Chinese Nursing Research 2 (2015) 45–50

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Chinese Nursing Research

journal homepage: http://www.journals.elsevier.com/chinese-nursing-research

Original article

The relationship between social support and burnout among ICU nurses in Shanghai: A cross-sectional study

Li Li [a], Hong Ruan [a,*], Wei-Jun Yuan [b]

[a] Dental Department, The Ninth People's Hospital Affiliated to Shanghai Jiaotong University School of Medicine, Shanghai 200011, China
[b] Nursing Department, The Ninth People's Hospital Affiliated to Shanghai Jiaotong University School of Medicine, Shanghai 200011, China

ARTICLE INFO

Article history:
Received 23 December 2014
Received in revised form
6 March 2015
Accepted 25 April 2015
Available online 14 September 2015

Keywords:
Social support
Burnout
ICU nurses
Associations

ABSTRACT

Objective: The associations between social support and burnout were explored in ICU nurses of Shanghai.
Methods: We performed a cross-sectional study of 356 ICU nurses by applying random cluster sampling. Data were collected using self-reported questionnaires under the instruction of trained investigators. Data on emotional exhaustion, depersonalisation and feelings of low personal accomplishment etc. were collected, calculated and analyzed.
Results: The participants had a mean age of 26.96 years (SD 4.07). The mean value (M) and standard deviation (SD) of emotional exhaustion was $M = 31.85$, SD = 8.38, those of depersonalisation was $M = 11.69$, SD = 5.54 and those of feelings of low personal accomplishment was $M = 19.79$, SD = 7.02. The high degree of emotional exhaustion (EE), depersonalisation (DP), and lack of personal accomplishment (PA) were revealed to be 76.4%, 39.6%, and 94.9%, respectively. The major influencing factors of emotional exhaustion included support from co-workers($R = 0.343$, $T = 1.98$, $P = 0.049$), taking leave ($R = -1.182$, $t = -3.747$, $P = 0.001$), requisition of work ($R = -1.41$, $t = -2.369$, $P = 0.018$), and supervisor support ($R = -0.524$, $t = -3.926$, $P = 0.001$). The major influencing factors of depersonalisation were support from the supervisor ($R = -0.333$, $t = -4.146$, $P = 0.001$), age ($R = -0.89$, $t = -2.272$, $P = 0.024$) and requisition of work ($R = -0.148$, $t = -2.124$, $P = 0.034$). There was a positive co-relationship between personal accomplishment and supervisor support.
Conclusions: Supervisor support, age, and requisition of work were the major influencing factors of depersonalisation. In addition, supervisor support plays an important role in low personal accomplishment. Further research should focus on supervisor support, co-worker support, time on leave, and requisition of work associated with emotional exhaustion.

1. Introduction

In recent years, there has been an increasing number of studies examining burnout among intensive care unit (ICU) nurses.[1,2] Despite extensive research focused on this topic, burnout continues to be challenging for critical care nurses worldwide,[3] and in China, burnout in the ICU is higher than in the general wards.[3,4] Burnout is a psychological syndrome in response to chronic emotional and interpersonal stressors on the job. It is contagious, and may cross over from one nurse to another in the ICU.[5] One study reported that nearly one-third of the ICU nursing team showed a high level of burnout.[6] Lederer et al[7] maintained that advanced technology in the ICU can be a stressor, contributing to overall burnout; thus, nurses often feel overwhelmed and stressed when they first start working in the ICU. They will spend a long time in the ICU before feeling confident and competent, and they are often dependent on the expertise of experienced nurses.[6] A review of the literature from 2007 to 2012 revealed that nurse managers play a crucial role in preventing burnout by creating a supportive work environment for critical care nurses.[2]

In China, burnout is a significant issue for nurses, and Lin[4] measured burnout in 249 randomly selected nurses from various wards of a large teaching hospital in Beijing. One hundred and twenty-eight nurses returned the completed questionnaire

* Corresponding author.
E-mail address: sunbook_2001@126.com (H. Ruan).
Peer review under the responsibility of Shanxi Medical Periodical Press.

http://dx.doi.org/10.1016/j.cnre.2015.04.003

(response rate of 51%). These results showed moderate levels of emotional exhaustion and personal accomplishment and low levels of depersonalisation. Xie et al[8] proposed that nurses in Shanghai were suffering from high levels of burnout, which were strongly associated with work-related stress. The well-being of the nursing team is important for the quality of care, and a lack of social support was found to have a direct effect on emotional exhaustion and depersonalisation.[9] One study also showed that the best predictor of burnout appeared to be dissatisfaction with the emotional support received from supervisors.[10]

China is different from western countries in terms of social relationship patterns, nursing leadership models and administrative strategies.[11] Most hospitals still use a non-family system in which nurses rotate through a set roster. There are no casual or on-call nurses for sick leave and holiday relief, and consequently, nursing turnover and absenteeism can be high.[12] Support in such a situation is very relevant. Research on how social support relates to burnout among ICU nurses has not been performed in the ICU wards of large teaching hospitals in Shanghai, China. Thus, our study focused on ICU nurses with social support from others and on the effect of social support on burnout.

