

Prevalence and factors of compassion fatigue among Chinese psychiatric nurses

A cross-sectional study

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Abstract

Compassion fatigue has emerged as a detrimental consequence of experiencing work-related stress among psychiatric nurses, and affected the job performance, emotional and physical health of psychiatric nurses. However, researches on Chinese psychiatric nurses' compassion fatigue are dearth. This cross-sectional study aimed to investigate the prevalence and factors of compassion fatigue among Chinese psychiatric nurses.

All participants completed the demographic questionnaire and the Chinese version of Professional Quality of Life Scale (ProQOL-CN). One-way ANOVA, *t*-tests, Levene test and multiple linear regression analysis were conducted to evaluate factors associated with compassion fatigue.

A total of 352 psychiatric nurses in 9 psychiatric hospitals from the Chengdu, Wuhan, and Hefei were surveyed. The mean scores of compassion satisfaction, burnout and secondary traumatic stress were 32.59 ± 7.124 , 26.92 ± 6.003 and 25.97 ± 5.365 , respectively. Four variables of job satisfaction, exercise, had children, and age range from 36 to 50 years explained 30.7% of the variance in compassion satisfaction. Job satisfaction, sleeping quality, and marital status accounted for 40.4% variables in burnout. Furthermore, job satisfaction, average sleeping quality, and years of nursing experience remained significantly associated with secondary trauma stress, explaining 10.9% of the variance.

Compassion satisfaction, burnout and secondary traumatic stress among Chinese psychiatric nurses were at the level of moderate. The higher job satisfaction, healthy lifestyle (high sleep quality and regular exercise), and family support (children, stable and harmonious marital status) positively influenced compassion satisfaction and negatively associated with burnout or secondary traumatic stress.

Abbreviation: ProQOL = professional quality of life scale.

Keywords: China, compassion fatigue, factors, prevalence, psychiatric nurses

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1. Introduction

Caring for psychiatric patients may be a source of both personal fulfilment and intellectual stimulation for psychiatric nurses, while they have to take on various work-related stress, which is defined as an occupational hazard: For example, patient-related stress, including repeated exposure to suffering, violence, death and suicide, traumatic illness events and patient expectations^[1-3]; Practice-related stress, including increasing workloads, frequent workflow, deficiency of social support and limited medical facilities.^[1,4,5] A survey in China found that 74.76% of 527 nurses suffered from work-related stress,^[6] another study from 2 psychiatric hospitals in China, indicated that 297 psychiatric nurses presented higher work-related stress as compared to other departments.^[1]

The term compassion fatigue has emerged as a detrimental consequence of experiencing work-related stress among health-care workers. It consists of feelings of exhaustion, frustration, depression, and fear driven by working with traumatizing patients.^[7] Compassion fatigue in nursing was first reported by Joinson among emergency nurses.^[8] In recent years, the high risk of compassion fatigue ranges from 28.57% to 44.8% among psychiatric nurses,^[9,10] and it have a profound effect on well-being and lead to numerous negative symptoms among nurses, which include physical symptoms (insomnia, headaches and sleep disturbance, etc)^[11,12]; behavioral symptoms (increased alcohol

intake, strained personal relationships and avoidance of patients, etc),^[11,12] psychological symptoms (emotional exhaustion, professional helplessness, and depersonalization, etc).^[11,12] Chinese psychiatric nurses may be vulnerable to compassion fatigue not only because of their increasing work-related stress, but also due to higher level of workplace violence as compared to other departments,^[13] and the patient-centered holistic nursing care model reform,^[14] especially the serious situation of nursing staff shortage in China,^[15] which cause a great challenge for psychiatric nursing care. Therefore, it is necessary to pay more attention to the compassion fatigue of Chinese psychiatric nurses.

