

EFFECTIVENESS OF SBAR COMMUNICATION TOOL ON PATIENT SAFETY: AN INTEGRATIVE REVIEW

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ABSTRACT

Objective: To evaluate the effectiveness of the SBAR (situation, background, assessment, recommendation) tool on patient safety. **Method:** The integrative review design used PRISMA protocol to select studies. The keywords “SBAR” and “patient safety” were used for searching in electronic medical databases of ScienceDirect, Academic Search Complete, CINAHL Plus, MEDLINE, APA PsycInfo and Cochrane library from 2015 to 2020. **Results:** Across studies in various healthcare settings conducted at the hospitals, nursing homes and home care center services. The results indicated the positive impact of SBAR communication tool in patient safety. Seven studies found an improving in communication and

patient safety. One study described the improvement in safety climate and working conditions in the hospital, however, there was no notable change on patient outcomes. Only one study in nursing home reported no significant difference between before and after SBAR implementation on patient safety aspect. **Conclusion:** The findings highlighted the effectiveness of SBAR communication tool on the improvement of patient safety as well as the effectiveness of communication in medical centers. The limitations of these studies included small sample size and a small number of studies conducted regarding patient’s outcome with strong evidence.

Keywords: SBAR, patient safety, handover, handoffs.

1. INTRODUCTION

Handoffs is one of the most important processes to provide continuity of care for patients in healthcare settings. The information to hand-over between individuals and teams may be insufficient and confused. These gaps in communication caused serious breakdowns in the continuity of care, lower quality of treatment and harm to patients

[1]. The Joint Commission reported more than 60% of medical errors were reviewed caused by poor communication [2]. SBAR communication tool (Situation, background, assessment and recommendation) was originally developed as communication tool in the United States military, the tool adopted widely in various healthcare settings for improving patient safety [3]. The users reported that it was a well-structured communication tool, which enables to transfer accurately and comprehensively the information between individuals and teams.

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Figure1. SBAR communication tool

S	Situation	Briefly the current problem
		Patient A had a fever and dyspnea, vital sign
B	Background	Provide a diagnosis and other relevant medical history
		Patient A was diagnosed with
		Admitted on day... with chief complaint... Patient was taken chest X-ray, blood test and given antibiotic
A	Assessment	Analysis and consideration of options (what do you think about the problem)
		I found the increasing of sputum and dyspnea, presence of white patches, suspect fungus infection
R	Recommendation	Action requested/recommend (what is your recommendation)
		Adjust level of oxygen supply/medication/ chest X-ray

Numerous studies were conducted to investigate the method of SBAR implementation, compliance level and employee satisfaction [4]. Studies reported that residents used SBAR regularly after inpatient rounds, which enabled to communicate effectively between health care providers, especially, physicians and nurses [5]. A well-structured checklist was contributor factor to increase content information and provider satisfaction in handover process [6]. The studies illustrated that SBAR tool enhanced communication competency among pharmacy students and team 4 task performance [7,8]. A study was conducted by Potts in emergency department indicated that SBAR communication tool improved patient flow and saves their time [9]. However, the effectiveness of SBAR communication tool on patient safety is not used widely in healthcare settings. Particularly, in the era of technology advancement, the way people exchange information are changing day by day. The method and approach of communication may also change among medical staffs. Therefore, this literature review was conducted to evaluate the effectiveness of SBAR communication on patient safety.

2. RESEARCH METHOD

2.1. Research Design

An integrative review approach was adopted and PRISMA were used to improve the rigorous. Search strategy: A priori search was conducted in Google Scholar and EBSCO to identify if there are any similar reviews that are in progress or already published. The results show that there is an only systematic review but no similar integrative review exists. Then, a literature search was done with articles published in ScienceDirect, Academic Search Complete, CINAHL Plus, MEDLINE, APA PsycInfo and Cochrane library with search terms in various electronic medical databases.

Eligibility criteria: All original research articles using keyword "SBAR" and "patient safety" meet the following eligibility criteria:

- (1) SBAR was implemented in a healthcare setting
- (2) SBAR was the primary objective of the study
- (3) The articles are published from January 2015 to October 2020
- (4) The articles were written in English.