2. Material and methods

A cross-sectional design was used to investigate the social support and burnout in ICU nurses. We selected five of the Grade III general hospitals in Shanghai with random cluster sampling. Participants in this study were voluntary and anonymous, and ethical approval for this study was provided by the Institutional Review Board of the Institute of Psychology of the University to which the authors are affiliated. The inclusion criteria included qualified nurses who had worked more than one year in the ICU. After permission was obtained from the hospital director, an appointment with the nurse-in-charge was made. Researchers distributed the questionnaires in the ICU wards of the hospital, and an appointment was made to collect the completed questionnaires after one week. A total number of 396 questionnaires were distributed to the nurses in five public hospitals in Shanghai.

The present study examined ICU nurse burnout and the informative, emotional, instrumental and appreciative support received from the supervisors, co-workers, friends and families as well as the correlation between the levels of burnout and social support.

Data were collected using self-reported questionnaires under the instruction of trained investigators in September 2012. A total of 362 nurses completed the questionnaires, providing a response rate of 91.4%. After a list-wise deletion of the cases with missing values, the final number of respondents was 356. The age of the subjects ranged from 20 to 47 years, with a mean age of 26.96 (SD 4.07). The majority of the sample group was unmarried (59%), with only a small percentage of the nurses being divorced or widowed (2%). The average number of working years was 5.39 (SD 4.59), ranging from 1 to 26 years, and the highest number of working years was not more than 5 (64.6%). The number of years of education in nursing varied between 3 and 6 years, but only a few of the nurses (1.4%) had a master's level of education.

Measures: Socio-demographic data were obtained by self-report on a form designed specifically for this study. The form included personal demographic questions about birth date, gender, education and income level, marital status, and race/ethnicity.

Background information: Personal details were obtained about the participants' job titles, gender, age, marital status, length of employment in the ICU ward, number of years of education for nursing, time for learning professional knowledge, and psychological and communications training.

Burnout: A translated Maslach Burnout Inventory-Human Services Survey-Chinese Version (MBI-HSS-CV)[13] was used to examine the level of burnout among Chinese nurses. The survey tool is a 22-item questionnaire with three subscales: nine items for Emotional Exhaustion (EE), five items for Depersonalisation (DP), and eight items for personal accomplishment (PA). The reliability coefficients for the subscales reported by Maslach and Jackson (1996) were 0.90 for EE, 0.79 for DP, and 0.71 for PA, and the MBI-HSS was professionally translated into Chinese by Pang et al in Hong Kong, following the questionnaire back-translation processes (English − Chinese − English). The reliability of the MBI-HSS-CV was reported as 0.7737 for Chinese nurses. We received permission to use the translated MBI-HSS-CV from Pang. Each item was answered on a seven-point response scale, scored from 0 to 6 as 'never', 'a few times a year', 'once a month or less', 'a few times a month', 'once a week', 'a few times a week' and 'every day', respectively. The responses were combined to obtain separate scores for each of the three subscales, which could then be categorised as low, average or high degrees of burnout according to the normative data.[14]

Social support: This scale was based on the "Social Support Rating Scale", which was compiled by Xiao Shui Yuan. While social support can be provided by four main sources, that is, families, friends, work colleagues and the immediate supervisor,[15] every source should include the following four items:

Informational − reports can be obtained from colleagues on a critical matter.
Emotional − providing care, love, and trust.
Instrumental − providing facilitation behaviours to help the person meet work tasks.
Appraisal − obtaining evaluation and feedback on one's performance from the immediate supervisor.

The subscales used 5-point Likert scales, from 1 (never) to 5 (many). This survey tested the reliability and validity of the scale, with the split-half reliability being 0.891 and 0.915 (or better). The structural validity evaluation of Cronbach 's coefficient was above 0.9, and the correlation coefficient was greater than the total score and each factor. Thus, we propose that the scale scores have internal consistency.

Data analyses: Descriptive statistics were performed to examine the level of burnout, and the completed questionnaires were scored using the scoring key developed by Maslach and Jackson.[16] The final scores consisted of three sub-scores: Emotional Exhaustion (EE), Depersonalisation (DP), and Personal Accomplishment (PA). Higher scores of EE and DP and lower scores of PA indicate a high level of burnout.

Profile analyses were performed to determine the differences in the four supporters. Multiple regression analyses were used to examine the predictive effect factors on burnout. Stepwise variable selection methods (probability of F, using 0.05 for entry and 0.10 for removal) were used to generate the multiple linear regression models. The variables considered for inclusion in each model included the participants' job titles, gender, age, marriage state, length of employment in the ICU ward, number of years of education in nursing, psychological and communication training and social support (family, friends, work colleagues and immediate supervisor). These factors were related to the burnout sub-scale and were entered into the regression model. All analyses were performed using SPSS16.0. The significance level used in this analysis was $P < 0.05$.