2. Literature review

2.1. The status of compassion fatigue among Chinese psychiatric nurses

Previous study found that 480 psychiatric nurses of different provinces had severe compassion fatigue and burnout in China.^[16] Zeng investigated 387 psychiatric nurses from the northern and southern parts of China, and reported that high level of compassion fatigue could be the consequence of higher risk of workplace violence.^[5] Furthermore, another study in Shandong province showed that, psychiatric nurses with lack of work experience, younger ages, and male gender suffered from higher burnout.^[17] Thus, it is critical to understand the status and factors of compassion fatigue among Chinese psychiatric nurses.

2.2. Three subscales of professional quality of life scale (ProQOL)

The ProQOL revised by Stamm in 2005 consisted of 3 subscales: burnout, secondary traumatic stress and compassion satisfaction, and it has become the most common instrument to evaluate the compassion fatigue.^[18] According to the ProQOL model, both secondary traumatic stress and burnout are negative aspects, while compassion satisfaction is positive.^[19] Burnout is defined as a psychological syndrome that involves a prolonged response to chronic stresses of the dissatisfied work, and characterized by emotional fatigue, depersonalization, and lack of personal accomplishment.^[7,19] Secondary traumatic stress has been described as an occupational hazard, which stems from secondary exposure to others' trauma and distress.^[20] Stamm^[19] considered that compassion satisfaction included positive feelings derived from helping patients to deal with traumatic events as a healthcare providers or doing a job well.

This study aimed to achieve the following goals:

- (1) Explore the prevalence of compassion fatigue among Chinese psychiatric nurses.
- (2) Assess the association between demographic, work-related and lifestyle characteristics, and compassion fatigue.

The hypotheses for this study include the following aspects:

- (1) In China, psychiatric nurses develop higher levels of compassion fatigue than other departments.
- (2) Chinese psychiatric nurses with different demographic, work-related and lifestyle characteristics experience different levels of compassion fatigue.

3. Materials and methods

3.1. Ethics approval and consent to participate

The study protocol was approved by the Ethics Committee of Chengdu University of Traditional Chinese Medicine (2018KL-

076). Participants were enrolled in the survey on the basis of informed consent and confidentiality.

3.2. Participants

The cross-sectional survey, anonymous, was conducted with a convenience sample of psychiatric nurses from 9 psychiatric hospitals selected from Chengdu, Hefei, and Wuhan in China. Questionnaires were distributed to the 400 registered nurses. Nurses needed to meet the following inclusion criteria:

- (1) worked full time and delivered direct patient care on the psychiatric hospitals;
- (2) at least 6 months' clinical experience.

Nursing students were excluded. After the exclusion of partially completed questionnaires, and 352 questionnaires were finally completed and returned, the response rate was 88%.

3.3. Procedure

The trained researchers initially contact the nursing directors of 9 psychiatric hospitals to explain the study protocol and items of the questionnaires, and then, the nursing directors sent the questionnaires in an electronic format to the respondents during their breaks and instructed the participants how to answer the questionnaires. The nurses who volunteered completed the informed consent and the questionnaires, the study was anonymous and participants had the right to withdraw at any time. All data were collected between December 2018 and March 2019.

3.4. Measures

A self-administered questionnaire survey included questionnaire instructions and demographic questionnaires developed by the researchers. The demographic questionnaires consisted of participants' demographic information, work-related information, and lifestyle. The Chinese version of ProQOL-CN version 5 developed by Shen.^[21] The ProQOL-CN is a 30 item self-report measure on a 5-point scale from 1=never to 5=very often, and consists of 3 subscales: compassion satisfaction, burnout, and secondary traumatic stress. Scores for 3 subscales were computed by aggregating the scores of 10 specific items. A subscale total score of ≤ 22 means low levels of compassion satisfaction, burnout, and secondary traumatic stress; 23 to 41 indicates average levels; and ≥ 42 suggests high levels.^[18] The Cronbach α coefficients of the compassion satisfaction, burnout, and secondary traumatic stress subscales were 0.88, 0.75, and 0.81, respectively.

