Effectiveness of interactive discussion group in suicide risk assessment among general nurses in Taiwan: A randomized controlled trial

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SUMMARY

The evidence of suicide prevention training for nurses is scarce. Strategies to enhance general nurses' ability in suicide risk assessment are critical to develop effective training programs in general medical settings. This study was aimed to examine the effectiveness of an interactive discussion group in a suicide prevention training program for general nurses. In this randomized study with two groups of pre–post study design, the sample was recruited from the Medical, Surgical, and Emergency/Intensive Care Sectors of a 2000-bed general hospital via stratified randomization. Among the 111 nurses, 57 participants randomly assigned to the control group received a two-hour baseline suicide gatekeeper lecture, and 54 participants assigning to the experimental group received an additional five-hour group discussion about suicide risk assessment skills. Using a case vignette, the nurses discussed and assessed suicide risk factors specified in a 10-item Chinese SAD PERSONS Scale during a group discussion intervention. The findings revealed that the nurses achieved significant and consistent improvements of risk identification and assessment after the intervention without influencing their mental health status for assessing suicide risks. The result suggested an effective approach of interactive group discussion for facilitating critical thinking and learning suicide risk assessment skills among general nurses.

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Introduction

It is estimated that Asia accounts for about 60% of world suicides (Chen et al., 2012). Suicide prevention has been impeded by clinicians' negative attitudes toward suicide and limited training programs designed for general medical personnel (Chan et al., 2008; Osafo et al., 2012). With an alarming suicide rate of 14.7 per 100,000 in Taiwan (Department of Health, 2012), a national gatekeeper program aimed at increasing public awareness and identifying people at risk has become a crucial policy to fight suicide (Isaac et al., 2009; Lee and Liao, 2006). Previous studies on suicide prevention training programs have focused on providing basic knowledge or changing attitudes toward suicidal behavior among healthcare providers (Huh et al., 2012; Tsai et al., 2011), with some targeted at psychiatric nursing

personnel (Reid and Long, 1993; Samuelsson and Asberg, 2002), emergency/intensive care nurses (Bailey, 1994; Holdsworth et al., 2001; Osafo et al., 2012), or general nurses (Botega et al., 2007; Chan et al., 2008). It is increasingly important to train general nurses in identifying suicide risks among inpatients (Berlim et al., 2007; Chan et al., 2009; Horowitz et al., 2013).

People with suicidal risk were less likely to seek professional help before taking actions to harm themselves (Owens et al., 2005; Wu et al., 2012a). Nurses are first-line gatekeepers of patients' immediate risks for health, and the daily nursing contacts offer opportunities to identify early signs of mental distress or suicidal thoughts. However, current literature on suicide prevention training mostly focused on knowledge provision or attitudinal change in suicidal behavior for psychiatric professionals or gatekeepers in medical or community settings; we found limited evidence of suicide training on enhancing the abilities of risk assessment concepts/skills, reflective thinking, and active learning among the nurses, particularly those who have limited knowledge background in previous education. The lack of formal and systematic training in the assessment of suicide risk has also resulted in scarce resources that guide suicide risk evaluation (Jacobson et al.,

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2012a; Knox et al., 2006; Schmitz et al., 2012). Moreover, the majority of the training programs for suicide prevention were designed as single-group interventions with the purpose of enhancing knowledge, attitudes and competence of nurses in assessing suicide risks (Chan et al., 2009; Gask et al., 2006). More evidence-based research is needed to provide information for the development of clinical suicide training program in the nursing field.

Critical thinking ability has been recognized as a core competence to transfer knowledge into clinical settings for the nurses since it directly relates to patient safety (Buerhaus et al., 2005; Fesler-Birch, 2005; Rubenfeld and Scheffer, 2006). Critical thinking can be viewed as a reflective thinking process (Ennis, 2011; Mezirow, 1991), a combination of knowledge, attitude, and application skills (Paul, 1993); or rational examination of ideas and arguments in nursing (Bandman and Bandman, 1995). Although it has been listed frequently as the most important competency for nurses, it is ranked among the lowest of observed competencies (Shell, 2001). To fill this gap, the active and cooperative learning approach, specifically the "interactive discussion group" (IDG) method, was utilized to teach critical thinking skills necessary for enhancing the abilities of knowledge transfer and clinical application (Ulrich and Glendon, 2005). This approach focuses on the interactivity between the nurses who engage in discussions or debates and has become an important teaching strategy.

