

EFFECTIVENESS OF ISBAR HANDS OFF PROTOCOL ON SAFE HAND OVER COMPETENCE AMONG NURSE INTERNS

DR. JASLINA GNANARANI, DR NESA SATHYA SATCHI, DR K. VIJAYALAKSHMI,
MS SUREKHA G & DR SHEIK MANZOOR A K

*Apollo College of Nursing, the TN Dr MGR Medical University, Faculty of Management Studies,
Anna University, Chennai, India*

ABSTRACT

Background: ISBAR is a formal Patient safety communication techniques have been adopted from aviation and the military as a strategy for clear communication based on a statement of the situation, background, assessment, and recommendations related to a critical issue. Communication issues between healthcare professionals during critical clinical situations can jeopardize patient safety. ISBAR is one of several frameworks for discussing patient issues among healthcare professionals. The instrument's use is thought to increase patient safety by fostering more organized, targeted, and succinct communication among medical professionals. Pediatric and intensive care nursing education programmes propose focusing more on teamwork, patient safety, communication with patients and their families, and team interaction. Objective: To assess the effectiveness of ISBAR hands off protocol on safe hand over competence among nurse interns. Methodology: An Experimental study with Primary Data Collection was done using a Structured Questionnaire. The target population comprises of all Nursing Interns working in hospitals. The accessible population in this study is the Bsc Nursing Interns of Apollo College of Nursing, Chennai who satisfy the inclusion Criteria. Results: Majority of the interns had adequate Competence in the post Intervention (O2) (43.9%) and post Intervention (O3) (46.9%) after providing education regarding ISBAR Protocol. There was a statistically significant difference in Handover Competence score between pretest (Mean 7.46 & S.D 0.95) and posttest 1 (Mean 13.45 & S.D 1.45) and posttest 2 (Mean 14.50 & S.D 1.52) ($p < 0.001$). i.e. Mean Handover Competence scores of posttest 1 and Post test 2 are higher than the pretest scores. There was a statistically significant correlation between the previous academic performance and their handover competence ($r = 0.683$ at $p < 0.01$). About 2/3 rds.' of Nurse Interns (65.317%) had a high level of acceptability towards the ISBAR Protocol, which points to its usefulness in improving the competence of Nurses.

KEYWORDS: ISBAR, Hands Off, Protocol, Safe Handover, Competence

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INTRODUCTION

Nurses are the major Health care workforce. Quality is not a mere expectation but mandatory when it involves precious human lives. A smooth handover facilitates the transfer of important information and guarantees the continuation of high-quality patient care. ISBAR is a method of structured communication used by healthcare professionals, especially while transferring clinical care to patients. Identification, Situation, Background, Assessment, and Request or Recommendation, also known as ISBAR, is a handoff tool that is crucial in transferring accountability for patient care from departing shifts to entering shifts.

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Personnel. Particularly during the internship time, when they begin taking responsibility for patient care, nurses need to be ready.

The clinical experience and logical planning that nursing interns could lack during patient care. They might not be able to manage seriously ill patients while relaying instructions to the next nursing personnel. Particularly during the internship time, when they begin taking responsibility for patient care, nurses need to be ready. One of the most frequent reasons for bad occurrences in the specialized healthcare system is poor communication between treatment teams, of which 70% are attributable to mistakes made by humans in non-technical areas including management, decision-making, and communication. Failures in communication can occasionally be attributed to a lack of organization and standards. Stewart (2017).

PURPOSE

The goal of the study is to determine if formal handover training is necessary by evaluating the pre-existing competency of BSc Nurse Interns in handover.

HYPOTHESIS

H1: There will be a substantial variation in the Handover Competence Scores of B.Sc. nursing Interns between the pre test and post test.

H2: predicts a strong relationship between pre-test and post-test handover competency scores and prior academic performance.

H3: The pre intervention (O1), post intervention (O2), and post intervention (O3) levels of nurse interns' handover competence will significantly correlate with the demographic variables chosen.