3.5. Data analysis

A descriptive analysis was used to present the factors of demographic, work-related and lifestyle and the prevalence of 3 subscales of ProQOL. One-way ANOVA, *t*-tests, and Levene test were used to compare the differences and explore the relationships between demographic information, work-related information and lifestyle of the participants and 3 subscales. Multiple linear regression analysis was used to examine salient variables associated with 3 subscales among the main research factors. The *P*-value was set at $P < .05$ in all analyses. Statistical analyses were performed using SPSS v24.0.

4. Results

4.1. Demographic, work-related characteristics, and lifestyle of the participants

Table 1 shows the demographic, work-related, and lifestyle data of all 352 subjects. The age of the participants ranged from 18 to 50 years (29.68 ± 7.08). The majority of the respondents were female (83.81%), married (57.67%), had children (50.3%), and had a nursing education of associate degree or less (69.32%). 55.4% of psychiatric nurses worked on the day shift, 72.70% worked more than 8 hours per day, 45.2% slept less than 6 hours per day, 88.64% were contract psychiatric nurses, 55.50% worked more than 6 years and 46.59% were senior nurses. Only

2.8% of the psychiatric nurses smoked cigarettes and 6.5% drank alcohol. The mean score of job satisfaction was 3.09 ± 0.860 , the mean score of average sleeping quality was 6.36 ± 2.004 , and the mean days of physical activity (a total of 30 minutes or more per day) were 1.73 ± 1.73 .

4.2. The prevalence of ProQOL

The mean scores for the compassion satisfaction, burnout, and secondary traumatic stress were 32.59 ± 7.124 , 26.92 ± 6.003 , and 25.97 ± 5.365 , respectively. In addition, most psychiatric nurses had average levels of compassion satisfaction (81.8%), burnout (73.6%), and secondary trauma stress (74.1%).

4.3. Univariate analyses of demographic characteristics associated with the ProQOL

Independent sample *t*-tests and ANOVA suggested that psychiatric nurses who were female, nurse supervisors or above, head nurses, had children, worked on day shift and did not smoke presented higher compassion satisfaction. In addition, psychiatric nurses who were at the age of 36 to 50, female, married, head nurses, had bachelor degree or more, had children, worked on day shift, did not smoke and slept >6 hours per day presented lower burnout. Finally, psychiatric nurses who were at the age of 36 to 50, married, had bachelor degree or more and had 6 to 10 years of work experience indicated lower secondary traumatic stress (all $P < .05$). As shown in Table 2

4.4. Multiple linear regression of possible predictor of compassion fatigue

According to Table 3, the results of multiple linear regression analysis demonstrated that 4 variables of job satisfaction, exercise, had children and age range from 36 to 50 years explained 30.7% of the variance in compassion satisfaction. Job satisfaction, sleeping quality and marital status accounted for 40.4% variables in burnout. Furthermore, job satisfaction, average sleeping quality, and years of nursing experience remained significantly associated with secondary trauma stress, explaining 10.9% of the variance. Job satisfaction exerted a positive influence on compassion satisfaction and negative influence on burnout and secondary trauma stress. Poor sleeping quality was significantly associated with high levels of burnout and secondary trauma stress.

5. Discussion

According to our findings, the mean scores of compassion satisfaction, burnout, and secondary traumatic stress were 32.59 ± 7.124 , 26.92 ± 6.003 , and 25.97 ± 5.365 , respectively. Compared with previous studies among 174 psychiatric nurses in Greece^[10] and 650 oncology nurses in China,^[22] our findings presented higher level of compassion fatigue. In addition, as compared with a study of 491 ICU nurses in the United States,^[23] Chinese psychiatric nurses in our study showed higher risks of burnout and secondary traumatic stress and lower compassion satisfaction. The discrepancy may be caused by the following factors. First, repeated exposed to verbal and physical violence of patients with mental disorders may lead to physical and emotional burden of psychiatric nurses.^[24] Second, it was insufficient that continuing education and training on workplace

Table 1
Characteristics of Chinese psychiatric nurses (n=352).

