

The impact of workplace bullying on depression among clinical nurses in China A comparative analysis

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Abstract

The objective of this study is to examine the phenomenon of workplace bullying and its potential associations with burnout and depression among clinical nurses in China. A convenience sampling method was utilized to conduct a survey among 415 clinical nurses across 9 hospitals. All questionnaires were completed within a 2-week period in October 2023. The survey questionnaire comprised 3 sections, namely basic information, negative acts questionnaire (NAQ), and self-rating depression scale (SDS). Based on their depression status, the participants were categorized into 2 groups, namely depression group and control group. A comparative analysis of the basic data and NAQ was performed between 2 groups, and factors exhibiting statistically significant differences in the single factor analysis were subjected to binary logistic regression analysis. Additionally, Pearson correlation analysis was utilized to examine the correlations among the variables. Ninety-four individuals were included in depression group, accounting for 22.65% of the total sample, with a mean SDS of 44.7 ± 5.5. The control group consisted of 321 participants, representing 77.35% of the total, with a mean SDS of 24.8 ± 9.0. No statistically significant differences were observed between 2 groups regarding gender, monthly income, education level, night duty, body mass index, working hospital, department, employment status, only child status, local residency, and number of children. The age, length of services, professional title, marital status, and NAQ of depression group and control group were compared, and the difference was found to be statistically significant (P < .05). The findings from the binary logistic regression analysis indicated that both length of service and NAQ emerged as significant independent predictors of nurses' depression. Furthermore, the results of the Pearson correlation analysis demonstrated a positive association between the depression levels of clinical nurses and NAQ. The duration of employment and NAQ of clinical nurses were independent factors influencing depression. A positive correlation was found between depression and NAQ. It is evident that workplace bullying has a detrimental impact on the mental well-being of clinical nurses. To address this issue, hospital administrators are advised to implement regular psychological clinics for clinical nurses and offer targeted educational programs aimed at increasing awareness of workplace bullying and enhancing coping strategies.

Abbreviations: BMI = body mass index, EI = emotional intelligence, NAQ = negative acts questionnaire, SDS = self-rating depression scale.

Keywords: clinical nurse, correlation analysis, depression, workplace bullying

1. Introduction

Workplace bullying refers to applying physical and mental pain to other workers exceeding the appropriate range in work, where more workplace bullying results in lower work performance. Workplace bullying is a serious problem occurring in a variety of workplaces globally.^[1-3] Numerous domestic and international studies have consistently demonstrated the pervasiveness of workplace bullying across diverse professional domains, with particularly elevated incidence rates observed within the cultural and health sectors, as well as social work departments.^[4,5] Notably, the nursing field emerges as a particularly high-risk domain for bullying, rendering nurses more susceptible to the deleterious effects of such mistreatment.^[6] The mental well-being of clinical nurses can be significantly impacted by enduring and chronic work-related stress and instances of workplace bullying, leading to a range of psychological issues such as depression, anxiety, heightened mental strain, and disturbances in sleep patterns.^[7,8] In recent years,

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several studies have examined workplace bullying among clinical nurses. Research indicates that a substantial percentage of clinical nurses experience bullying behaviors, which can lead to severe consequences such as burnout, decreased job satisfaction, and increased turnover intention.[9-11] However, the majority of these studies have primarily focused on surface factors such as gender, length of service, education level, employment methods, and hospital level, neglecting the exploration of underlying mental health issues. In the practical realm, clinical nurses often experience heightened levels of anxiety and depression. Unfortunately, there is a dearth of research investigating the relationship between workplace bullying and depression specifically among clinical nurses. The objective of this study is to investigate the risk factors influencing depression among clinical nurses, as well as the correlation between depression and workplace bullying. Additionally, this research aims to propose practical recommendations for establishing a work environment that promotes both physical and psychological well-being.

2. Materials and methods

2.1. Study population

The research subjects for this study consisted of clinical nurses from 9 hospitals in the Chinese Mainland, encompassing a range of hospital types such as Grade III A hospitals, Grade II A hospitals, women's and children's hospitals, traditional Chinese medicine hospitals, psychiatric hospitals, and general private hospitals. The inclusion criteria for this study encompass individuals who possess a nurse practice certificate and actively engage in clinical work, while also having a tenure of more than 6 months at the hospital under investigation. Additionally, participants must express willingness to cooperate in the survey. Conversely, the exclusion criteria encompass nurses from hospitals not under investigation, including those pursuing further education. Furthermore, individuals who have taken sick leave, maternity leave, or have been absent from duty for more than 1 week during the investigation period are excluded. Participants who decline participation in the study, have experienced significant family accidents within the past 3 months, or have incomplete information are also excluded.

