Correlation Survey of Workplace Stress, Sleep, and Resilience of Nursing Preceptor in Teaching Hospital

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Abstract

Background: Nursing preceptor are under the pressure of clinical and teaching work. The impact of pressure on physical and mental health includes depression, anxiety, sleep disorders, and even mental exhaustion and exhaustion. If they fail to get relief from work, it will cause negative emotions, and will be physically and mentally exhausted for a long time.

Aims: To understand the workplace stress, sleep, and resilience of nursing preceptor.

Methods: The study used a cross-sectional study design. The enrollment setting was the Nursing Department of a teaching hospital. A total of 35 nursing preceptors.

Results: A total of 54.29% of situational anxiety were moderate, 80.0% of trait anxiety was moderate, 57.1% had difficulty falling asleep, 65.7% were unable to maintain a long sleep, and 71.4% had trouble waking up too early, and 91.4% expressed dissatisfaction with sleep. 80.0% have sleep disturbance, and the resilience is low (below 121 points), accounting for 42.8%. Resilience and situational anxiety (p=.003), trait anxiety (p=.001), sleep disturbance (p<.001), physiological stimulation of sleep physical and mental state (p=.003), and cognitive stimulation of sleep physical and mental state (p< .001) are all negative correlations. Trait anxiety is positively correlated with sleep disorders (p<.001).

Conclusion: The score of resilience is low, and the various distress states are higher; the higher the distress states, the higher the sleep disturbance. Therefore, for the stress and sleep problems of clinical nursing instructors, caring services should be provided in the future, or through group activities that provide resilience enhance face stress, and reduce sleep disturbance.

Recommendations: Clinics can routinely arrange resilience groups to help nurses increase their ability to face stress and improve their quality of life

Keywords: nursing preceptor, workplace stress, resilience

1. Introduction

Stress of Preceptors

The system of preceptors is a learning-guide model, significantly affecting the workplace adaptability of newcomer nurses, which represents a responsibility for preceptors, and even a source of stress. Studies indicate (Elmarie, Teri & Christina, 2015; Chiang, 2015).that stressors for preceptors consist of environmental and individual aspects. The environmental factors include assessment stress, the parallel jobs in teaching and clinical practice, an incomplete teacher education system, lack of supervisor's encourage and support; the individual factors include inadequate knowledge about instructional planning, insufficient professional knowledge, inadequate teaching techniques, ineffective interpersonal communication skills, and lack of adjustment measures

for personal stress. When an individual encounters stress, anxiety is the first expressed emotional reaction under stress which is also a subjective feeling developed from environmental stress. Inappropriate stress adjustment may result in exhaustion, emotional irritability, and gradually losing the original service enthusiasm and teaching attitudes. Moreover, inappropriate coping styles may be involved in dealing with trainees and colleagues, losing job achievement, and gradually feeling frustration and incapability. Fatigue, frustration, and horizontal violence are three major influences of stress on nurses, job stress leads to higher staff turnover rates. Research conducted by the scholar Chiang (2015) found that the top 3 instructional stressors for preceptors include assessment preparation, teaching workload, and instructional effectiveness, irrespective of job promotion; the situations of insufficient professional knowledge and lack of supervisor's encourage and support increase yearly. In coping with stress among preceptors, 30.6% of them take religious approach, 54.9%-84.5% with positive and help-seeking measures, 49.8% with an escape-from-self approach, and 3.5% choose alcohol or drug in coping with stress. The competent authority should more aggressively provide intervention to assist them in stress management, including stress prevention and education, high-stress staff screening, counseling, and referral programs. Relevant factors affecting stress include higher perceived stress in female preceptors, less perceived stress in preceptors aged 55-64 years and less perceived stress in preceptors with an education level of junior college.

Resilience

The resiliency model was proposed by Richardson (2002), which is referred to as the process of individual's reaction to stress and reintegration. A stronger level of resilience adapts to stress, developing a new and higher level of consistency instead of maladaptation leading to a state of incapability. Resilience is defined by the American Psychological Association (APA) as "the process of successfully adapting to adversity, harm, tragedy, threat or significant stressors". Lin et al. (2019) suggest that resilience is the innately existing characteristic and capability of humans, enabling an individual to positively adapt to and control unfavorable factors to achieve a consequence of positive adaptation. Resilience involves two major approaches, "variable-focused approach" and "person-focused approach", the former focuses on observation of the adjustment (e.g., social support) among various affecting factors when people encounter difficulties. The primary effect, of risk occurs, is that people can utilize favorable environmental factors to avert the crisis, facilitating enhancement of positive adaptability or achieving the goal of harm prevention. The latter highlights the expression of personality traits in a crisis state. In environment of a high level of crisis, people with high-level adaptability mostly possess resilience traits and those with such traits can exhibit better adaptability in crisis events (Chen, 2014).