Factor	Categories	n	%
Age (yr)	18–25	87	24.72
	25–35	192	54.55
	36–50	73	20.73
Gender	Male	57	16.19
	Female	295	83.81
Marital status	Marriage	203	57.67
	Member of an unmarried couple	64	18.18
	Single/Divorced or separated	85	24.15
Highest level of education	Associated degree or less	244	69.32
	Bachelor degree or more	108	30.68
Have children	Yes	177	50.28
	No	175	49.72
Years of nursing experience	≤1 yr	57	16.19
	2–5 yr	100	28.41
	6–10 yr	86	24.43
	>10 yr	109	30.97
Work position	General nurses	329	93.47
	Head nurses	23	6.53
Professional title	Nurses	127	36.08
	Senior nurses	164	46.59
	Nurse supervisor or above	61	17.33
Form of employment	Contract nurses	312	88.64
	Staff nurses	40	11.36
Average working hours per day	≤8 h	96	27.27
	>8 h	256	72.73
Shift predominantly worked	Days	196	55.68
	Nights	156	44.32
Used smoking products	Yes	10	2.84
	No	342	97.16
Used alcohol	Yes	23	6.53
	No	329	93.47
Sleeping hours per day	≤6 h	159	45.17
	>6 h	193	54.83

Table 2
Univariate analyses of demographic characteristics associated with the professional quality of life.

Variable	Category	CS			BO			STS		
		Mean (x ± s)	t/F	P	Mean (x ± s)	t/F	P	Mean (x ± s)	t/F	P
Gender	Male	30.63 (7.596)	-2.278	.023	28.42 (5.477)	2.071	.039	26.58 (5.937)	0.938	.349
	Female	32.97 (6.980)			26.63 (6.065)			25.85 (5.251)		
Age	18–25	32.40 (6.404)	2.965	.043	27.86 (5.471)	3.680	.026	27.47 (5.115)	4.944	.007
	25–35	32.00 (7.361)			27.09 (6.010)			25.65 (5.534)		
	36–50	34.36 (7.113)			25.36 (6.360)			25.03 (4.983)		
Marital status	Married	33.36 (6.966)	2.880	.057	26.17 (5.995)	4.363	.013	25.29 (5.409)	3.966	.020
	Member of an unmarried couple	31.56 (6.782)			27.38 (5.338)			26.70 (5.148)		
	Single/divorced	31.51 (7.581)			28.38 (6.252)			27.04 (5.234)		
Highest level of education	Associated degree or less	32.35 (6.740)	-0.413	.680	27.89 (5.778)	2.023	.044	27.15 (5.340)	2.770	.006
	Bachelor degree or more	32.69 (7.299)			26.49 (6.062)			25.45 (5.304)		
Have any children	Yes	33.59 (6.676)	2.670	.008	26.23 (6.088)	-2.117	.030	25.57 (5.003)	-1.402	.162
	No	31.58 (7.434)			27.62 (5.850)			26.37 (5.695)		
Shift predominantly worked	Days	33.37 (6.344)	0.389	.027	26.79 (5.156)	0.080	.026	26.82 (5.079)	0.074	.692
	Nights	31.36 (6.474)			28.36 (5.381)			26.99 (5.218)		
Average working hours per day	≤8 h	32.93 (6.689)	0.546	.585	26.36 (5.718)	-1.064	.288	25.15 (5.738)	-1.767	.078
	>8 h	32.46 (7.289)			27.13 (6.104)			26.28 (5.197)		
Form of employment	Contract nurses	32.33 (6.988)	-1.880	.061	27.13 (5.886)	1.819	.070	26.08 (5.367)	1.088	.277
	Staff nurses	34.58 (7.926)			25.30 (6.711)			25.10 (5.339)		
Years of nursing experience	≤1 yr	32.65 (6.661)	0.829	.508	27.58 (5.464)	2.356	.053	27.21 (4.981)	4.216	.002
	2–5 yr	31.88 (6.647)			28.13 (5.658)			27.18 (4.838)		
	6–10 yr	32.19 (7.845)			26.23 (5.685)			24.92 (5.995)		
	>10 yr	33.52 (7.178)			26.01 (6.003)			25.04 (5.200)		
Professional title	Nurses	31.54 (7.251)	3.334	.037	27.78 (5.744)	2.597	.076	26.86 (5.536)	2.759	.065
	Senior nurses	32.74 (7.180)			26.69 (6.135)			25.48 (5.141)		
	Nurse supervisor or above	34.36 (6.393)			25.75 (6.013)			25.44 (5.442)		
Work position	General nurses	32.34 (7.074)	-2.485	.013	27.09 (5.994)	2.064	.040	26.01 (5.376)	0.493	.622
	Head nurses	36.13 (5.054)			24.43 (5.680)			25.43 (5.307)		
Used smoking products	Yes	26.50 (4.927)	-2.767	.006	30.60 (5.621)	1.975	.049	28.10 (6.136)	1.275	.203
	No	32.77 (7.105)			26.81 (5.987)			25.91 (5.339)		
Used alcohol	Yes	33.61 (6.366)	0.710	.478	26.57 (5.307)	-0.293	.770	26.35 (4.063)	0.350	.727
	No	32.52 (7.718)			26.95 (6.055)			25.94 (5.449)		
Sleeping hours per day	≤6 h	32.21 (7.393)	-0.909	.364	27.82 (6.240)	2.584	.010	26.42 (5.291)	1.439	.151
	>6 h	32.90 (6.898)			26.18 (5.709)			25.60 (5.411)		