2.2. Ethics statement

The study was conducted at a tertiary hospital in China, adhering to the principles outlined in the Declaration of Helsinki. The study protocol received approval from the Ethics Review Board for Clinical Studies of Hospital (Approval Number: KY2019PJ044). Informed consent was obtained from all patients, their legal representatives, and agents involved in the study.

2.3. Research design and flow process

The researcher utilized a convenience sampling method to distribute a WeChat questionnaire mini program for data collection from the study participants. All questionnaires were completed over a 2-week period in October 2023. The survey instrument encompassed 3 sections, namely the demographic information of the participants, negative acts questionnaire (NAQ), and self-rating depression scale (SDS). The classification of the research subjects into either a depression group or a control group was based on their respective depressive states. This study aims to examine the risk factors influencing depression in the study subjects, as well as the association between depression and negative behavior scores, through a comparative analysis of basic information and negative behavior questionnaire scores across 2 distinct groups.

2.4. Variables analyzed

The study subjects' demographic characteristics encompassed gender, age, body mass index (BMI), hospital and department affiliation, monthly income, employment status, professional title, educational background, only child status, ancestral or long-term residence, marital status, number of children, education background, night shift frequency, and working years.

The NAQ questionnaire is presently regarded as the most extensively employed instrument for conducting workplace bullying research.^[12,13] Comprising 23 items distributed across 3 dimensions, namely personal-related negative behavior, workrelated negative behavior, and organizational injustice, this questionnaire assigns a score ranging from 1 to 5 to each item, with higher scores indicating a greater severity of workplace bullying. The 23rd item of the questionnaire necessitates respondents to self-identify their experiences of workplace bullying, as defined by the frequency and duration of bullying behavior (occurring at least once a week for approximately 6 months). Respondents are instructed to select "no" if they do not perceive themselves as victims of workplace bullying, while others who have experienced bullying in the workplace are expected to indicate the severity of their encounters. The Cronbach alpha coefficient for the overall NAQ questionnaire in this study is 0.915, and the retest correlation coefficient for each item ranges from 0.814 to $0.898 \ (P < .001)$. The total score exhibits a correlation coefficient of 0.883 (P < .001), while the NAQ demonstrates a half reliability coefficient of 0.898, suggesting strong indications of reliability and validity.

The SDS, which comprises 20 items, is utilized to determine depression scores.^[14,15] Depression severity is calculated by dividing the total score of each item by 80. The resulting scores are categorized as follows: individuals scoring below 0.5 (<40 points) are classified as nondepressed, those scoring between 0.5 and 0.59 (\geq 40 and <48 points) are considered to have mild depression, individuals scoring between 0.6 and 0.69 (\geq 48 and <56 points) are classified as having moderate depression, and a score of 0.7 (\geq 48) or above is indicative of severe depression.

2.5. Data analysis

Statistical analyses were performed using SPSS version 25.0 (SPSS Inc., Chicago, IL). The Single sample Kolmogorov-Smirnov test is employed to ascertain whether the distribution of measurement data adheres to a normal distribution. Measurement data that adheres to a normal distribution is denoted by mean ± standard deviation $(\bar{x} \pm s)$, while measurement data that does not conform to a normal distribution and exhibits uneven variance is denoted by median (quartile) [M (Q25, Q75)]. Inter-group comparisons are conducted using *t* tests, analysis of variance, or the Fisher exact probability method. Counting data is expressed as a percentage and compared using the contingency table x^2 test. Nonparametric rank sum tests should be employed for econometric and hierarchical data that do not satisfy the prerequisites for t tests, x^2 tests, and analysis of variance. Binary logistic regression analysis should be conducted on indicators exhibiting statistically significant disparities in univariate analysis. Pearson correlation analysis was utilized for assessing correlations. A test level of $\alpha = 0.05$ was set, and a difference was considered statistically significant when P < .05.

3. Results

3.1. Study population

A comprehensive distribution of 450 electronic survey questionnaires was conducted across 9 hospitals. Following the application of inclusion and exclusion criteria, a total of 415 questionnaires were deemed valid, resulting in an effective rate of 92.22%. Among the respondents, 94 individuals exhibited symptoms of depression, accounting for 22.65% of the sample and SDS scoring an average of 44.7 ± 5.5 points. Conversely, 321 participants did not display signs of depression, representing 77.35% of the sample and obtaining an average score of 24.8 ± 9.0 points. In the analysis of depression among clinical nurses, a univariate approach was employed to examine various factors including gender, monthly income, educational background, night shift frequency, BMI, working hospital, department, employment status, only child status, ancestral or long-term residence, and number of children. The results indicated that there was no statistically significant difference (P > .05) between the depression group and the control group in relation to these factors. However, statistically significant differences (P < .05) were observed between the 2 groups in terms of age, length of service, professional title, marital status, and NAQ, as presented in Table 1.