In promoting critical thinking skills, the ability of the need-based and self-directed learning that facilitates reasoning process can be enhanced providing the adult learning and education theory and advanced technologies such as internet/open source media, through which the nurses may acquire better support in developing reflective and critical thinking (Chang et al., 2013; Hemphill and Leskowitz, 2013). In this study, the training program in our intervention was based on the IDG model and adult learning theory. We used two case vignettes developed for group discussion and outcome evaluation in the intervention for the nurses to interact and discuss if the virtual cases fit the key suicide risk factors listed in a risk assessment tool. We aimed to examine the effect of the IDG in facilitating general nurses' suicide risk identification and assessment competency in a randomized controlled trial. We also examined whether our intervention would affect the nurses' mental health status in our pre- and post-tests.

Materials and Methods

Setting and Participants

The study received ethical approval from the Research Ethics Committee of the study hospital (Reference number: 201107036RB). It was registered as a randomized controlled trial online (Registration number: NCT02033915 at clinicaltrial.gov). Participants were recruited from a 2000-bed university-affiliated general hospital in northern Taiwan by using stratified randomization. All the nurses were provided the consent forms and were given key research information before they signed the forms. Fundamental nursing education there is primarily at the baccalaureate level (91%), with a smaller proportion of the nurses at the junior college level. We conformed to the CONSORT guideline in performing and reporting the entire study procedures and results. Stratification was based on three professional strata of Medical, Surgical, and Emergency/Intensive Care Sectors. These sectors are composed of 31, 19, and 12 wards in the hospital. After acquiring consent from the ward nursing leaders, nurses were randomly sampled into experiment and control groups from a list of names using the principle of proportionate allocation until the estimated sample size was reached. The inclusion criteria were age (≥20 years old) and willingness to take part; those who were unable to participate the post-test were excluded. All participants gave informed consent and received a two-hour suicide gatekeeper course, pre-test and post-test one week after the pre-test. A five-hour intervention, two sessions as part of the IDG, was further arranged for the experimental group consisting of 6–10 nurses in each

group. The participants were unaware of the group they were allocated to and the contents for group discussion in order to avoid contamination and to ensure blindness as well as outcome effects.

Study Design

Firstly, the corresponding author conducted a focus group discussion as a pilot study of general nurses' perspectives towards the feasibility of IDG and collected their opinions of the teaching materials and the assessment tools, i.e. the validated 10-item Chinese SAD PERSONS Scale (CSPS) and the case vignette (Wu et al., 2012b). The idea of IDG utilized in this study was derived from the interactive group learning approach (Ulrich and Glendon, 2005). Further, we took reference from the psychiatric suicide prevention training developed by Samuelsson and Asberg (2002) in designing our training program. We utilized the group learning approach to enhance general nurses' abilities of recognizing key suicide risk factors, and we developed two case vignettes to facilitate discussion without providing correct answers of each CSPS item in order to promote active learning and reasoning process in group members (Wu et al., 2012b). Our pilot study showed that the nurses were satisfied with group discussion approach and supported the outcome evaluation method, i.e. using the CSPS to assess suicide risks, so these measurement and evaluation approaches were adopted in the current study. The design of IDG in this study included a 2.5-hour session to discuss basic concepts of suicide risk identification, current suicide epidemiology, strategies of suicide prevention, and assess potential suicide risks of a male case scenario. Another 2.5 h were given to another female case vignette discussion that was designed to allow subjects to interact, reflect and critique the suicide risk of the case. The guidelines for case discussion were based on a previous study (Catalan et al., 1980) and included three fundamental topics in this study: (1) enhancing the understanding of suicidal behaviors; (2) assessing suicide risks via the CSPS after reading a case vignette; (3) establishing the concept of patient management in the general medical setting. Each experimental group underwent standardized procedures in discussing the above topics, through which the nurses were facilitated to actively learn and critically assess key suicide risk factors of a virtual medical inpatient while developing the skills of risk identification. The goal was to alter attitudes about suicidal behavior and raise the awareness and assessment competency of main suicide risks among general nurses.

Power Calculation

Group size was calculated to represent a medium effect, and a power analysis using GPOWER (Erdfelder et al., 1996) indicated that a total sample of 108 (54 in each group) was estimated in each group to have 95% power, $\alpha = 0.05$, one-tailed, based on F-tests of equality in variance for two sample cases on the estimated increase of 30% training effect on any CSPS item. The response rate was estimated at 50%, resulting in a total of 216 nurses to be recruited for participation.

Measurements

Case Vignette

The research team revised the scenarios of two medical inpatients with suicide risk in the study hospital into the case vignettes for outcome evaluation and group discussion. We intentionally designed the cases to have several suicide risks that are hidden in general medical conditions in order to facilitate discussion about suicide risk factors and management strategies. It described a 45-year-old male and a 21-year-old female with previous self-harm history and general medical conditions (unstable blood sugar and gastritis respectively) currently admitted for medical treatment (vignettes shown on request). The former vignette was part of our questionnaire which evaluated the nurses' baseline and re-test performances in risk assessment between the two groups. We used the CSPS rating scale for the nurses to tick "yes" for