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Current occupational well-being status and protective and risk factors of male nurses in Chengdu, China: A cross-sectional study

Liang Wang[1,2] | Huiling Li[1,2] | Xinyu Li[2,3] | Jia Zhang[2,3] | Yu Lv[2,4] | Ping Jia[2,3] | Caixia Xie[2,5]

[1]Department of Disinfection Supply Center Nursing, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, China

[2]Chinese Academy of Sciences Sichuan Translational Medicine Research Hospital, Sichuan, China

[3]Department of Neurosurgery Nursing, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, China

[4]Department of Healthcare-Associated Infections Control Center, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, China

[5]Department of Nursing, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, China

Correspondence
Caixia Xie, Department of Nursing, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, Sichuan, China.
Email: xiecaixia1999@163.com

Ping Jia, Department of Neurosurgery Nursing, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu, Sichuan, China.
Email: Aonejia@126.com

Abstract

Aims: This study explores the current occupational well-being status of male nurses in Chengdu, China, and identifies the concomitant protective and risk factors.

Design: This study has a cross-sectional survey design.

Methods: From 13 July to 21 July 2019, a cross-sectional survey involving 209 male nurses in 7 tertiary hospitals in Chengdu, China, was conducted using a general information questionnaire, the Mindfulness Attention Awareness Scale, the Acceptance and Action Questionnaire-II, the Professional Identity Scale and the Nurses' Occupational Well-being Scale.

Results: The score of male nurses' occupational well-being was 78.7 ± 14.2. The higher the mindfulness and professional identity ($p = .002$, $p < .001$, respectively), the higher the occupational well-being of male nurses. The lower the experiential avoidance, the higher the occupational well-being ($p = .001$). The highest occupational well-being was found among male nurses who had less than 5-years' working experience.

Conclusions: The results suggest that male nurses' occupational well-being was at a moderate level. Mindfulness and professional identity were the protective factors of male nurses' occupational well-being, and experiential avoidance was the risk factor. Nursing managers should ascertain male nurses' current occupational well-being and the influencing factors and formulate effective improvement strategies. Male nurse courses on enhancing mindfulness and professional identity and reducing experiential avoidance should be explored, with a focus on helping nurses improve their professional well-being and, in turn, prospectively reducing the turnover rate.

KEYWORDS
experiential avoidance, male nurse, mindfulness, occupational well-being, professional identity

1 | INTRODUCTION

Occupational well-being is defined as employees' subjective well-being in their work context. Occupational well-being is used to gauge employees' positive emotional and cognitive evaluations of work and, where possible, to expand employees' social resources, enhance organizational behaviour, improve work performance and reduce absenteeism and turnover rates (Ozkara San, 2015). Research shows that nurses' occupational well-being is not high. Notably, a British study reported that nurses have lower levels of occupational well-being (Oates et al., 2017). At present, nurses' occupational well-being in China is at a medium level, which necessitates improvement (Zhao et al., 2020). Studies have found that male nurses experience lower occupational well-being than their female counterparts (van der Heijden et al., 2017; Lorber et al., 2020). Occupational well-being is an important factor in male nurses' decision to resign (Li et al., 2016) and has an impact on the quality of the nursing services they provide (Boamah et al., 2018; Hall et al., 2016; Welp & Manser, 2016), the interpersonal aspects of care (Scheepers et al., 2015), job performance (Zhang, 2020) and patient outcomes (Boamah et al., 2018; Hall et al., 2016; Welp & Manser, 2016). As such, improving male nurses' occupational well-being has become a major concern among nursing managers.

Nurses' professional well-being is mainly affected by personal and work-related factors. Professional values, career expectations (Zhao et al., 2015) and self-efficacy (Zhao et al., 2015) have been found to be the individual influencing factors of nurses' occupational well-being. Simultaneously, job-related factors include job characteristics (Clausen et al., 2013), leadership styles (Heinen et al., 2013), work environments (Chung et al., 2020) and workplace relationships (Brunetto et al., 2013). Previous studies have mostly focused on the impacts of work-related factors. By contrast, there is a dearth of studies on personal factors. Notably, the aforementioned researches focused primarily on female nurses. When the work-related factors cannot be changed, the personal influencing factors of nurses' job well-being become an effective strategy to improve their professional well-being. Thus, exploring the individual influencing factors of male nurses' occupational well-being can provide a foundation for intervention strategies.