Nurses with a higher level of resilience are more optimistic, with spirituality and better social support network. Exhaustion is negatively correlated with mental health and resilience. Resilience provides an intermediary effect between personal achievement and mental health (Shih, 2020). Ego-resilience can retard challenge stressors and have a negative influence on blessedness. Compared to people with a lower level of ego-resilience, those with a higher level of ego-resilience all express higher blessings. In individuals with lower ego-resilience, the correlation between challenge stressors and blessedness becomes stronger (Hsieh, et al.,2016). Lee et al. (2019) found factors associated with resilience include personal aspects such as age, job seniority, marital status, education level, shift or not, exercise habits, etc.; in environmental aspect, social support such as peer support and family support is positively correlated with resilience. Wang et al. (2007) found that individuals at a younger age receive more social support. In this age of the advanced network, the young generation encountering stress may positively seek more relevant information and friends which can be considered as an ordinary job support system and assistant resources for stress adaptation. Resilience can be enhanced by means of cognition or adaptation training.

Stress, Sleep, and Resilience

In the stress-associated theory of the "Diathesis-stress model", "diathesis" is referred to as the vulnerability or predisposition of individuals, "stress" is the phenomenon of suffering from physiological, psychological, or mental illness when individuals are exposed to stressful life events; in the addition of stress to individual's traits, the disease may develop when exceeding certain severity. Providing appropriate stress-relief measures or support can reduce the influence of stress, elevating illness-onset thresholds. Nevertheless, a vulnerable diathesis sensitized by stressful life events which exceed the illness-onset threshold may result in illness development (Mann, et al., 1999; Wikipedia, 2021). Deng et al. (2020) found that job stress significantly affects the quality of sleep. Among nursing personnel, higher job stress can worsen the quality of sleep, 35.5% of nurses suffer from sleep disorders (Liu & Chen, 2020). Palagini (2020) found that insomniacs possess lower resilience. After anxiety/frustration symptoms are controlled, low resilience is correlated with high-stress sleep response (P =.004), pre-sleep cognitive arousal (P = .01), and emotional disorders (P =.01). Insomnia is the response to stress

developed by individuals with fragile diathesis, resilience is the capability of an individual's successful adaptation to stress. The scholar Shih (2020) guided healthcare personnel to consciously transfer focused issues by means of mindfulness-based interventions which expands the restricted viewpoint from stress state, the resilience naturally exhibiting. Therefore, in healthcare personnel encountering adversity, the resilience capability can be enhanced through training, facilitating healthcare personnel's physical and mental health.

1.1 Significance of the Study

A nurse preceptor is an experienced nurse who provides newcomer nurses with instruction, supervision, and evaluation, guiding them to establish professional core capabilities. Preceptors not only confront the management of a patient's illness and death but also encounter peers such as physicians, and medical and administrative staff, the work environment involves complicated interpersonal relationships. Preceptors are persistently under stress from clinical practice and instructive work. The influences of stress on physiological and psychological health include depression, anxiety, sleep disorders, and even spiritual fatigue and exhaustion. Failure to acquire stress relief in work can make the practitioner develop negative emotions which leads to physical and mental exhaustion in the long run, resulting in decreased quality of nursing care affecting patient safety, and increased staff turnover rate, etc. The coping capability under stress can be enhanced by training. Therefore, the Nursing Education and Training Committee in a teaching hospital investigated preceptors' levels of stress, sleep status, and capability to cope with stress, providing a reference for organizing educational training in enhancing the stress-coping capability of preceptors. In the current research, most of the surveyed subjects are nursing staff, and there is a lack of research on nurse preceptors. Nurse preceptors not only face the pressure of clinical work but also have the responsibility of teaching, which is different from the pressure faced by general nursing staff. Worth looking into. This research examines the stress and resilience of nurse preceptors, and can then formulate relevant measures that meet the needs of this group of people and help them improve their ability to cope with stress.

1.2 Operation Definitions

Preceptor: A preceptor is referred to as an individual who has teaching ability, can support and provide newcomer nurses with feedback, also able to positively influence newcomer nursing staff on job involvement.