MATERIALS AND METHODS

98 nurses who were chosen using the Total Enumerative sample technique were enrolled in this study, which used a pre experimental one group pre-test and post-test design. (Other BSc Nursing Interns posted in other areas such as Vaccination Clinics, Operation Theatre, ER etc were not included). It detailed how the study would be conducted and what it will be used for. The baseline data was collected using demographic variable Proforma from nurses. A brief explanation was given about the questionnaire and confidentiality was assured. Background variables proforma of nurses were used to collect data for this study. These variables include age in years, religion, native area of residence, native state of the nursing intern, previous college academic performance, medium of instruction (up to 12th grade), prior information regarding handover, and area of patient care.

A Structured questionnaire on Hand over competence regarding ISBAR Hands off Protocol BSc Nurse Interns consists of 20 items related to the components like Use of ISBAR Protocol, (I) Identification, (S) Situation, (B) Background, Pertinent background information, (A) Assessment, (R) Recommendation, Observation during Shift Handover.

Nursing Interns were asked to give an oral Hand over report at the end of their shift duty and document the same

on a piece of paper and 20 minutes was given for each sample and this was done for 3 days. The level of Safe Handover competence was assessed using audit tool.

Intervention Protocol

The competency training program on ISBAR Hands off training program was done among nurses by using PowerPoint presentation and Video presentation.

The Post Intervention level of competence was assessed using a checklist after one week (O2) and after two weeks (O3) of competency training program on ISBAR. The feedback and satisfaction were obtained from the BSc Nurse Interns using the acceptability scale regarding the ISBAR Protocol developed by the Researcher. Descriptive and inferential statistics were used to compute the data (SPSS16).

RESULTS

The study's conclusions were calculated under the following various headings:

Frequency and Percentage Distribution of Background Variables of B.Sc Nurse Interns

Frequency and Percentage Distribution of Level of Pre-test and Post-test Handover Competence Scores of B.Sc Nurse Interns

Comparison of Mean and Standard Deviation of Pre-test and Post-test Handover Competence Scores of B.Sc Nurse Interns

Post Hoc Analysis (Pair wise Comparison) of Handover Competence Scores between Scores between Pre-test and Post-test Pre-test and Post-test Handover Competence Scores among Nursing Interns

Relationship between B.Sc. nurse interns' pre- and post-test scores for handover competence and their past academic performance

Level of Acceptability on the ISBAR Protocol: Frequency and Percentage Distribution Among B.Sc. Nurse Interns

Relationship between Pre-test and Post-test Handover Competence Scores of B.Sc. Nurse Interns and Selected Demographic Variables

Table 1: Frequency and Percentage Distribution of Background Variables of B.Sc Nurse Interns (N= 98)

Background Characteristics	Nursing Interns	
	F	%
Age in Years		
Below 23 years	96	97.02
More than years	2	2.08
Religion		
Hindu	38	38.8
Christian	59	60.2
Muslim	1	1.0
Nativity		
Rural	4	4.1
Semi Urban	86	87.8

Urban	8	8.2
State		
Tamilnadu	27	27.6
Other Southern States	70	71.4
Other Indian States	1	1
Academic Performance		
Above 75%	61	62.2
71 to 75%	20	20.4
66 to 70%	5	5.1
61 to 65%	8	8.2
Below 60%	4	4.1
Medium of Instruction		
Tamil	11	11.2
English	87	88.8
Exposure		
None	98	100
Theoretical/ Clinical Instruction	0	0
Health Team Members	0	0
Others	0	0

According to Table 1's data, the majority of interns (94%) were under the age of 23; 87.8% were from semi-urban areas; 71.4% were from Kerala, a state in the south; 88.8% studied in the English language; and 100% had no exposure to handover techniques. They were more than half Christian (60.2%) and had received Distinction grades (62.2%).

