

An Approach to Collaborative Practice via Situation, Background, Assessment, and Recommendation: An Initiative to Interprofessional Education

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Abstract— *Just culture is essential in patient safety culture and a solution to the "doctor knows best," complex healthcare system which needs contributions from interprofessional teamwork. The structured SBAR (situation-background-assessment-recommendation) lessens authority gradient and clinical fractionation, providing chances for non-physicians to express ideas. According to IHI and aviation CRM, SBAR should be disseminated. Golden Jubilee Medical Center and Thai Airways jointly trained medical personnel mainly postgraduate nurses around 605 at five governmental institutes within three years. The course, aimed at know-how and do-how, consists of icebreaking, didactic, workshops, and role-plays for six hours in a single day. The icebreaking lets each team member reflect on self-personality and do critical thinking puzzles. A three-hour lecture starts with patient safety culture, then CRM emphasizing SBAR. Evaluations revealed over 80% trainees were confident SBAR really works while 86.4% will further implement. More than 75% passed the SBAR quiz satisfactorily and the most favorite activity was role-plays. The postgraduate training course development is based on changes of attitude by underpinning patient safety culture importance, changes of teamwork behaviors by activity varieties like self-reflection, mindset modelling, and simulations, meeting with undergraduate IPE curricula. The policy on SBAR and critical language will reinforce collaboration and just culture throughout the organization.*

Keywords— Collaborative practice: Communication: Interprofessional training: Just culture: SBAR

I. INTRODUCTION

Healthcare Problems in patient safety have been caused not only by paradigm shifts in aging society and technology, but also by opportunities for improvement in teamwork. WHO found that global healthcare has professional fragmentation (World health report 2017; Nelson 2014), and that physician paternalism ("doctor knows best") is a barrier to safety, and other dimensions of quality (Hafferty 2014, 135). Thus in 2010, WHO proposed that healthcare organizations, institutes, and involved entities have training curricula that Golden Jubilee Medical Center (GJMC), Mahidol University, has been the home of the Thai Chapter of Institute for Healthcare Improvement (IHI) Open School and has proposed the view that use of the structured communication tool - Situation, Background, Assessment, Recommendation (SBAR)--could help to overcome barriers from fragmentations, especially between physicians and nurses. The primary purpose of SBAR is to communicate effectively in critical situations (SBAR 2006, 22); its concept is to align the problem-solving mindsets of many physicians with the narrative mindset of many nurses.

The authors, having studied and trained in SBAR, learned that the last R of the acronym gives an opportunity for any team member to express their own ideas without interruption, while the listener anticipates the steps, waits and listens till the end. It helps flatten the hierarchy, paving the way to just culture and to patient safety culture. SBAR is one of crew resource management (CRM) skills: situation awareness, communication, conflict management and so forth, which lessen human errors. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) adopted SBAR as a communication standard in healthcare (Clancy 2014, 116). Collaborative practice (CP) in communication is a postgraduate training, a later part of interprofessional education (IPE), with shared goals among multiple disciplines who are engaged with their expertise to jointly work with patients, family, caregiver and community to deliver highest quality care and achieve expected outcomes (Thistlethwaite 2012). Teamwork communication is one factor in causes in healthcare problems and also a root cause of 60% sentinel events (Clancy 2014, 116); improvement in teamwork communication could reduce medical errors 23% (Trifkovic 2017, 3). By virtue of nurses' ubiquitous contact with patients and the importance of effective communication, the American Nurses Association (ANA) has accepted SBAR to be a nursing language (Finkelman 2012, 91). Oriental culture obliges most conversation to be hint and hope while assertiveness to speak up might be viewed as impolite, in contrast to that of Western. Communication is like "aim" between "ready" and "fire", underpinning a means to the end. Up till now, there is still no best training model for standardized communication protocol in IPE/CP (Tews 2012). Following a structured communication, SBAR entails a better chance of communicating complex information clearly (Eggs 2015). GJMC thus arranged one-day SBAR training courses as part of interprofessional education for postgraduate nurses in 5 governmental institutes during 2015-17. The objective of this study is to evaluate the developed model of SBAR training course for nurses in handoffs and reporting to physicians.

II. METHODS

After Ethics approval, a collection of evaluation forms from 5 SBAR training courses during 2015-17 was analyzed with a sample size of at least 203 participants. The course comprised morning lectures on patient safety culture, CRM

and SBAR, and the afternoon 3-hour session for small group discussions about clinical scenarios eg. operative handoffs, patient reports to physicians, and video-recorded role playing before the class. SBAR handouts and pre-test were distributed 1-2 weeks in advance; videos on aviation disaster and non-SBAR vs SBAR were played during breaks while post-test and evaluations occurred towards the end of the day and personality assessment and critical thinking puzzles were recently included. Quantitative data were test scores while qualitative were Likert evaluations (1–5) on activities in terms of attitude, applicability and comments. Unpaired Student t-test was used to compare pre-and post-test scores with $p < 0.05$ as statistical significance.