Exclusion criteria:

(1) Studies with other interventions were included such as bedside report, multidisciplinary team rounding.

(2) The outcomes were not related to patient safety

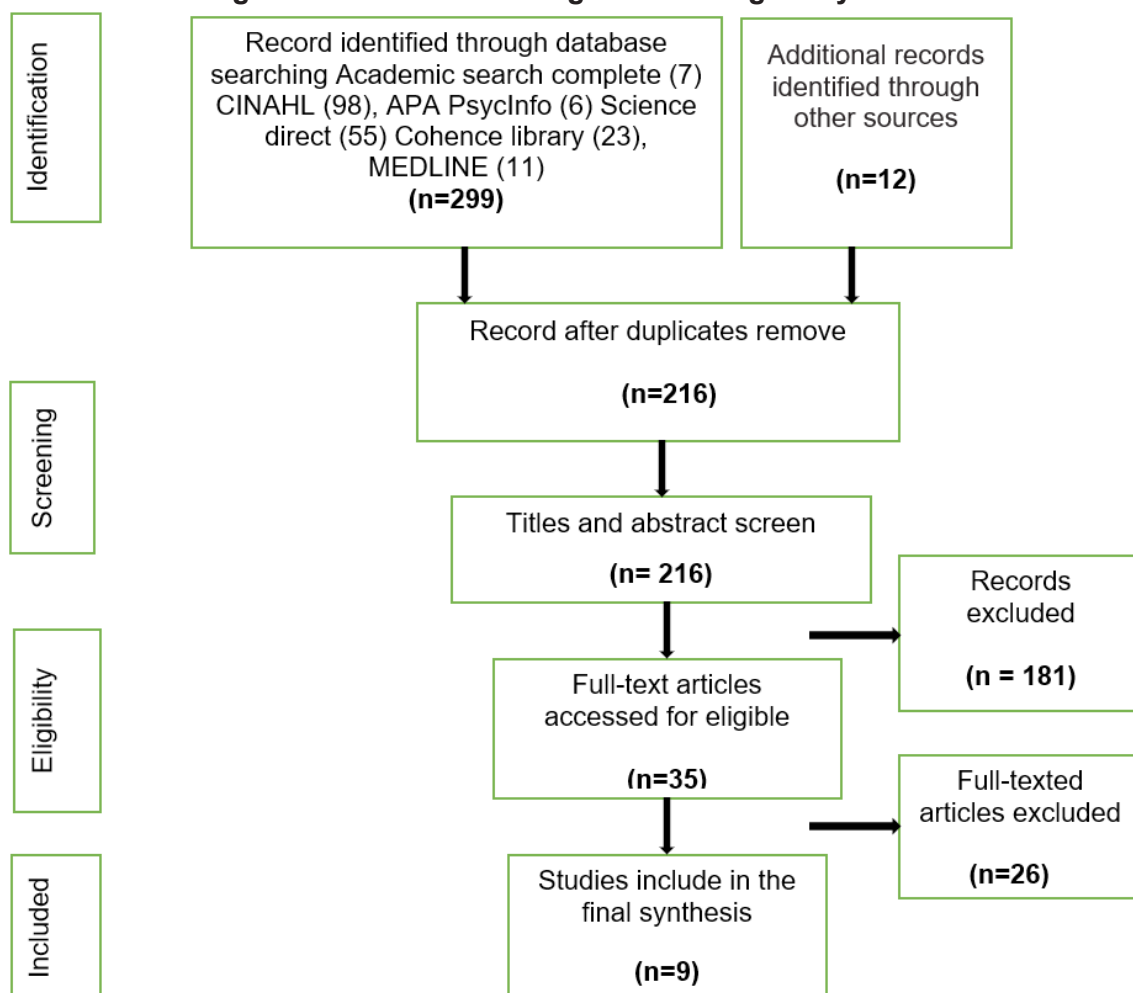
2.2. Selected studies

There were 299 potentially relevant articles were found in the initial database searches, and an additional of 12 potentially relevant articles from the reference lists of articles initially were selected for reviewing. After removing the duplicated by excel, there were 216 potentially relevant articles were identified inclusion in the review. 35 articles were selected after screening titles and abstracts then fully read. There were

two main reasons for exclusion of studies: (1) there were not only SBAR intervention, but also other interventions and (2) there is no patient safety outcome. Finally, nine studies were included in the integrative review (Figure 2).