Nursing preceptor: A preceptor is referred to as a nurse who acquired Nursing Practitioner Certificate, with three years and above of seniority in clinical nursing experience for teaching hospitals, exhibiting a passion for teaching.

Resilience: the process of individual's reaction to stress and reintegration.

2. Aim of the Study

The aim of the study was to

(1) Investigate the scores in preceptors' stress, sleep disorders, and resilience.

(2) Investigate the correlation of preceptors' base attributes, stress, sleep disturbance, and resilience.

(3) Investigate the interrelationship of preceptors' stress, sleep disturbance, and resilience.

3. Methods and Subject

3.1 Research Design

The study used a cross-sectional study design.

3.2 Setting

The enrollment setting was the Nursing Department of a teaching hospital in northern Taiwan.

3.3 Participants

Participants were nursing preceptors at a teaching hospital, inclusion criteria include preceptors guiding post-graduate year training (PGY) trainees; nurse grade of N3 and above; with one year and above experience in nursing clinical teaching. The exclusion criteria include preceptors from sectors other than Nursing Department.

3.4 Measure Tools

(1)The self-completed "Evaluation questionnaire of preceptor's job stress and resilience" consists of two parts. The first part involves basic information (date of birth, job seniority, seniority in acting as a preceptor, gender, nurse grade, education level, division, marital status, number of children, religious belief). Contents of the second part include three categories, the "State-Trait Anxiety Inventory" (STAI), "Sleep Disturbance Scale" (SDS), and "Resilience Scale" (RS).

(2) The "State-Trait Anxiety Inventory" is a scale developed by Spielberger et al. (1980) based on research on the ordinary population's anxiety. Studies also found it can be applied to clinical patients. It is a scale tool used to measure an individual's state and trait components of anxiety. The scale consists of two parts, with 20 items respectively. The first part is the state anxiety scale: state anxiety is a temporary emotional state which changes over time, including an individual's subjectively perceived feelings of nervousness, depression, anxiety, and worry, as well as autonomic nervous system arousal. The second part is the trait anxiety scale: which is the individual's frequency of exhibiting anxiety-associated feelings or symptoms in an ordinary situation. This scale has been used to evaluate subjective anxiety for healthy study subjects or patients in medical institutions (Balsamo, et al., 2020; Court, Greenland & Margrain, 2010). The Chinese version translated by scholars Chung & Long in 1984 (Wang & Chung,2016) was used in this study. The study findings revealed a Cronbach's α value of 0.898 for the state anxiety scale and 0.859 for the trait anxiety scale. The forward/reverse scoring was used in both two subscales. In-state anxiety scale, 1-4 points for 4 grades including "Not at all", "Somewhat", "Moderately so", and "Very much so" were used. The reverse scoring in the part of the state anxiety scale: 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20. The scoring order was 1-4 points for 4 grades including "Almost never", "Sometimes", "Often", and "Almost always" on the trait anxiety scale. The reverse scoring in the part of the trait anxiety scale: 1, 6, 7, 10, 13, 16, and 19. The scoring points in two subscales reached between 20 and 80 points. The scoring points of 20-39 account for mild anxiety, 40-59 account for moderate anxiety, and 60-80 account for severe anxiety.

(3) The sleep disturbance scale was developed by Morin et al. (1993), which has been used to measure the general public's major symptoms of insomnia, also been applied in research on pathology and therapeutic effectiveness for insomnia. This 5-point scale evaluates the severity of insomnia during the past 2 weeks, measuring major symptoms from insomnia, the subject's satisfaction with sleep, the influence of insomnia on daytime functions, the significance of influence from insomnia, and the degree of concern about insomnia. Total scores vary from 0 to 28 points, and greater scoring points indicate more severe insomnia. The study findings revealed a Cronbach's α value of 0.90.

(4) Resilience Scale: RS was developed by Wagnild & Young (1993), which is a modification of a qualitative interview conducted with 24 elderly females who successfully experienced adversity. It considers resilience as a positive personality trait strengthening an individual's stress adaptation. The Chinese version translated by Li (2008) was used in this study, consisting of 25 items reflecting five characteristic features, including peaceful spirit, meaningful life, indomitable spirit, accepting the loneliness of existence, and self-confidence. This 7-point Likert scale reveals total scores between 25 and 175 points; the scoring levels of 147 to 175 were assigned as high in resilience, with better resilience capability in adversity; 121-146 as mid-range, with fair resilience capability in adversity; less than 121 as low in resilience, with relatively poor resilience capability in adversity. The study findings revealed a Cronbach's α value of 0.85-0.94.