Table 2: Frequency and Percentage Distribution of Level of Pre-Test and Post-Test Handover Competence Scores of B.Sc Nurse Interns (N=98)

(25)	PRE INTERVENTION (O1)		POST INTERVENTION (O2)		POST INTERVENTION (O3)	
	F	%	F	%	F	%
Adequate (16 - 20)	0	0	43	43.9	46	46.9
Moderately adequate (11- 15)	54	55.1	30	30.6	52	53.1
Inadequate (< 10)	44	44.9	25	24.4	0	0

The data in table 2 denotes that none of them had inadequate Competence in the Pre- Intervention (O1). About half of them had inadequate knowledge (44.9%) in pre intervention Observation (O1). Majority of the interns had adequate Competence in the post Intervention (O2) (43.9%) and post Intervention (O3) (46.9%) after providing education regarding ISBAR Protocol. None of them had inadequate competence in the Post Intervention (O3).

Table 3: Comparison of Mean and Standard Deviation of Pre-Test and Post-Test Handover Competence Scores of B.Sc Nurse Interns (N=98)

ASSESSMENT	MEAN	SD	WITHIN GROUP		BETWEEN GROUPS	
			F VALUE	P VALUE	F VALUE	P VALUE
Pre Test	7.46	0.95	1440.230	.000	12233.261	.000
Post Test 1	13.45	1.45				
Post Test 2	14.50	1.52				

According to the data in Table.3, there is a statistically significant difference in the Handover Competence score between the pretest and the first and second posttests (mean 13.45 and standard deviation 1.45 and mean 14.50 and standard deviation 1.52, respectively). The fact that the mean Handover Competence scores of Posttests 1 and 2 are higher than the Pretest scores, i.e., indicates that the ISBAR procedure has had an impact on Handover Competence among nursing interns.

Table 4: Post Hoc Analysis (Pair Wise Comparison) Of Handover Competence Scores Between Scores Between Pre-Test and Post-Test Pre-Test and Post-Test Handover Competence Scores among Nursing Interns (N=98)

Assessment	Mean Difference	Std. Error	P Value.	95% Ci	
				Lower Bound	Upper Bound
Pre Test Vs Post Test1	-5.995*	.154	.000	-6.300	-5.690
Pre Test Vs Post Test 2	-7.041*	.159	.000	-7.356	-6.725
Post Test 1 Vs Post Test 2	-1.046*	.106	.000	-1.257	-.835

According to the data in Table 4, there is a statistically significant difference between all of the pairs, including Pre Test Vs Post Test 1, Pre Test Vs Post Test 2, and Post Test 1 Vs Post Test 2. ($p < 0.001$). Hence It was determined that there was no significant difference in the pretest and posttest Handover Competence Scores for B.Sc. nursing interns, contrary to null hypothesis H01, which was rejected.

Table 5: Relationship between B.Sc. Nurse Interns' Pre- and Post-Test Scores for Handover Competence and Their Past Academic Performance (N=98)

Knowledge	Pre-Test Handover Competence		Post Test Handover Competence	
	' R ' VALUE	' P ' VALUE	' R ' VALUE	' P ' VALUE
Academic Performance	0.68	$p < 0.01$	0.11	$p > 0.05$

According to Table 5, there was a significant link between prior academic performance and the pre-test and post-test handover competency scores of B.Sc. nurse interns ($r = 0.81$ at $p = 0.001$). As a result, the null hypothesis H02, which claimed that there would be no meaningful relationship between prior academic achievement and the pre- and post-test scores for handover competence, was rejected.

Table 6: Level of Acceptability on the ISBAR Protocol: Frequency and Percentage Distribution among B.Sc. Nurse Interns (N= 98)

Level of Acceptability	F	%
Unacceptable (≤ 15)	0	0
Acceptable (15 to 22)	34	34.69
Highly Acceptable (23 to 30)	64	65.31

The findings in Table 6 reveal that, the Acceptability on ISBAR Protocol edutainment was highly acceptable to the majority of the BSc Nursing Interns in the (65.31%).

