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Factors affecting the social problem-solving ability of baccalaureate nursing students

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SUMMARY

The hospital environment is characterized by time pressure, uncertain information, conflicting goals, high stakes, stress, and dynamic conditions. These demands mean there is a need for nurses with social problem-solving skills. This study set out to (1) investigate the social problem-solving ability of Chinese baccalaureate nursing students in Macao and (2) identify the association between communication skill, clinical interaction, interpersonal dysfunction, and social problem-solving ability. All nursing students were recruited in one public institute through the census method. The research design was exploratory, cross-sectional, and quantitative. The study used the Chinese version of the Social Problem Solving Inventory short form (C-SPSI-R), Communication Ability Scale (CAS), Clinical Interactive Scale (CIS), and Interpersonal Dysfunction Checklist (IDC). Macao nursing students were more likely to use the two constructive or adaptive dimensions rather than the three dysfunctional dimensions of the C-SPSI-R to solve their problems. Multiple linear regression analysis revealed that communication ability ($\beta = .305$, $p < .0001$), clinical interaction ($\beta = .129$, $p = .047$), and interpersonal dysfunction ($\beta = -.402$, $p < .0001$) were associated with social problem-solving after controlling for covariates. Macao has had no problem-solving training in its educational curriculum; an effective problem-solving training should be implemented as part of the curriculum. With so many changes in healthcare today, nurses must be good social problem-solvers in order to deliver holistic care.

Introduction

Modern clinical settings are frequently unpredictable, with clinical situations constantly changing and nurses providing care to a multitude of patients with acute and chronic illnesses (Mattila et al., 2010). The solutions to clinical problems arise from complicated cognitive processes and require social problem-solving ability (Oldenburg and Hung, 2010). In order to become competent nurses, nursing students should be encouraged to think critically about the situations they encounter that may require the integration of theoretical knowledge with practical application (Elbas et al., 2010). This integration approach will allow students to implement alternative solutions in order to face the challenges they encounter in clinical settings (Solvoll and Heggen, 2010).

Social Problem-Solving Ability

Social problem solving is a cognitive-affective-behavioral process by which people attempt to discover effective or adaptive solutions for stressful problems encountered during the course of everyday living (D'Zurilla and Nezu, 2007). Studies have shown that effective social problem-solving abilities are significantly associated with better family functioning (Siu and Shek, 2010), better mental health, and higher quality of life (Chinaveh, 2010). Conversely, low social problem-solving ability has been shown to be associated with depression (Prachakul et al., 2007) and suicidal ideation (Becker-Weidman et al., 2010).

Although previous findings demonstrated the significance of social problem solving, it should be noted that social problem solving is not emphasized in the Chinese culture (Lai Kwok and Shek, 2009; Siu and Shek, 2010). Chinese people often try to uphold the Confucian ideal of maintaining interpersonal harmony but tend to neglect the importance of problem solving that can lead to harmonious outcomes (Allison, 1997). Chinese people emphasize the importance of emotional control, maintenance of politeness, and avoidance of aggressive persuasion techniques in conflict negotiation (Shenkar and Ronen, 1987). As a result, Chinese people are much more likely to use avoidance, compromise, and tolerance when handling conflicts, rather than applying the problem-solving strategies of conflict management (Allison, 1997). Little research to date has been conducted on cultural differences in social problem-solving ability. Clearly, research is needed among Chinese populations.

Social Problem-Solving Ability and Communication Skill

Communication is a cornerstone of basic nursing practice and a fundamental skill across all settings of care to identify the patient's goals of care (Malloy et al., 2010). Nursing students should be able to communicate with accuracy, clarity, and efficiency with patients and their families (Baghcheghi et al., 2011). Effective communication skills are the most important tools with which healthcare professionals can transform

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knowledge into implementation (Halkett et al., 2011); empower patients to find the solutions to their health challenges (Smith et al., 2011); and increase students' self-confidence in caring for patients (Smith et al., 2011). Poor communication leads to more medical errors and decreased quality of patient care (Thomas et al., 2009). Theoretically speaking, students with good communication skill may be good at resolving problems (Earl, 2009). However, the relationship between communication skill and social problem-solving ability has not been widely explored in the literature. One study found no significant relationship between communication skill and social problem-solving ability (Egeci and Gencoz, 2011). Further study is warranted.

Social Problem-Solving Ability and Clinical Interaction

Healthcare settings are complex environments in which multiple healthcare professionals work interdependently to deliver care (Havens et al., 2010). Nurses play a critical role as the predominant professionals at the bedside in clinical settings (Smith et al., 2011). Macao nursing students are required to complete at least 1882 theoretical hours and 1840 clinical hours through the nursing program (Macao Government Printing Bureau, 2008). During the clinical practicum, students are assigned to various clinical specialties and healthcare settings to gain clinical experience. Clinical practice can be stressful for students because they may face many challenges or threats in dynamic and complex clinical environments (Chan et al., 2009). Thus, the relationship between social problem-solving abilities and clinical interaction with patients, relatives, colleagues, or other professionals in clinical practice is vital to nursing students. With so few studies on this relationship, additional research is necessary.