3.5 Methods and Phase of Data Collection

3.5.1 Administrative Approach

The participants include a total of 320 preceptors at a teaching hospital. Two-tailed tests using mean of single group samples were conducted, with an effect size set at 0.5 (a medium effect size), type I error rate set at 0.05, and statistical power set at 80%. A total sample number of 34 was computed using the software G*power, 35 subjects were sampled by using a random number table. The questionnaire in a sealed envelope was given to individual subjects based on the included subject list. The completed questionnaire was placed in an envelope and returned. An anonymous approach was applied in filling out. A total of 35 copies were sent out, with 100% of return rate, all were valid questionnaires.

3.5.2 Ethical Considerations

The study has been submitted for review and approval by Institutional Review Board (IRB:2020-09-005AC). All data applied the principles of serial number, anonymity, and confidentiality. The participant has the right of refusal. Data were preserved in the core research office, kept confidential, and locked.

3.5.3 Statistics and Data Analysis

The data were keyed in using Excel with an anonymized encoding process. The statistical software SPSS 20.0 (IBM SPSS Inc. Chicago Illinois) was used. Score, mean value, and percentage were used in various scales and base attributes for the study and analysis methodology. One-way ANOVA was used for correlation analysis between base attributes and scales. The relationships among various scales were analyzed by using regression analysis.

4. Results

4.1 Baseline Data

4.1.1 Demographics

Of the 320 subjects of the population, the average age was 45 years, with seniority of mostly 5-10 years (24.5%), nursing grade of mostly N2 (40.3%), education level of mostly university and above (75.2%). In the 35 enrolled subjects, the average age was 43.1 ± 17.5 years, with average seniority of 3.9 ± 3.7 years, mostly females (94.3%), nursing grade of mostly N2 (42.9%), education level of mostly university (85.7%), division of mostly surgery (31.4%), and mostly single (51.4%), mostly with religious belief (66.7%). After the test of normality was conducted for total scores on various scales (stress, sleep, and resilience), based on findings from the Shapiro-Wilk test, all data conform to the assumption of normality (all *p*-value were greater than 0.05).

4.2 Scale Scoring

4.2.1 Analysis of State and Trait Anxiety Scales

On state anxiety scale, the scores ranged between 28 and 53 points, with a mean of 41.4 ± 6.0 points, mostly moderate anxiety (54.3%); on trait anxiety scale, the scores ranged between 35 and 59 points, with a mean of 42.9 ± 4.9 points, mostly moderate anxiety (80.0%) (Table 1). These indicate that the environmental and individual traits of the preceptors in this study are mostly moderate anxiety.

Table 1. Analysis for state anxiety, trait anxiety, and resilience scales (n = 35)

Category	Number	Percentage
Severity of state anxiety	The lowest 28 to the highest 53 points, mean 41.4 ±6.0 points	
Mild anxiety 20-39 points	16	45.7
Moderate anxiety 40-59 points	19	54.3
Severe anxiety 60-80 points	0	
Severity of trait anxiety	The lowest 35 to the highest 59 points, mean 42.9 ±4.9 points	
Mild anxiety 20-39 points	7	20.0
Moderate anxiety 40-59 points	28	80.0
Severe anxiety 60-80 points	0	
Resilience capability	The lowest 25 to the highest 175 points, mean 117.9 ±23.7 points	
Low resilience less than 121 points	15	42.8
Medium resilience 121-146 points	13	37.1
High resilience greater than 147 points	7	20.0

4.2.2 Sleep Disturbance Scale

The severity of sleep disturbance within 2 weeks indicates that "Have difficulty in falling asleep (57.1%)" reached a mean of 0.9 ± 1.1 points, "Fail to maintain longer sleep (65.7%)" with a mean of 1.3 ± 1.3 points, and a mean of 1.4 ± 1.2 points for "Wake up too early". The findings indicate a mild to moderate sleep disturbance, with a disturbance of waking up too early in 71.4%. The satisfaction with sleep status reached 1.9 ± 0.9 points, revealing a satisfied to neutral status satisfaction, with 91.4% reporting unsatisfied. The status of sleep disturbance reached 1.3 ± 0.9, with disturbance from "A little bit" to "Somewhat", showing 80.0% with sleep disturbance. "Does sleep affect the quality of life" reached 0.8 ± 0.8 points, indicating 57.1% were affected (Table 2).