In recent years, mindfulness has been shown to increase personal well-being. Mindfulness (Hassed & Chambers, 2014; Williams & Kabat-Zinn, 2011) is the state of conscientiously paying attention to the present and being aware of things without judgement. Mindfulness is considered not only a psychological state but also an individual coping ability. The reason why mindfulness enhances personal well-being may be attributable to its ability to separate individuals from patterns of automatic thinking, habits and unhealthy behaviour (Ryan & Deci, 2000), which can directly promote personal well-being by increasing the clarity and vividness of experiences. The previously mentioned studies on mindfulness suggest that it may be a personal influencing factor of male nurses' occupational well-being. Empirical avoidance is defined as an individual's endurance to avoid uncomfortable internal experiences (Hayes et al., 2012). Empirical avoidance is regarded as an individual's coping ability. Research has

reported that the higher the empirical avoidance, the higher the negative emotion, the lower the positive emotion, the less fun linked with daily activities (exercise, diet and listening to music), and the less enjoyment connected with daily events and life significance (Machell et al., 2015). These studies suggest that empirical avoidance may be a personal influencing factor of male nurses' occupational well-being. The professional identity of nurses refers to the integration of a nurse's values, cognitions and initiatives with the nursing profession, as well as his/her knowledge, capabilities, professional commitments and ideas (Goddard et al., 2019; Hercelinskyj et al., 2014). Previous studies found that male nurses' professional identity was low (Chen et al., 2020; Cheng et al., 2019; Lan et al., 2020). Professional identity affected individual emotion and value experience and was positively correlated with subjective well-being (Ren et al., 2021). It is suggested that professional identity may be a personal influencing factor of male nurses' occupational well-being.

Based on theoretical analyses of the above research results, this study puts forward the research hypothesis that mindfulness, empirical avoidance and professional identity may be the protective or risk factors of male nurses' occupational well-being. Using a cross-sectional study, this paper explores the current status of male nurses' occupational well-being in Chengdu, China, and the effects of general demographic factors, mindfulness, experiential avoidance and professional identity on male nurses' occupational well-being, so as to provide a theoretical basis for the formulation of intervention strategies for male nurses' occupational well-being.

2 | METHODS

2.1 | Design

We employed a cross-sectional study design. The predictive variables tested were mindfulness, experiential avoidance and professional identity. The outcome variable was the occupational well-being of male nurses.

2.2 | Participants

According to the sample size requirements for multiple linear regression analysis, the sample size should be minimally 10–15 times the number of independent variables (Thompson, 2000). In this study, there were six demographic variables; furthermore, the Mindfulness Attention Awareness Scale (MAAS) had one dimension, the Acceptance and Action Questionnaire-II (AAQ-II) had one dimension, the Professional Identity Scale (PIS) has one dimension, and the Nurses Occupational Well-being Scale (NOWS) had five dimensions. Therefore, there were 14 independent variables in the study, indicating that the sample size should be 140–210 cases.

From 13 to 21 July 2019, a cross-sectional survey was conducted in seven tertiary hospitals in Chengdu, China. By convenience sampling, male nurses were invited to participate in the

study voluntarily and anonymously. The inclusion criteria were male nurses who had worked in the profession for ≥1 year; Registered nurses who had obtained a qualification to practise; nurses who were willing to participate voluntarily in this research. The exclusion criteria were male nurses on leave or assigned to study. The nurses who met the criteria were provided with detailed research objectives and plans. The questionnaires were distributed in the form of anonymously filled network links. Informed consent was presented at the front of the online questionnaire. The participants signed the informed consent and then continued to answer the questionnaire. A total of 209 valid questionnaires were completed and collected, an effective questionnaire recovery rate of 100%.

2.3 | Instrument

Five main questionnaires were used in this study.

2.3.1 | General survey form

This was a self-designed instrument for information on age, education, marital status, working years, number of night shifts and monthly income.