BO = burnout, CS = compassion satisfaction, STS = secondary trauma stress.

violence for psychiatric nurses.^[13] Finally, these differences in regions, cultures, departments, and workload are also very critical. Hence, Chinese psychiatric nurses might suffer higher compassion fatigue, which should attract the attention of hospital administrators.

Our study showed that there's a strong correlation between job satisfaction and 3 subscales of the ProQOL. Job satisfaction describes an attitude that individuals maintain about their jobs and affected by job type, patient load, salary, welfare and colleagues support, and so on.^[25] It can be used as a strong predictor of retention and directly linked to nurses' turnover rates.^[26,27] Our

result demonstrated that higher job satisfaction not only enhanced the level of compassion satisfaction, but also decreased a certain extent of burnout and secondary traumatic stress among psychiatric nurses, which is consistent with the findings of previous studies.^[28,29] Moreover, job satisfaction is a good predictor of self-compassion, and self-compassion can ameliorate the level of burnout.^[30] Therefore, targeting factors associated with job satisfaction may be important means of improving the poor ProQOL among psychiatric nurses in future studies.

In addition, our study found that sleep quality was negative factor for burnout and secondary traumatic stress. Previous

Table 3
Multiple linear regression of possible predictor of compassion fatigue.

Variables	B	SE	Beta	t	P
CS					
(Constant)	24.750	2.383	–	10.386	.000
Job satisfaction	4.389	0.373	0.530	11.757	.000
Exercise frequency	0.711	0.226	0.141	3.146	.002
Had a child	–2.784	0.820	–0.196	–3.395	.001
age	–1.411	0.619	–0.133	–2.281	.023
BO					
(Constant)	41.335	1.202	–	33.543	.000
Job satisfaction	–4.033	0.309	–0.578	–13.052	.000
Sleeping quality	–0.323	0.132	–0.108	–2.447	.015
Marital status	0.649	0.296	0.091	2.197	.029
STS					
(Constant)	34.897	1.425	–	24.491	.000
Job satisfaction	–1.316	0.339	–0.211	–3.887	.000
Years of nursing experience	–0.800	0.253	–0.160	–3.158	.002
Sleeping quality	–0.373	0.144	–0.139	–2.584	.010

CS: $F=39.870$, $P=.000$, $R^2=0.315$, Adjusted $R^2=0.307$.