Social Problem-Solving Ability and Interpersonal Dysfunction

Baccalaureate nursing students face varied interpersonal challenges (Rosenberg and Gallo-Silver, 2011). Interpersonal dysfunction can lead to solitude, social withdrawal, psychological distress, and loss of self-worth (Feeney, 2006; McMurran et al., 2007). Interpersonal relationships play significant roles within healthcare-oriented organizations that emphasize partnership and cross-boundary working (Kaya, 2010). Problem-solving skills might be important for healthy interpersonal relationships (Guven, 2010). However, there has been limited research on social problem-solving and interpersonal dysfunction among Chinese baccalaureate nursing students. Although one study found that Japanese students with a dysfunctional pattern of interpersonal relationships are more likely to have lower social problem-solving ability (Sumi, 2011), the applicability of the finding to students in Macao is still in question.

Although there has been a significant body of research over the last two decades on social problem solving, most of this research focused on specific patient populations, such as personality disorders (Dixon-Gordon et al., 2011) or brain injuries (Channon and Crawford, 2010). Few studies have addressed the issue among nursing students either nationally or internationally. It is particularly useful to examine the social problem-solving ability of nursing students because many of them are in transition from student nurses to clinical nurses. When social problem-solving ability is an integral part of nurses' role, it is crucial to highlight the factors that can affect the social problem-solving ability. Based on the literature review of literature, the following four hypotheses were established:

Hypothesis 1. Chinese baccalaureate nursing students were more likely to use the dysfunctional dimensions of the social problem-solving ability.

Hypothesis 2. Communication skill would be positively associated with the social problem-solving ability.

Hypothesis 3. Clinical interaction would be positively associated with the social problem-solving ability.

Hypothesis 4. Interpersonal dysfunction would be negatively associated with the social problem-solving ability.

Methods

Design

This study used an exploratory, cross-sectional, and quantitative design.

Setting and Participants

Located on the southeast coast of China on the western bank of the Pearl River Delta, Macao is one of the most developed regions in Asia. Macao was a Portuguese colony from the 16th century until 1999 and a crossroads between East and West. The total population was estimated to be 549,200 in 2008. About 94% are ethnic Chinese from the provinces of Guangdong and Fujian, and the remaining 6% include Portuguese and others (Macau Government Tourist Office, 2009). In Macao, since 2007 all nurses have been trained in a 4-year bachelor degree program at a public institute and a private nursing college. The curriculum contains 32 core subjects, 8 language subjects, 10 clinical placements, and 2 elective subjects (Macao Government Printing Bureau, 2008) but none of them is related to the problem-solving training.

For this study, all of the nursing students in seven classes were recruited in one public institute through the census method (i.e., sampling every member of a population). This was more than half (50.9%) of total nursing students in Macao, according to statistics for the academic year 2009/2010 (The Government of the Macao SAR, 2010). The questionnaires were self-administered for 15 to 20 min within the data collection period of February 2011 to April 2011.

Instruments

In this study, a Chinese questionnaire package contained questions on demographic background, daily habitual activities, and four validated scales. Social problem-solving ability was assessed using the Chinese version of the 25-item Social Problem Solving Inventory short form (C-SPSI-R), which has satisfactory validity and reliability (Siu and Shek, 2005). It assesses two constructive or adaptive social problem-solving dimensions (PPO: positive problem orientation and RPS: rational problem solving) and three dysfunctional dimensions (NPO: negative problem orientation, ICS: impulsiveness/careless scale, and AS: avoidance scale).

The PPO assess a general cognitive set, which includes the tendency to view problems in a positive light, to see them as challenges rather than threats, and to be optimistic about the existence of a solution and one's ability to detect and implement effective solutions. In contrast, the NPO assesses a cognitive-emotional set that prevents effective problem solving.

The RPS assesses an individual's tendency to use effective social problem-solving techniques systematically and deliberately, including defining the problem, generating alternatives, evaluating alternatives, and implementing solutions and evaluating outcomes. The ICS evaluates a tendency to implement skills in an impulsive, incomplete, and haphazard manner. The AS measures dysfunctional patterns of social problem solving characterized by putting problems off and waiting for problems to solve themselves.

The C-SPSI-R is rated on a 5-point Likert scale from 0 (*not at all true of me*) to 4 (*extremely true of me*). The items were presented in a random order. Higher scores on each factor denote greater intensity on a particular dimension. A specific formula is used to calculate the total score (Siu and Shek, 2005), with higher summed scores indicating more