The Donabedian model (1988) health care quality measure was used to measure patient safety that includes three type of quality measure: structure measure (organizational resources and the health information management systems used in clinical care), process (nursing sensitive quality indicator or resource to perform procedures) and outcome measure (fall risk, medical error, ulcer rate).

Figure 2. PRISMA flow diagram showing study selection.



2.3. Data extraction, analysis and synthesis

Author/ Date	Setting	Methods to implement SBAR	Patient's safety indicator	Results	Recommendations
Devereaux et al., 2016 [10]	Nursing home	Using SBAR stool for phone-call from nurse to doctors about patient's condition change	(1) 30-day readmissions (2) Transfers to hospital (3) Avoidable hospitalizations	(1) Reduce 30-day readmissions (0.12 vs. 0.04) (2) A total transfer rate reduced significantly (3) All hospital unplanned admissions (0.36 vs.0.18)	Using SBAR not only reduces transfers/ hospitalizations / 30-day readmissions, but also helps residents to receive appropriate care in the most appropriate setting
Ting et al., 2017 [11]	Obstetric Hospital	Training for nurses about SBAR Collaborative Communication	(1) The attitudes of the obstetrics department on patient safety (2) The number of neonates with 5-minute Apgar score	(1) Value ratings for the safety climate and working conditions significantly improved (2) No significant change in the number of the neonates with	SBAR is a feasible tool for facilitating nurse communication, and it may improve most dimensions of the safety attitudes in the obstetrics department
Blom et al., 2015 [12]	Surgical wards- Hospital	Using two pocket-sized SBAR based reference cards to communicate between shifts and report patient's change	Experience of using SBAR structure to communicate in patient safety and personal aspects	SBAR improved the efficiency of information in oral communication among healthcare workers (p=0.001). Healthcare providers found SBAR as an effective and efficient tool to report patient information	SBAR is perceived as effective to get a structure of the content in patient reports, which may facilitate patient safety
Jarboe 2015 [13]	Nursing home	Using SBAR stool for phone-call from nurse to doctors about patient's condition change	Number of transfers, types of transfer and results of transfer	There was no significant difference in the overall	The data analysis was unable to demonstrate a significant influence of the SBAR communication tool and resident transfers in this long-term care LTC facility

RESEARCH ARTICLE

Nagammal et al., 2017 [14]	Health care center	Implement SBAR stool in handover and validated handover evaluation scale	Nurse's perception of SBAR handover structure	81.4% reported quality of information was good 56.9% of nurses perceived reduction in communication errors	SBAR is safe and efficient as nurses have positive perception regarding the use of SBAR during handover and it can be recommended for all healthcare settings
Halterman 2019 [15]	Hospital	Implementation of a handoff checklist with the SBAR	Evaluate the omission of health information during the handoff	Decreasing 73% of omitted information from	The use SBAR modified-checklist can improve transfer of care by ensuring the provider receives more pertinent medical information during these transfers
Leonard 2019 [16]	Home health setting	Implementing a focused heart failure SBAR tool by nurses for all visit patients	(1) Home care interventions (2) referrals to PT/OT (3) ED utilization	(1) increase home interventions (2) increase referrals to PT/OT from 0 to 3 (3) decrease ED utilization from 5 to 0	The using of heart failure SBAR tool helps to save money and improve the quality of care for heart failure patients
Shahid 2020 [17]	Hospital	A modified SBAR tool communicate between physicians for decision-making support	Quality of clinical information shared	Improvement in global score and cumulative score in postintervention period	The SBAR report to physician tool was effective in improving the quality of information shared during neonatal transport
Toru 2018 [18]	Hospital	Training telephone SBAR communication of patient medical treatment among medical staffs	Evaluate the effective communication for patient safety	Improve effective communication for patient safety implemented post intervention and post control tests (p-value 0.001, in which P-value < 0.05)	The use of SBAR communication by phone is important, as a solution to support effective communication in the patient safety implementation, and to improve hospital service quality

