-test knowledge scores and selected socio-demographic variables at a 0.05 level of significance

MATERIALS AND METHODS

Study Design and Setting

A pre-experimental one-group pre-test post-test design was used, conducted at Dr. D.Y. Patil Medical College Hospital and Research Institute, Kolhapur, from October 9 to October 16, 2024.

Population and Sampling

The study population included staff nurses with at least one year of clinical experience. A sample of 80 nurses was selected using non-probability purposive sampling. Inclusion criteria comprised nurses willing to participate and available during the study period, while those with less than one year of experience or on leave were excluded.

Data Collection Tool

A structured knowledge questionnaire was developed, consisting of:

- **Section A**: Socio-demographic variables (age, gender, educational qualification, clinical experience).

- **Section B**: 34 multiple-choice questions on ISBAR clinical handover, covering its components, purpose, and application. Scores were categorized as good (23–34), average (12–22), and poor (0–11).

The tool was validated by 12 experts for content validity, and reliability was established using the split-half method (r = 0.85).

Intervention

The ISBAR training program consisted of a self-instructed video developed based on a literature review and expert input. The video, performed in the simulation lab at D.Y. Patil College of Nursing, covered ISBAR components, their application in clinical scenarios, and best practices for handover. The intervention was administered post-pre-test, with the post-test conducted seven days later using the same questionnaire.

Data Collection Procedure

Following ethical clearance and informed consent, a pre-test was conducted on October 9, 2024. The ISBAR training video was provided to participants, and a post-test was administered on October 16, 2024. Data collection occurred in a controlled environment to ensure confidentiality.

Data Analysis

Descriptive statistics (frequency, percentage, mean, median, mode, standard deviation) and inferential statistics (paired t-test, chi-square test) were used. The significance level was set at 0.05. Data were analyzed using SPSS software.

RESULTS

Socio-Demographic Characteristics

The sample (n=80) included 47.5% nurses aged 21–30 years, 87.5% female, 52.5% with General Nursing and Midwifery (GNM) qualifications, and 45% with 1–5 years of clinical experience (Table 1).

Table 1. Distribution of Socio-Demographic Variables (n=80)

Variable	Frequency	Percentage (%)
Age (years)		
21–30	38	47.5
31–40	24	30.0
41–50	14	17.5
51–60	4	5.0
Gender		
Male	10	12.5
Female	70	87.5
Educational Qualification		
GNM	42	52.5
B.Sc. Nursing	24	30.0
P.B. B.Sc. Nursing	12	15.0
M.Sc. Nursing	2	2.5
Clinical Experience (years)		
1–5	36	45.0
6–10	22	27.5
11–15	16	20.0
16–20	6	7.5

Knowledge Scores

Pre-test results showed 62.5% of nurses had average knowledge (12–22), 37.5% had poor knowledge (0–11), and none had good knowledge (23–34). Post-test results indicated 93.8% had average knowledge, 6.3% had good knowledge, and none had poor knowledge (Table 2).

Table 2. Pre-Test and Post-Test Knowledge Scores (n=80)

Knowledge Level	Pre-Test Frequency	Pre-Test Percentage (%)	Post-Test Frequency	Post-Test Percentage (%)
Good (23–34)	0	0.0	5	6.3
Average (12–22)	50	62.5	75	93.8

Poor (0–11)	30	37.5	0	0.0

Effectiveness of ISBAR Training Program

The mean pre-test score was 15.03 ± 4.64, and the mean post-test score was 20.43 ± 4.44. The paired t-test yielded a t-value of 29.968 ($p < 0.001$), indicating a significant improvement in knowledge post-intervention, accepting H1 (Table 3).

Table 3. Statistical Analysis of Pre-Test and Post-Test Knowledge Scores

Test	Mean ± SD	Median	Mode	Range
Pre-Test	15.03 ± 4.64	14	12	7–19
Post-Test	20.43 ± 4.44	19	18	14–26
Difference	5.40 ± 1.61	5	6	3–9

Association with Socio-Demographic Variables

Chi-square tests revealed a significant association between pre-test knowledge scores and gender ($p = 0.02$), suggesting gender may influence learning outcomes. No significant associations were found with age, education, or clinical experience ($p > 0.05$), partially accepting H2.

DISCUSSION

The study confirmed that the ISBAR training program significantly improved staff nurses' knowledge of clinical handover, aligning with findings from similar studies (Fatma Rushdy, 2024). The pre-test revealed knowledge deficits, particularly in understanding ISBAR components, which the video-based intervention effectively addressed. The significant association with gender suggests that tailored educational strategies may be needed to optimize learning outcomes across diverse groups. These results highlight the importance of structured training programs in enhancing communication and patient safety in healthcare settings.

Nursing Implications

- **Nursing Practice**: Incorporate ISBAR training into routine professional development to improve handover practices.
- **Nursing Education**: Integrate ISBAR-focused modules into nursing curricula to prepare students for clinical practice.
- **Nursing Research**: Conduct further studies to evaluate the long-term impact of ISBAR training on clinical outcomes.

Limitations

- The small sample size and single-center setting limit generalizability.
- The short duration between pre-test and post-test may not reflect long-term knowledge retention.
- The pre-experimental design lacks a control group, limiting causal inferences.

Recommendations

- Conduct quasi-experimental studies with control groups to strengthen evidence.
- Evaluate long-term knowledge retention and clinical application of ISBAR.
- Compare ISBAR with traditional handover methods to assess relative effectiveness.

CONCLUSION

The ISBAR training program significantly enhanced staff nurses' knowledge of clinical handover, as evidenced by improved post-test scores. This intervention demonstrates potential for improving communication practices, thereby enhancing patient safety and care quality. Continuous training and institutional support are essential to sustain these improvements.

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