Table 2. Analysis for sleep disturbance scale (n = 35)

Item	None n(%)	Mild n(%)	Moderate n(%)	Severe n(%)	Very severe n(%)	M (SD)
1 Evaluation for the severity of insomnia problem during the past two weeks						
a. Have difficulty in falling asleep	15(42.9)	12(34.3)	6(17.1)	0(0.0)	2(5.7)	0.9(1.1)
b.Fail to maintain longer sleep	12(34.3)	9(25.7)	7(20.0)	5(14.3)	2(5.7)	1.3(1.3)
c.Wake up too early	10(28.6)	10(28.6)	7(20.0)	6(17.1)	2(5.7)	1.4(1.2)
Item	Very satisfied n(%)	Satisfied n(%)	Neutral n(%)	Unsatisfied n(%)	Very unsatisfied n(%)	M (SD)
2. Are you satisfied with your sleep status recently?	3(8.6)	7(20.0)	14(40.0)	10(28.6)	1(2.9)	1.97(0.9)
Item	Not at all n(%)	A little bit n(%)	Somewhat n(%)	Quite a bit3 n(%)	Very much n(%)	M (SD)
3. Does sleep problem lead to disturbance in your daily routine functions?	7(20.0)	13(37.1)	12(14.3)	3(8.6)	0(0.0)	1.31(0.9)
4. Do others notice your quality of life has been affected by sleep problem?	15(42.9)	11(31.4)	8(22.9)	1(2.9)	0(0.0)	0.86(0.9)
5.Does recent sleep problem make you worry/disturbed?	12(34.3)	11(31.4)	8(22.9)	4(11.4)	0(0.0)	1.11(1.0)

4.2.3 Resilience Scale

Findings from the scale reveal total scores between 25 and 175 points, with a mean of 117.9 ± 23.7 points. The scoring levels of greater than 147 points with high resilience reached 20.0%, medium resilience of 121-146 points was 37.1%, and less than 121 points as low in resilience reached 42.8%. The findings reveal preceptors in this study are mostly with low levels of resilience (Table 1).

4.2.4 Correlation Analysis for Various Scales

The one-way ANOVA was used to determine the correlation of basic information items such as age, seniority, education level, marital status, number of children, and religion with state and trait anxiety scales, sleep disorders scale, and resilience scale, there was no any statistically significant difference found in all analysis results. Moreover, the regression analyses found that resilience was negatively correlated with all state anxiety (p=.003), trait anxiety (p =.001), sleep disturbance (p<.001), physiological arousal in sleep physical/mental status (p =.003), and cognitive arousal in sleep physical/mental status (p <.001), which reveals the lower scoring levels of resilience and higher levels in various disturbance statuses of the preceptors in this study (Table 3). Sleep disturbance was positively correlated with all trait anxiety (p < .001), physiological arousal in sleep physical/mental status (p < .001), and cognitive arousal in sleep physical/mental status (p <.001), indicating that the higher trait anxiety status represents the higher level of sleep disturbance of the preceptors in this study (Table 4).

Table 3. Regression analysis for various scales and resilience

Scale	β	t	p	95% CI
State anxiety	-.485	-3.189	.003**	-4.207--.930
Trait anxiety	-.524	-3.533	.001**	-3.277--.882
Sleep disturbance	-.575	-4.036	.000***	-3.385--1.116
Physiological arousal in sleep physical/mental status	-.607	-4.386	.000***	-3.397--1.244
Cognitive arousal in sleep physical/mental status	-.485	-3.188	.003**	-4.290--.948

*** *p* value < .001 ** *p* value < .01

Table 4. Correlation of trait anxiety scale and sleep disturbance

Scale	β	t	p	95% CI
Trait anxiety	.619	4.525	.000***	.345-.910
Physiological arousal in sleep physical/mental status	.591	4.206	.000***	.420-1.208
Cognitive arousal in sleep physical/mental status	.819	8.209	.000***	602-.999

*** *p* value < .001

5. Discussion

5.1 Basic Information Analysis

By end of October, 2020, the statistics showed there were 320 preceptors at a teaching hospital. In the 35 random samples, males reached 5.7%, with education level of university of 85.7%, 42.9% of N2 nursing grade, 3.9 years of average preceptor seniority. In the characteristics of 320 subjects in population, males reached 6.5%, with education level of university and above of 75.2%, 40.3% of N2 nursing grade, 5.6 years of average preceptor seniority, indicating the characteristics of the samples taken conforming to mode of the population.

