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Original Article

The impact of situation-background-assessment-recommendation (SBAR) on safety attitudes in the obstetrics department

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ABSTRACT

Objective: Previous studies evaluating the situation-background-assessment-recommendation (SBAR) have been shown to increase effective nurse–physician communication and collaboration. The purpose of this study is to evaluate the impact of the SBAR technique on safety attitudes in the obstetrics department.

Materials and Methods: This study implemented the SBAR Collaborative Communication Education course and was conducted in a medical center from February 2012 to March 2015, which included an educational session on fetal heart rate monitoring, a case-based discussion, and a video demonstration on traditional and SBAR communication. The nurses in the obstetrics department were requested to report their clinical findings and recommendations using a novel SBAR list when abnormal fetal heart beat tracings occurred. All obstetric nurses were requested to complete the Chinese-version of the Safety Attitudes Questionnaire before and after the SBAR educational course. The primary outcome was to evaluate the effect of the SBAR technique on the safety attitudes of the obstetrics department. The secondary outcome was to evaluate the effect of the SBAR technique on the 5-minute Apgar score for neonates.

Results: Most values, including teamwork climate, safety climate, job satisfaction, and working conditions, significantly improved at both postintervention surveys compared with the preintervention survey. There were no significant differences in the number of the neonates with less than seven 5-minute Apgar scores between the pre- and postintervention periods.

Conclusion: The SBAR technique, which uses a novel structured handover list, is a feasible tool for nurse–obstetrician communication, and it may improve most dimensions of safety attitudes in the obstetrics department.

Introduction

Obstetrics is one of the most common specialties to encounter malpractice claims. Some of the obstetric malpractice claims are related to poor nurse–obstetric communications. Haig et al [1] reported that nearly twothirds of adverse sentinel events in hospitals are related to communication problems. During critical obstetrical events, there may be brief communication between nurses and obstetricians via telephone conversations; however, this may be a vulnerable process through which communication can fail [2].

The situation-background-assessment-recommendation (SBAR) technique provides a structured method for consistent collaborative communication between healthcare providers [3], streamlining information exchange and promoting patient safety. Flemming and Hübner [4] suggested that the use of tools, such as the SBAR, plays a role in avoiding communication errors. Studies evaluating the SBAR have also been shown to increase the perception of effective nurse–physician communication and collaboration in surgical and medical wards as well as in the rehabilitation setting [5,6].

Nonetheless, training is needed before the SBAR technique is used, and the SBAR technique may be time-consuming. We wondered whether the SBAR technique would increase the workload for nurses, harm the work climate, or be detrimental to the

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neonatal outcome because it is a time-consuming technique. As a result, the primary objective of this study was to evaluate the effect of the SBAR technique on the safety attitudes in the obstetric department, especially for the nurses, and the secondary outcome was to evaluate the effect of the SBAR technique on the neonatal outcome.

Materials and methods

This study implemented SBAR Collaborative Communication Education and was conducted in a medical center from February 2012 to March 2015. As some pregnant women with symptoms and signs of preterm labor are treated in the obstetrics ward, all nurses in the obstetrics ward and delivery room were asked to participate in this study. The Research Ethics Committee of the Far Eastern Memorial Hospital (Taipei, Taiwan; ClinicalTrials.gov Identifier. NCT01570335) approved this study and waived the requirement to obtain a signed consent form, as the survey was completely anonymous.

The SBAR Collaborative Communication Education course was offered as a 1-hour session by our experienced obstetricians during one of the monthly ward meetings annually. It was first conducted in March 2012, and the educational session was repeated annually. It included a 30-minute lecture on fetal heart beat tracings, a 10–15-minute case-based discussion, and a video demonstration. The content of the lecture was tailored to meet the needs of nurses to identify nonreassuring fetal heart rate patterns. Clinical cases were used for the case-based discussion, enabling in-depth discussion regarding what occurred, specific considerations, and reasons for actions. The video demonstration contained a video from educational web resources, which compared the traditional communication and a more effective communication using SBAR. A novel, customized version of the SBAR handover list was developed for reporting the abnormal findings in fetal heart beat tracings (Table 1), and it was placed next to the telephone in the ward station of the delivery room for further reinforcement. The nurses in the obstetrics department were requested to report their clinical findings and recommendations using the novel SBAR handover list when abnormal fetal heart beat tracings occurred. To save time during an emergency, the obstetrician was responsible for making final clinical decisions after receiving the nurse's report and double checking the abnormal fetal heart beat tracing as soon as possible. The nurses were also encouraged to ask the physicians to clarify any order that was unclear.