Table 7: Relationship between Pre-test and Post-test Handover Competence Scores of B.Sc. Nurse Interns and Selected Demographic Variables (N=98)

Variables	Pre-Test Handover Competence (O1)			Post-Test Handover Competence (O2)			Post-Test Handover Competence (O3)		
	Up To Mean	Above Mean	X2 P Value	Up To Mean	Above Mean	X2 P Value	Up To Mean	Above Mean	X2 P Value
Residence									
Rural	1	3	0.822	1	2	2.825	1	3	1.660
Semi Urban	41	45	d.f=1	38	26	d.f=2	48	38	d.f=2
Urban	4	4	0.663	4	1	0.244	5	3	0.436
Religion									
Hindu	18	20	1.166 d.f=2	15	11	0.714 d.f=2	19	19	1.367 d.f=2
Non Hindu	28	32	0.558	28	19	0.700	35	25	0.505
State									
Tamilnadu	16	11	3.629 d.f=2	11	7	0.784 d.f=2	16	11	1.146 d.f=2
Other States	30	41	0.163	31	23	0.676	38	33	0.564
Medium									
Tamil	7	4	1.387 d.f=1	5	2	0.502 d.f=1	6	5	0.002 d.f=1
English	39	48	0.239	38	28	0.479	48	39	0.969

p >0.05 Not Significant

Note: # Yates Correction Value

According to the information in the aforementioned Table 7, there is no correlation between a few demographic factors and the Nurse Interns' Pre intervention (O1), Post intervention (O2), and Post Intervention (O3) levels of Handover Competence. Therefore, it was decided to accept the null hypothesis H03, which states that "There would be no significant association between the specified demographic characteristics and the Pre Intervention (O1), Post Intervention level (O2), and Post Intervention (O3) level of Handover Competence of Nurse Interns."

DISCUSSION

The purpose of the study was to evaluate the impact of the ISBAR hands-off technique on nursing interns' ability to safely transfer over patients. More than half of them belonged to Christian religion (60.2%) and had scored Distinction marks (62.2%).

The results show that this is the case. A similar survey showed that 83% of them had no experience with handover competence (Holt 2020).

The findings reveal that none of them had inadequate

Competence in the Pre Intervention (O1). About half of them had inadequate knowledge (44.9%) in pre intervention Observation (O1). Majority of the interns had adequate Competence in the post Intervention (O2) (43.9%) and post Intervention (O3) (46.9%) after providing education regarding ISBAR Protocol. None of them had inadequate competence in the Post Intervention (O3).

In the current study, there was a statistically significant difference in the Handover Competence score between the pre test (mean 7.46 and standard deviation 0.95), post test 1 (mean 13.45 and standard deviation 1.45), and post test 2

(mean 14.50 and standard deviation 1.52) (p 0.001). i.e. Mean Handover Competence scores of posttest 1 and posttest 2 are higher than the pre test scores, identified through the repeated measures Anova, which can be attributed to the effectiveness of ISBAR protocol upon Handover Competence among nursing interns

The results are consistent with a similar study by Holt and colleagues (2020) in the medical education departments of National Health Service (NHS) Lanarkshire hospitals to assess the pre-existing knowledge, skills, and attitudes of 41 Interns and to study the effectiveness of a pilot educational handover workshop on improving confidence and competence in structured handover skills. The goal of both studies was to demonstrate the need for formal handover training. Interns underwent a handover similar to an Objective Structured Clinical Examination. After attending the course, there was a significant increase in confidence in giving handovers, p0.0001. In 10 out of the 12 examined handover competency domains, student performance in the assessment of handover competency showed a significant improvement (p 0.05).

So it can be concluded that there is a significant increase in the Handover Competence of B. Sc. Nurse Interns between the pre test and post test which may be attributed to the effectiveness of the intervention.

The results of the study showed that there was a statistically significant association between the participants' prior academic achievement and their transferability skills (r=0.683 at p0.01).

About 2/3 rds. of Nurse Interns (65.317%) had a high level of acceptability towards the ISBAR Protocol, which points to its usefulness in improving the competence of Nurses.

CONCLUSIONS

Across disciplinary and professional boundaries, a consistent clinical handover protocol can be created and evaluated. This concept is expected to be adaptable to different locations and clinical scenarios.

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