3.2. Binary logistic regression analysis

A binary logistic regression analysis was performed on the indicators that were found to be statistically significant in the univariate analysis, namely age, length of service, professional title, marital status, and NAQ. The findings revealed that both length of service and NAQ were identified as independent factors associated with nurse depression, demonstrating statistical significance (P < .05), as presented in Table 2.

3.3. Correlation analysis between SDS and NAQ in clinical nurses

According to the results of Pearson correlation analysis, a positive correlation was observed between SDS of clinical nurses and the NAQ (R = 0.42). Furthermore, this correlation was found to be statistically significant (P < .01), as depicted in Figure 1.

4. Discussion

The nursing profession is characterized by intricate and delicate interpersonal dynamics, necessitating a fusion of both physical and mental fortitude. The demanding nature of excessive workloads, escalating occupational hazards, competitive environments, and intricate doctor-patient interactions exert significant strain on the physical and mental well-being of nurses.

In the present study, a total of 118 clinical nurses out of 415 reported instances of workplace bullying, representing a prevalence rate of 28.43%. The depression group exhibited a mean NAQ score of 34.8 ± 10.6 points, which was significantly higher than the control group's mean score of 28.5 ± 6.5 points, with a statistically significant difference observed. The distinctive working environment of hospitals, characterized by heightened tension and a pronounced hierarchical structure, renders them more susceptible to the occurrence of workplace bullying, which may unfortunately be perceived as an essential component of professional development for nurses. Similarly, the prevalence of depression among clinical nurses is noteworthy. Reports indicate that nursing students exhibit limited competence in disaster situations.^[16] During the COVID-19 pandemic, nurses and prehospital paramedical personnel frequently encountered direct pressure, which often resulted in depression.^[17] A study conducted by Cheng Jinlian team involved a sample of 286 nurses, revealing that 131 nurses exhibited varying degrees of depression, constituting approximately 45.90% of the participants.^[18] Additionally, Zheng Jing team conducted a survey on 679 nurses from specialized hospitals for maternity and children, uncovering an overall depression detection rate of 40.0%.^[19] Within this study, 94 clinical nurses were identified as experiencing varying degrees of depression, accounting for 22.65% of the total sample. Although a decrease was observed in comparison to previous research, the absolute value remains considerably high.

Table 1

Comparison of study variables between depression group and control group (M (Q25, Q75) or $\bar{x} \pm s$ or N (%)).

	Depression group	Control group		
	(N = 94)	(N = 321)	t/U/ <i>x</i> ²	Р
Age (years)	30.9 ± 6.5	32.8 ± 7.5	2.19	.03
Length of service (years)	7.0 (4.0, 12.3)	9.0 (4.0, 17.0)	2.32	.02
NAQ (points)	34.8 ± 10.6	28.5 ± 6.5	7.03	<.01
Professional title (N (%))			2.26	.02
Intern nurse	24 (25.5)	58 (18.1)		
Nurse	36 (38.3)	105 (32.7)		
Supervisor nurse	26 (27.7)	121 (37.7)		
Deputy chief nurse	8 (8.5)	32 (10.0)		
Chief nurse	0 (0.0)	5 (1.6)		
Marital status (N (%))			2.27	.02
Unmarried	46 (48.9)	116 (36.1)		
Married	48 (51.1)	204 (63.6)		
Divorce	0 (0.0)	1 (0.3)		

NAQ = negative acts questionnaire.

Table 2

Binary logistic regression analysis of factors related to depression in clinical nurses.

	β	S _{-x}	Wald	OR	Р
Age	0.18	0.09	3.82	0.84	.05
Professional title	0.43	0.27	2.60	0.65	.11
Marital status	0.12	0.35	0.12	1.13	.73
Length of service	0.19	0.08	5.98	0.83	.01
NAQ	0.11	0.02	46.11	1.12	<.01

NAQ = negative acts questionnaire.



Figure 1. Correlation between clinical nurse SDS and NAQ (N = 415). NAQ = negative acts questionnaire, SDS = self-rating depression scale.