3. RESULTS

3.1. Study characteristics

Five studies were conducted in hospitals from various departments that included an obstetrics ward [11], a surgical ward [12], PACU [15], neonatal transport service based at McMaster Children's Hospital [17] and nurses working in third class ward [18]. Two studies were conducted in nursing home [10, 13], one in National Center for Cancer Care and Research [14] and one in home health setting among heart failure patients [16]. Study by Ting (2017) investigated largest sample of neonates with 5-minute Apgar score (n= 7243) [11], followed by that of Nagammal (2017) with n=117 staff nurses [13], whereas Leonard's study (2019) was done with sample of 16 patients only [16].

3.2. SBAR communication application method and patient safety quality measures

The SBAR communication tool and modified versions were implemented for handover among nurses [11, 12, 14, 15] or physicians and nurses directly or through telephone calls [10, 13, 18]. SBAR can also be modified as a communication tool for education [11, 18]. Almost studies used pre- and post-intervention measurements to evaluate the effective of SBAR communication tool. The quality measures were communication errors [14], the sufficiency of information [15], the consensus of intervention after communication [17] or the perception of healthcare providers about patient's safety [11] or patient's outcome [10, 16].

3.3. Effectiveness of SBAR communication on patient's safety

Five studies evaluated the effectiveness

of SBAR through patient outcome measures. Study by Devereaux indicated that using SBAR for telephone communication while changed patient's condition reduced transfers/hospitalization/30-day readmissions and reduced the risk of avoidable transfers [10]. Study of Shashi (2017) showed that the increasing in quality of clinical decision making via accurate and concise information in neonatal transport [17]. Another study by Leonard (2019) reported the increase in interventions implemented in the home (4 to 6 orders) and the number of patient who were referrals to PT/OT (0 to 3), and decreased emergency department utilization among heart failure patients (5 to 0) before and after SBAR communication implantation [16]. However, finding in two studies reported that there was no signification change in the number of neonates with under seven 5-Apgar score [11] and resident transfer [13] before and after SBAR. Studies were conducted by Halterman (2019) for post-surgery patients were evidence for the effectiveness of SBAR communication tool in avoiding omission of information during the handover process [15]. Four other studies used questionnaires to examined the experiences of healthcare providers in patient safety [11, 13, 14, 15]. They indicated a notable change in perception of medical staffs about patient safety and indicated safety climate at work and efficient and effective communication after implementation of the SBAR communication tool.

4. DISCUSSION

4.1. Application on practice

Oral communication is popular used among healthcare professionals to transfer information. However, the medical staffs experienced deficiencies in patient safety particularly while the nurse handover

or report to physician about patient's conditions. The insufficiency of information may lead to medical errors and extend the length of stay, cost money and even have fatal consequences. It was proposed that patient safety may be enhanced by a structured communication. A study by Malfait (2018) indicated SBAR demonstrated the feasibility of implementation in healthcare settings by oral as well as written communication methods. Study demonstrated the increasing of compliance and maintaining with simple structure tools [4]. In medical centers, SBAR improved quality of communication among healthcare providers, enhanced perspective of patient safety and reduced medical errors. Hence, it improved quality of care and reduced cost for medical care, gained patients and healthcare provider satisfaction [17].

Therefore, the healthcare settings should use a safe and efficient SBAR communication tool, which provides an organized logical sequence and improved communication.

4.2. Limitations

The integrative review had some limitations including no randomized controlled trial design that most studies had been designed by pre- and post-intervention measurement tools. Furthermore, there were five among nine studies which reported patient outcomes as quality measure. Two of five indicated that there was no significant change between pre- and post-intervention. One study showed the difference of patient outcomes with a small sample size (n=16). Further randomized controlled trials should be conducted in the future to evaluate the effectiveness of SBAR in patient safety.

5. CONCLUSION

Approximate 70% of adverse events

in hospitals is contributed by ineffective communication [15]. Instead of solving problem, health organization should focus on prevention by improving patient safety, which would reduce the cost and improve patient outcomes [19]. In summary, despite of lack of conclusive evidence, authors of these studies considered that the SBAR model to be a good structure for medical staffs in various healthcare settings for effective communication and enhance patient safety.

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