All nurses were asked to answer the Chinese-version of the Safety Attitudes Questionnaire (SAQ) [3,7] prior to the implementation of the first SBAR Collaborative Communication Education course in March 2012. The same questionnaires were redistributed approximately 1 year and 3 years later (February 2013 and March 2015, respectively). The baseline data on the nurses were also collected. The 5-minute Apgar scores for all neonates were reviewed from the birth medical records of the hospital.

The SAQ elicits staff attitudes through the following six safety dimensions: (1) teamwork climate (6 items); (2) safety climate (7 items); (3) job satisfaction (5 items); (4) stress recognition (4 items); (5) perception of management (4 items); (6) and working conditions (4 items) [3,7]. Each item was answered using a 5-point Likert scale. The analytical results of the Chinese version demonstrated that all six dimensions have good reliability [7].

The STATA software program (version 11.0; Stata Corp, College Station, TX, USA) was used for the statistical analyses. The Chi-square, one-way analysis of variance, Wilcoxon rank-sum, or Fisher's exact test was used, as appropriate. A p value < 0.05 was considered statistically significant.

Results

Twenty-nine nurses completed the preintervention survey, 34 completed the first postintervention survey, and 33 completed the second postintervention survey. There were no statistically significant differences between the three groups in the baseline data (Table 2).

Most of the value ratings for the teamwork climate, safety climate, job satisfaction, and working conditions significantly improved at both postintervention surveys compared with the preintervention survey (Table 3). There were no significant differences in the stress recognition or perception of management.

A total of 331 neonates were born with < 7 5-minute Apgar scores from January 2010 to February 2015 (Table 4). There were no significant differences in the number of the neonates with < 7 5-minute Apgar scores between the pre- and postintervention periods. After subgroup stratification (i.e., preterm and term subgroups), there were no differences between the pre- and postintervention periods.

Discussion

In this study, we found that the teamwork climate, safety climate, job satisfaction, and working conditions were improved after the implementation of the SBAR technique. The SBAR technique can facilitate communication between nurses and

Table 1
A handover list for reporting the abnormal fetal heart beat tracings.

Bed No.:
Name:
Gestational wk: ( ) < 37 wk, ( ) ≥ 37 wk
1 Cervical dilation: ( ) ≤ 3 cm, ( ) 4–9 cm, ( ) 10 cm (fully dilated)
2 Presence of fetal heart rate decelerations (< 110 beats/min)?
( ) No
( ) Yes
( ) Early deceleration
( ) Late deceleration
( ) Variable deceleration
3 Recommendation:
( ) Prompt vaginal delivery
( ) Emergency cesarean section
( ) Observation (consider oxygen supplementation, the left decubitus position, or intravenous fluid hydration)
( ) Others

Table 2
Baseline characteristics of the nurses for the pre- and postintervention surveys.

Variables	Preintervention survey ($n = 29$)	1st postintervention survey ($n = 34$)	2nd postintervention survey ($n = 33$)	p[a]
Age (y)				0.80
21–31	13 (45)	15 (43)	15 (45)	
31–40	12 (41)	16 (47)	14 (42)	
41–50	4 (14)	2 (6)	4 (12)	
51–60	0	1 (3)	0 (0)	
Working experience (y)				0.17
< 1	1 (3)	4 (9)	4 (12)	
1–2	2 (7)	1 (3)	5 (15)	
3–4	11 (38)	9 (26)	4 (12)	
5–10	9 (31)	14 (41)	10 (30)	
11–20	4 (14)	6 (18)	9 (27)	
> 20	2 (7)	0 (0)	1 (3)	

Data are presented as n (%).
[a] Chi-square test.