2.3.2 | Mindfulness attention awareness scale

The Mindfulness attention awareness scale (MAAS) measures the level of mindfulness based on the concept of "current attention and awareness," involving the cognition, emotion and physiology of the individual in daily life. It consists of 15 items relating indirectly to cognitive, emotional, physical, interpersonal and general fields (Brown & Ryan, 2003). This study used the Chinese version of MAAS (Deng et al., 2012) was used. A 6-point Likert scale was used for assessment (1–6 points; 1 = always, 2 = frequently, 3 = sometimes, 4 = occasionally, 5 = seldom, 6 = never). MAAS can range from 15–90. The higher the score, the stronger the current attention and awareness. The scale of the single-factor model has good structural validity, as well as Cronbach's α 0.890 reliability and test–retest reliability of 0.870. In this study, Cronbach's α was 0.892.

2.3.3 | Acceptance and action questionnaire-II

The Acceptance and Action Questionnaire was used to measure experiential avoidance. Experiential avoidance refers to people's unwillingness to keep in touch with their disliked internal experiences (including body feeling, emotion, thought, memory, appearance and behaviour tendency) in order to change the form or frequency of these experiences and situations that trigger them (Chawla & Ostafin, 2007; Hayes et al., 1996). Acceptance and action questionnaire-II (AAQ-II) was developed by F. W. Bond and

colleagues in 2011 (Bond et al., 2011). AAQ-II has a stable single-factor structure. The Chinese version was translated and revised by Cao Jing in 2013 (Cao et al., 2013). The scale has a total of seven items and uses seven-point scoring (1 = never, 2 = rarely, 3 = infrequently, 4 = sometimes, 5 = often, 6 = frequently and 7 = always). AAQ-II can range from 7–49. The higher the score, the higher the experiential avoidance. The Cronbach's α coefficient is 0.88, factor loading is above 0.7, and test–retest reliability is 0.80. In this study, Cronbach's α was 0.898.

2.3.4 | Professional identity scale

The scale was compiled by R. Brown (Brown et al., 1986). It has a single-dimensional structure and contains 10 items, five forward and five reverse, with a Likert-type five-point scoring system, the possible responses ranging from "never" to "almost always." The higher the score, the stronger the level of professional identity. The scale is the most widely used measurement tool for organizational and professional identity. The original scale had a Cronbach's α of 0.71. The Chinese version revised by Lu Hong (Lu et al., 2007) was used in this study. The Cronbach's α was 0.82, representing good reliability and validity. In the present study, Cronbach's α was 0.904.

2.3.5 | Nurses occupational well-being scale

The Nurses occupational well-being scale (NOWS) scale was compiled by Chen Ling and Liu Hong (Chen et al., 2016). The scale includes 19 items and five dimensions (welfare benefits, interpersonal aspects, job value, manager and job characteristics). Each item adopts the six-point Likert scale (1 = strongly disagree and 6 = strongly agree). The higher the score, the higher the nurses' occupational well-being. The scale has good reliability and validity, and the Cronbach's α is 0.914 (Chen et al., 2016). In this study, the Cronbach's α was 0.920; the Cronbach's α of each dimension, namely welfare benefits, interpersonal aspects, job value, managers and job characteristics, was 0.821, 0.842, 0.814, 0.888 and 0.648 respectively.

2.4 | Ethical considerations

Male nurses' participation was voluntary and anonymous.

Research Ethics Committee approval for the study was obtained from the Ethics Committee of Sichuan Provincial People's Hospital (Protocol No. 2019188).

2.5 | Data analysis

After the data were logically checked, SPSS 20.0 statistical program (IBM Corp.) was used for statistical description and statistical

inference. Participants' general characteristics were analysed via descriptive statistics. The Pearson correlation coefficient was used to analyse the correlation between mindfulness, experiential avoidance, professional identity and occupational well-being. Multiple linear regression was used to explore the effects of demographic factors, mindfulness, experiential avoidance and professional identity on the occupational well-being of male nurses. $p < .05$ was considered statistically significant.