In subsequent investigations, it was determined that there were no discernible disparities in gender, educational attainment, BMI, employment in a specific hospital or department, only child status, ancestral or long-term residence, or number of children between the depression group and the control group. Furthermore, income, frequency of night shifts, and availability were also found to be insignificant factors influencing depression. The impact of educational background, income, and busy work on the depression levels of clinical nurses appears to be negligible, potentially due to women's recognition of their own self-worth. This realization has been found to significantly mitigate the influence of other negative factors. Conversely, we observed statistically significant disparities in age, length of service, professional title, marital status, and NAQ between the 2 groups. Age, length of service, professional title, and marital status are closely associated with time and prone to confounding effects. The variables of age, length of service, professional title, and marital status exhibit a strong correlation with time and are susceptible to potential confounding. This relationship was further validated through subsequent binary logistic regression analysis, which revealed that only length of service and NAQ emerged as independent factors significantly associated with nurse depression. In the context of practical clinical practice, nurses with limited years of service frequently assume the role of "instrumental personnel" within healthcare facilities, wherein they are assigned tasks by more experienced doctors or nurses, thereby lacking subjective autonomy. In instances of errors, nurses with lower seniority are often subjected to criticism or even verbal abuse, while their limited qualifications and status may hinder their ability to voice grievances. It is evident that newly graduated nurses entering clinical practice exhibit a deficiency in work experience, limited proficiency in emergency response and adaptability in clinical operations, as well as inadequate communication skills and interpersonal relationship management abilities.^[20] These factors collectively contribute to the susceptibility of young nurses to experience depression.

The findings of this study demonstrate that NAQ is a significant and independent predictor of nurse depression, as confirmed by binary logistic regression analysis. Furthermore, subsequent Pearson correlation analysis revealed a statistically significant positive correlation (R = 0.42) between the clinical nurse depression score (SDS) and NAQ. Numerous studies have indicated that workplace bullying exerts a profound impact on the physical and mental well-being of perpetrators, manifesting in emotions of powerlessness, rage, desolation, apprehension, despondency, disturbances in sleep patterns, and post-traumatic stress disorder, among other consequences.^[21,22] Consequently, this deleterious phenomenon diminishes job contentment, precipitates occupational exhaustion, and may ultimately culminate in voluntary termination. Prolonged exposure to intense and enduring stress significantly jeopardizes the psychological welfare of nurses, giving rise to depression, anxiety, psychological strain, sleep disturbances, and related afflictions.^[23] If workplace bullying is a prevalent issue within the nursing profession, it has the potential to significantly impact the self-esteem of young nurses and contribute to the development of depressive symptoms. Research indicates that the instruction and development of emotional intelligence (EI) can enhance postgraduate students' capacity for self-awareness and regulation,^[24] potentially improving their emotional well-being and mitigating workplace bullying. Additionally, evidence suggests a positive correlation between EI and the self-efficacy of administrative personnel.^[25] It is recommended that nursing managers and administrative staff promote the subjective initiative and EI of novice nurses during onboarding training, thereby laying a robust foundation for their future emotional preparedness and adaptability in professional settings. Hospitals have the capacity to cultivate a supportive work milieu for clinical nurses, thereby mitigating instances of workplace bullying. Additionally, hospitals can provide psychological training to enhance the coping resources and skills of nursing staff, thereby diminishing the prevalence of adverse consequences. Simultaneously, it is imperative for managers to initiate their efforts by establishing psychological clinics for clinical nurses, ensuring regularity, and delivering strategic education pertaining to workplace bullying awareness and response.

This study employed convenience sampling as the research method, which resulted in a relatively concentrated distribution of the surveyed population and increased susceptibility to uncertain factors. Furthermore, there is a dearth of comprehensive research investigating the origins of workplace bullying and depression. Moreover, the response methods solely offer theoretical suggestions without undergoing further validation, thereby introducing a level of uncertainty. Additional intervention research is required to augment the sample size of the surveyed population, conduct a comprehensive examination of the causes and associated influencing factors of workplace bullying and depression, and substantiate the efficacy of the intervention methods.

5. Conclusions

This study has determined that the duration of employment and the NAQ among clinical nurses are independent factors contributing to depression. Furthermore, it has established a positive association between SDS of clinical nurses and NAQ, suggesting that workplace bullying can contribute to the onset and progression of depression in this professional group. Consequently, hospital administrators are advised to implement periodic psychological clinics for clinical nurses, while also offering educational programs aimed at raising awareness about workplace bullying and equipping nurses with effective coping strategies. The concentration of survey subjects in this study is relatively high, and the validation of response methods necessitates further comprehensive research and analysis.

Author contributions

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Funding acquisition: Gong-Jie Ye.

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