BO: $F=80.358$, $P=.000$, $R^2=0.409$, Adjusted $R^2=0.404$.

STS: $F=12.332$, $P=.000$, $R^2=0.117$, Adjusted $R^2=0.109$.

BO = burnout, CS = compassion satisfaction, STS = secondary trauma stress.

studies indicated that sleep disorder or sleep less than 7 hours per day was associated with burnout and poor job performance.^[31,32] In other words, good sleep quality is a supportive role against burnout or secondary traumatic stress. It is a barometer to nurses' psychological well-being, partly because work-related stress of nurses manifests as sleep disorders.^[33] In our study, 45.17% psychiatric nurses slept less than 6 hours per day and mean score of average sleeping quality was 6.36 ± 2.004 . Accordingly, it is possible that psychiatric nurses were victims suffering from emotional or physical exhaustion. Indeed, psychiatric nurses should pay more attention to improve their sleeping quality (eg, sleep interventions) which is close ties to health.

In terms of family factors, the finding displayed that children were positively correlated with compassion satisfaction, however, being married was negatively related to burnout. Some studies indicated that work pressure may lead to work-family conflict and subsequently affected individuals' mental health.^[34] The family relationship and parenthood in our study were the primary support sources for psychiatric nurses. Nurses who socialize with family can enhance emotional well-being and reduce the risk of compassion fatigue.^[35] This study recognized that the importance of stable and harmonious family relationship for maintaining the mental health of nurses. Thus, family support is critical to reduce the level of compassion fatigue.

In addition, psychiatric nurses between the ages of 36 and 50 had higher level of compassion satisfaction. Meanwhile, nurses who worked more than 10 years presented lower levels of secondary traumatic stress, and nurses who worked less than 5 years were more susceptible to compassion fatigue than older nurses. A study also confirmed that the increase of age and clinical experience were related to low compassion fatigue.^[36] Experienced nurses may have better professional performance and coping strategies to provide health care for psychiatric patients, and they feel competent to deal with emergencies promptly. In addition, peer support and professional resiliency skills are also effective ways for older nurses to reduce compassion fatigue.^[37–39] Thus, nurses between the ages of 36

and 50 may have better problem-solving abilities and rich nursing experience, which indicated that they had higher level of compassion satisfaction and lower burnout and secondary traumatic stress.

Previous study verified that exercise regularly can improve mood state.^[40] In our study, mean days of physical activity of Chinese psychiatric nurses were 1.73 ± 1.73 , which means that the frequency and time of physical exercise are far less to Canada physical Activity Guideline commendation (at least 150 minutes of moderate-to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more) (<http://www.csep.ca/guidelines> [accessed March 22, 2016]). Moreover, a survey has also reported that clinical nurses who lack of exercise regularly more susceptible to emotional or physical fatigue.^[41] Therefore, exercise regularly may be beneficial for the prevention of compassion fatigue.

There are several limitations of the study. First, convenience sampling of subjects limits the generalization of our results, our study focused on psychiatric nurses in Chengdu, Hefei, and Wuhan, and the results may not be applicable to other work settings, cultures and countries. Additionally, the cross-sectional study did not explore the changes of ProQOL dimensions of participants over time. Finally, the study did not take into account the age of their children. On the one hand, mothers have to take care of their young children, which may increase burnout on nurse as mother. On the other hand, older children may give parents more mental support in constant communication.

6. Conclusions

Compassion satisfaction, burnout and secondary traumatic stress among Chinese psychiatric nurses were at the level of moderate. We found that higher job satisfaction, healthy lifestyle (high sleep quality and regular exercise), and family support (children and stable and harmonious marital status) positively influenced compassion satisfaction and negatively associated with burnout or secondary traumatic stress. According to our results, therefore, nursing managers can formulate targeted intervention and coping

strategies to relieve compassion fatigue and promote psychological health of psychiatric nurses in China.

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