3 | RESULTS

3.1 | Participant characteristics

Of the 209 male nurses who participated in the study, 117 were married (56.0%), and 92 were single (44.0%). The mean age and years of working experience were 28.6 ± 4.3 and 6.0 ± 4.2 years respectively. In total, 67 (32.1%) participants had completed education up to and including junior college, while 142 (67.9%) had completed undergraduate studies. The mean number of night shifts per month was 7.0 ± 4.1. The number of nurses whose monthly salary (in RMB) was <5,000, 5,000–5,999, 6,000–6,999, 7,000–7,999, 8,000–8999 and ≥9,000 was 47 (22.5%), 48 (22.9%), 29 (13.9%), 33 (15.8%), 28 (13.4%) and 24 (11.5%), respectively, as shown in Table 1.

3.2 | Descriptive statistics

As Table 2 shows, male nurses' mean scores were mindfulness—60.5 ± 12.3; experiential avoidance—21.6 ± 7.4; professional identity—36.0 ± 8.3; occupational well-being—"moderate," with a mean and *SD* of 78.7 ± 14.2. The scores of each dimension, namely welfare benefits, interpersonal aspects, work value, managers and job characteristics, were 14.0 ± 4.5, 18.9 ± 3.0, 21.4 ± 4.0, 12.5 ± 3.5 and 11.8 ± 2.8 respectively.

3.3 | Correlation analysis

According to the Pearson correlation analysis, mindfulness and professional identity were positively correlated with male nurses' occupational well-being, and experiential avoidance was negatively correlated with their occupational well-being, with the both findings being statistically significant ($p < .01$), as shown in Table 3.

3.4 | Single-factor analysis

Single-factor analysis of variance or a two-independent-sample *t*-test was used to explore the differences in occupational well-being of male nurses with different demographic characteristics. The

TABLE 1 Characteristics of the participants ($n = 209$)

Variable	N (%)	Mean ± SD
Age (years)		
≤30	151 (72.2)	28.6 ± 4.3
31–45	58 (27.8)	
Marital status		
Married	117 (56.0)	
Single	92 (44.0)	
Education		
Junior college and below	67 (32.1)	
University	142 (67.9)	
Working experience (years)		
≤5	111 (53.1)	6.0 ± 4.2
6–10	75 (35.9)	
≥11	23 (11.0)	
Monthly night shifts		
≤5	73 (34.9)	7.0 ± 4.1
6–10	100 (47.9)	
≥11	36 (17.2)	
Monthly income (RMB)		
<5,000	47 (22.5)	
5,000–5,999	48 (22.9)	
6,000–6,999	29 (13.9)	
7,000–7,999	33 (15.8)	
8,000–8,999	28 (13.4)	
≥9,000	24 (11.5)	

results suggest statistically significant differences in the occupational well-being of male nurses based on the length of work experience, with male nurses who had worked for less than 5 years having the highest occupational well-being, as shown in Table 4.

3.5 | Multiple linear regression analysis

Multiple linear regression was performed with occupational well-being as the dependent variable and general demographic variables, mindfulness, experiential avoidance and professional identity as the independent variables. The results show that mindfulness, professional identity, experiential avoidance and working years could explain 23.7% of the variation in male nurses' occupational well-being. That is, the higher the mindfulness and professional identity, the higher the occupational well-being of male nurses; these findings were statistically significant ($p = .002$; $p < .001$, respectively). The lower the number of working years, the higher the occupational well-being; this finding was also statistically significant ($p = .024$). The lower the experiential avoidance, the higher the occupational well-being ($p = .001$), as shown in Table 5.

4 | DISCUSSION

4.1 | The current status of male nurses' occupational well-being

The study results reveal that male nurses' occupational well-being was moderate, consistent with the results of previous studies (van der Heijden et al., 2017), suggesting that male nurses' occupational well-being needs improvement. The dimension of welfare benefits was the lowest, indicating that the welfare benefits of male nurses are not up to par. This is consistent with previous studies reporting that gains from work performed by male nurses, especially pay, are perceived as low (Xian et al., 2020). Male nurses often need welfare benefits higher than those provided to female nurses since, according to traditional Chinese culture, men are expected to be the main source of household income. Compared with female nurses, male nurses are reportedly better at using computers and handling complex machinery and have a stronger sense of skill (Kim et al., 2017). Therefore, nursing managers should consider raising male nurses to positions involving high work intensity and high technical requirements, matching such promotions with corresponding welfare benefits.