III. RESULTS

A total of 605 nurses participated, ranging from 100-155 at each site (Table I). Test scores about SBAR increased significantly after the course (Table II) and attitude scores after the course were generally positive (Table III). The first training at Ramathibodi School of Nursing, without pre-test data, had post-test scores (n=81) in good grades: all correct answers for 27% and only one wrong answer for 48%. Over eighty percent of trainees were most sure that SBAR would work while the remaining quite sure. For applicability, 86% was willing to use SBAR, but the rest not decided yet. The most favorite activities were role plays (51%), small group discussions (12%), trainers (9%), media and presentations.

TABLE I. Number of participating nurses.

Year	Institutes	Number
2015	Ramathibodi School of Nursing	100
2015	Uthaitani Hospital	100
2016	Rajavithi Hospital	150
2017	Golden Jubilee Medical Center	100
2017	Ratchaburi Hospital	155
	Total	605

TABLE II. Pre- and post-test results.

Scores	Golden Jubilee Medical Center	P	Ratchaburi Hospital	P
N pre/post	104/59		114/80	
Pre-test	6.45±1.64		8.50±1.39	
Post-test	7.67±0.99	<0.05	9.27±1.24	<0.05

TABLE III. Activities Evaluations(n=85, Median).

Aspects	Satisfaction/Knowledge/Application(1 least to 5 most)
Will apply in routine practice	4
Will apply in routine practice	4
Be a consult for co- workers	4
Sure to use SBAR	4

IV. DISCUSSION

This study was a part of improvement cycle in developing the training course for postgraduate nurses to suit the contexts of Thailand. Data collected throughout the 3-year period were test scores and activity evaluations from paper, electronic mail and telephone. The main finding was firstly, the number of nurses registering at each institute, ranging from 100-155, as planned for the utmost: 8-10 persons in each group for 10 groups in one class, since an effective small group discussion should consist fewer than 6 persons (Edmunds 2010; Surgeon

2010) and ideally 3 in each small group so that everyone could interact in problem solving learning (PBL) (SBAR: A Shared Structure for Effective Team Communication 2010). Next, the comparison between pre- and post-test scores showed a statistically significant difference even though the post-test response rates were 56% and 70% at GJMC and Ratchaburi Hospital respectively. Nurses at the latter institute scored much better, possibly because most had prior learning in SBAR. The post-tests from other institutes also scored high: 27% answered all 10 multiple-choice questions correctly while 48% all but one. The Likert scale to qualitatively evaluate attitude and SBAR applicability was 4/5; almost all participants appreciated its importance and were confident to translate the knowledge into everyday practice. Other findings were most favorites on role plays, small groups, speakers and presentation media. Learning by role playing and small group discussion met the learners' visual, auditory and kinesthetic perceptions, which is recommended in active training (Trifkovic 2017; Markova 2015, 46; Silberman 2006). Rewarded competition energized role plays as much as some groups created simulated patients by themselves. Role play in low-fidelity simulation in front of the class has an advantage of learning in rare situations of real life without unnecessary patient compromise (Oermann 2014, 278). The distinguished speaker, one of the co-authors, is a cardiovascular thoracic surgeon and airline captain who talked on CRM and shared interesting experiences with the audience. Self-reflection personality assessment and critical thinking were included to emphasize other contributory factors to successful communication (Boyton 2016, 2–4). The former was a simple assessment for partly icebreaking, letting each member pick up the bird among dove, owl, peacock or eagle which most likely represented herself (RichardSTEP 2017), while the latter was brain-teasing puzzles. The "A" in SBAR or assessment needs critical thinking to get to the point smartly and if the physician's attention could not be attracted within the first 10-18 seconds (Critical Conversationtm 2016; Rees 1993), the communication would possibly fail. The topic also pointed out variations of SBAR, for example, ISBARR, which added "I" for identification and the last "R" for response or read back (De Beer 2014). Another electronic SBAR or eSBAR was demonstrated how technology could help retrieving information from electronic medical records according to each item (Wentworth 2012). In addition, the emotional video before lectures, "Tragedy in Tenerife", was an appealing introduction of the day. At GJMC, the SBAR communication policy was declared on the official opening of the training program, whence critical words in the policy, CUS (concern, uncomfortable and safety issue), would support nurses in SBAR reporting to difficult physicians (AHRQ 2017). The training also addressed avoidable downsides of communication, trite robot-like SBAR, without screening for reasonable information to report. Three months later the behavioral evaluation in real- world contexts was not as expected, meanwhile the strategies like collaboration with the medical organization and spotting SBAR champions took place. The PDSA (plan-do-study- act) on videotaped role playing has been scheduled for each critical working unit. To trace the action, video recording provides more objective

material, images, than written and oral narration, and audio recording (Pezzimenti 2017). It can capture, block and repeat, giving the potential for one to review, from time to time, interactive behavior. Theoretically learning development by video recording is based on self-reflection and analysis of practices and experiences when meta-skill (skill of analysis oneself) also thrives (Pezzimenti 2017). The enablers besides the commitment from leadership and the policy reinforcement, were teamwork understanding and critical thinking. Rearrangement of working place such as reminding SBAR wall posters, scripting sheets next to the telephone and the pocket pads was also suggested. The one-day training course comprising 3 hours of morning lectures and 3 more hours of afternoon activities with lunch and two 15-minute breaks, cost approximately 630 US dollars mainly for foods; no expenses for either volunteer speakers, conference room or handouts. IHI Open School partly sponsored once and one medical device company provided SBAR pocket pads.