5.2 Scale Scores

In this study, trait and state anxiety of the cases were mostly moderate, with about 3 years of preceptor seniority, average age of roughly 43 years, mostly with education level of university. Research conducted by the scholar Chiang (2015) found that preceptors aged 55-64 years with less perceived stress, preceptors with education level of junior college are in less perceived stress, findings of this study are similar to Chiang's study results. In the survey conducted by Cheng (Cheng, Shiao & Kuo, 2016), preceptors experience higher stress in "occupational injury" and "overloading". Among these, 48.3% reported sometimes feeling of very much stress in the job, 45.0% considered as often, and 6.7% indicated always feeling of very much stress. The moderate stress in this study is probably associated with the different work environment.

In this study, 80.0% of the cases reported sleep disturbance, with the higher severity of disturbance in "Wake up too early (72.5%)", and 58.2% for "Sleep affects the quality of life"; sleep disturbance is positively correlated with all trait anxiety, physiological arousal in sleep physical/mental status, and cognitive arousal in sleep physical/mental status, indicating that the higher degree of various disturbance status leads to the higher severity in sleep disturbance. Liu et al. (2020) found that 35.5% of preceptors suffer from sleep disorders, indicating that sleep hinders nursing personnel. Research conducted by Deng et al. (2020) found that nursing personnel's job stress is negatively correlated with sleep quality, indicating those with higher levels of job stress exhibit worse sleep quality, which is similar to the findings in this study.

5.3 Scales Correlation

In correlation study between base attributes and various scales, stress is correlated with gender and education level (Chiang, 2015); sleep disturbance is correlated with gender and seniority; resilience is correlated with job seniority, marital status, and education level (Lee, et al.,2019). Nevertheless, this study found that there was no statistical correlation between base attributes and various scales, which is probably because subjects' criteria in this study include clinical nursing experience of three years and above, and with passion for teaching. Moreover, the subjects should be recommended for training by head nurse, completed 10 hours of enhancement course for instructive capability within 2 years, followed by annually completed more than 4 hours of enhancement course for instructive capability. The traits and capability required for preceptors include professional knowledge,

interpersonal relationship, personality trait, and passion for teaching. The teaching hospital implemented a consistent process for recruitment and training of preceptors, moreover, there are no routinely organized resilience-related training courses at present. The sampled cases exhibit higher level of homogeneity, thus scores of various scales do not differ even with variance in base attributes.

Subjects' resilience in this study mostly reached low level resilience of less than 121 points (42.8%). Resilience is negatively correlated with all state and trait anxiety, sleep disturbance, physiological arousal in sleep physical/mental status, and cognitive arousal in sleep physical/mental status, indicating that the lower score in resilience leads to the higher severity in various disturbance statuses. Kim(Kim & Windsor, 2015) found that nursing personnel with better resilience exhibit more self-confidence in the job, and can better cope with job challenge. In addition to the effect of personality traits, no resilience-related training course organized for preceptors in the teaching hospital at present probably also is one of the factors for relatively lower level of resilience.

6. Limitation of the Study

Subjects of this study only include preceptors at a teaching hospital. Whether or not the result can be inferred to hospitals in other levels requires additional subject inclusion from various hospitals.

7. Conclusion

Both preceptors' trait and state anxiety in this study was moderate, 80.0% feeling of sleep disturbance, with low resilience, higher severity in disturbance status leads to higher level of sleep disturbance. In the future, for preceptors' stress and sleep problem, care services should be provided, or enhance the capability in coping with stress through resilience-related group activities to reduce sleep disturbance. Enhancement for staff resilience has been listed as one of the hospital accreditation indicators in 2020. Findings of this study reveal preceptors' stress, the severity of sleep disorders, and resilience capability, which can be used as the base for organizing training programs for enhanced stress management for Nursing Education Committee in the future. Issues regarding preceptors' stress and sleep disturbance, as well as enhancement for resilience can provide a reference for administrators in developing future management strategies. In the future, clinical nursing teachers from different hospitals can be accommodated, increasing the richness of data, and learning more about the stress status of nurse preceptors.

8. Recommendation

Through the measurement of the scale, this study found that nurse preceptors have low resilience. Personal traits (trait anxiety) affect sleep status. Resilience is an intermediary factor affecting sleep. Therefore, improving the resilience of nurse preceptors is to increase the nurse preceptors' face. Important strategies for stress coping. According to the findings of this study, it is recommended that routine courses for enhanced resilience can be clinically arranged to assist preceptors in enhancing capability of coping with stress, further improving their quality of life.

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