The job characteristic dimension results indicate that the male nurses' work autonomy is not high. Most male nurses in China do not like the nursing profession and feel uncertain about the future of their careers (Mao et al., 2020). A higher proportion of male

than female nurses have reportedly been victims of physically aggressive behaviour (Edward et al., 2016). This male nurses to feel a lack of passion and autonomy in their work. Additionally, the nursing profession status is perceived to be low, which discourages men from choosing nursing as a career (Ashkenazi et al., 2017). Research shows that a lack of work engagement and self-efficacy in their work can augment nurses' intentions to resign from their roles (De Simone et al., 2018; Feng et al., 2018). Accordingly, nursing managers should assist in consolidating the core skills of male nurses, empowering them to work at the level that suits their abilities (Dahinten et al., 2016; Narzary & Palo, 2020) and boosting their work autonomy.

4.2 | Factors influencing male nurses' occupational well-being

This study revealed the rather low level of male nurses' mindfulness scores. Regression analysis showed that the higher the level of mindfulness, the higher the nurses' occupational well-being. Studies have shown that mindfulness is a protective factor for nurses' occupational well-being, potentially reducing stress and burnout (Duarte & Pinto-Gouveia, 2016; Hülsheger et al., 2013). This is consistent with the results of this study. Accordingly, mindfulness intervention may improve nurses' occupational well-being. The mechanism may be as follows: mindfulness can affect cognition, attention and emotional regulation (Hamarta et al., 2013); furthermore, mindfulness is an effective way of decompression through mindful breathing, body scanning, sitting meditation and walking meditation (Ghawadra et al., 2020). Through training, the gradually enhanced mindfulness state can help regulate a person's ability to change cognitive biases and increase positive cognitive reappraisal, enhancing the effective perception of the current state (Elloy et al., 2001) and effectively improving job satisfaction (Abbott et al., 2014; Sarazine et al., 2020; Smith, 2014). However, whether mindfulness intervention can improve male nurses' occupational well-being has not been explored to date. Nursing managers should test whether mindfulness interventions for male nurses could help them improve their concentration, favourably perceive their work and enhance their happiness in their work.

In this study, the AAQ-II scale was used to test experiential avoidance. The results show that the lower the level of experiential

TABLE 2 Mean item scores

Variables	Mean±SD	Response range
Mindfulness awareness	60.5 ± 12.3	15–85
Experiential avoidance	21.6 ± 7.4	7–45
Professional identity	36.0 ± 8.3	12–50
Occupational well-being	78.7 ± 14.2	35–114
Benefits	14.0 ± 4.5	4–24
Interpersonal	18.9 ± 3.0	10–24
Work value	21.4 ± 4.0	9–30
Manager	12.5 ± 3.5	3–18
Work characteristics	11.8 ± 2.8	4–18

TABLE 3 Correlation among variables

Variable	Mindfulness awareness	Experiential avoidance	Professional identity	Occupational well-being
Mindfulness awareness	1			
Experiential avoidance	−0.496 (p <.001)	1		
Professional identity	−0.027 (p =.694)	−0.019 (p =.788)	1	
Occupational well-being	0.344 (p <.001)	−0.354 (p <.001)	0.262 (p <.001)	1

TABLE 4 Single-factor analysis (n = 209)