The training purpose and the target group have been clear from the outset with evolved measurements on knowledge and action evaluations to cover all cognitive, affective and behavioral learnings. The overarching goal is patient safety culture beyond collaboration which is the goal of most communication training programs. By varieties of tools, SBAR is the key via knowledge sharing and transfer to achieve just culture first and then linked to patient safety culture. Therefore, the activities have been planned based on the concepts of adult learning such as self-study, experiential learning, two-way participation and PDSA; the topic should include components of effective communication: information, interaction and teamwork; and the focus is on patient safety culture- just culture through SBAR. As change management, provision of the conducive learning atmosphere helps enhance the audience assertiveness, addressing timidness inherent in Asian ladies and drowsiness after lunch and hand-on opportunity for many trainees sticking to status quo. The training course thus walked the participants through both implicit thinking and explicit experiences, using SBAR as a means to achieve sustainable goals. The model has been developed hopefully to be the best practice for SBAR training for postgraduate nurses in terms of relevance, effectiveness and efficiency (WHO 2008)(Fig. 1). This strategic approach to a single professional could be a tipping-point initiative for IPE, a distinct from other models. Without as yet the definite model and amidst hardly to find evidence, researchers predominated on undergraduate IPE courses which targeted on multi-professionals in both short term as weeks to long term as months (Wakefield 2008, 22–32; Murray-Davis 2012; Morison 2007; Morison 2003). It should be much easier to apply robust metrics for multi-faceted practices in a single professional. For postgraduate SBAR training models, data were more sparse.

Limitations of the study were incomplete collection of data and their inconsistency from evaluation forms so frequently revised that strong data could not be properly obtained. The training courses could not be held outside the institutes due to cost and workforce shortage, possibly causing interruptions of learning. In-house training recruited nurses to participate like pushing them to learn while invitations from outside, trainings

were pulled in response to demand. Traditional lectures, which entail less than 5% memory retention, were still a predominant magnet, but could be strengthened emotionally by story telling (How to Retain 90% of Everything You Learn 2017). Tews Matthew et al. studied 1-hour didactic training on SBAR handoffs between physicians for 1st-year residents at ER and measured pre- and post-tests immediately and at 4 months later; they found that scores could not be maintained because of declined memory retention (Tews 2012).

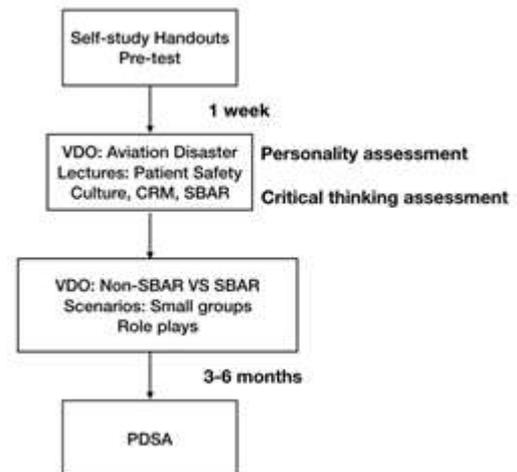


Fig. 1. The model of learning activities.

Although the trainees had a common SBAR template, the working units differed in red flag communication (Trentham 2010, 25), for example, handoffs in the operating room must communicate a count of sponges and surgical instruments. Simulated roles of other professionals helped nurses to empathize their co-workers. Role play observations were that trainees preferred telephone reporting to personal talk, reflecting psychological safety but lacking other crucial components of effective communication such as tone and body language. Further work needs more robust metrics for this single professional undergoing IPE to gauge collaboration and patient safety culture.

V. CONCLUSION

This study contributed another piece of evidence, supporting how to enable IPE/CP to postgraduate practice. With nurses as the sole target, it modeled a viral approach of initiatives in creating patient safety culture in healthcare organizations through structured communication SBAR. The training course, based on theories and concepts of adult learning, consisted of prior self-study, lectures by the expert in both healthcare and aviation, role plays as experiential learning and planned continuous learning, was held as a single day on low expenses with measurements. We recommended social aspects and critical thinking in training, together with critical success factors from leadership: understanding and commitment, policy, environment redesigns. Therefore the model was cost-effective and is applicable to developing countries.

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