Variable	N (%)	Mean ± SD	Stastistics	p	Comparison	p
Age (years)		93.9 ± 13.8	−0.018 (t)	.986		
≤30	151 (72.2)	93.9 ± 13.7				
31–45	58 (27.8)	94.0 ± 14.0				
Marital status		94.0 ± 14.0	0.988 (t)	.324		
Married	117 (56.0)	93.0 ± 13.4				
Single	92 (44.0)	95.1 ± 14.2				
Education		94.0 ± 14.0	1.132 (t)	.259		
Junior college and below	67 (32.1)	94.4 ± 14.6				
University	142 (67.9)	94.0 ± 13.4				
Working experience (years)		94.0 ± 14.0	3.514 (F)	.032		
≤5 (1)	111 (53.1)	96.0 ± 13.5			(1) > (2)	.031
6–10 (2)	75 (35.9)	90.6 ± 13.4				
≥11 (3)	23 (11.0)	95.5 ± 15.2				
Monthly night shifts		94.0 ± 13.8	0.552 (F)	.576		
≤5	73 (34.9)	95.0 ± 13.5				
6–10	100 (47.9)	94.0 ± 13.7				
≥11	36 (17.2)	92.1 ± 14.7				
Monthly income (RMB)		94.0 ± 13.8	1.057 (F)	.390		
<5,000	47 (22.5)	95.5 ± 13.8				
5,000–5999	48 (22.9)	91.0 ± 14.9				
6,000–6999	29 (13.9)	92.7 ± 14.6				
7,000–7,999	33 (15.8)	92.8 ± 13.0				
8,000–8,999	28 (13.4)	95.8 ± 13.2				
≥9,000	24 (11.5)	92.5 ± 14.9				

TABLE 5 Multiple linear regression analysis (n = 209)

Independent variable	B (Unstandardized Coefficients)	Standard error	Beta (Standardized Coefficients)	t	p
Constant	52.435	9.318		5.627	<.001
Experiential avoidance	−0.437	0.134	−0.228	−3.272	.001
Professional identity	0.971	0.210	0.284	4.634	<.001
Mindfulness awareness	0.250	0.081	0.217	3.083	.002
Working experience	−3.183	1.396	−0.141	−2.279	.024

Note: $F = 17.146$; $p = .000$; $R = 0.502$; $R^2 = 0.252$; adjusted $R^2 = 0.237$.

avoidance, the higher the participants' occupational well-being. To date, no relevant literature exists on the relationship between empirical avoidance and the occupational well-being of male nurses. However, studies have shown that lower levels of experiential avoidance correspond with higher levels of self-compassion (self-compassion is defined as kindness to oneself and focusing on positive emotions) (Fredrickson et al., 2017; McClintock et al., 2019; Yela et al., 2020). This suggests that nursing managers should encourage the mental flexibility of male nurses, increase their awareness of the present, help them adopt non-resistance and non-avoidance mentalities, improve their ability to bear bad emotions or change their understanding and response to negative thinking, emphasize acceptance of negative experiences and encourage the recognition of self-worth (van der Riet et al., 2018).

The results show that the professional identity of male nurses is at a medium level. The higher the level of professional identity, the higher the male nurses' occupational well-being. The study showed that professional identity was an important factor affecting nurses' job satisfaction and their intention to leave their roles (Sabancıogullari & Dogan, 2015). Studies have shown that a high proportion of male nurses passively choose to pursue the nursing professions; only 27.6% choose a nursing major out of personal interest (Chen et al., 2020). Low professional identity leads to an unstable professional mentality, poor role positioning and poor personal accomplishment, as well as a lack of awareness of professional prospects, goals and values and low professional recognition. Research shows that professional identity development programmes can increase professional commitment, improve nursing practices, increase personal satisfaction and reduce job burnout (Sabancıogullari & Dogan, 2015). Nursing managers should encourage male nurses to link their personal values with their professional values to form more conscious, proactive and active professional motivations to guide their career plans.

The study reveals that the number of years worked in a certain position/role predicts male nurses' occupational well-being: the fewer the number of years worked, the higher the occupational well-being. This is consistent with the study results of Lorber et al. (2020). This may be because male nurses who recently began working are more enthusiastic about improving their theoretical knowledge and professional skills and easily obtain satisfaction in and from their work. It is recommended that nursing managers pay more attention to the occupational well-being of senior male nurses.

The occupational well-being of male nurses in Chengdu, China, was found to be at a moderate level. Mindfulness and professional identity were noted as the protective factors of the male nurses' occupational well-being, while experiential avoidance and work experience were the risk factors. This study has several limitations. First, the research only involved male nurses in Chengdu (Sichuan province), China; additional data from other provinces were not obtained. Second, due to its cross-sectional design, this study assessed the occupational well-being of the participants specifically during the study's timeframe; the participants were not observed longitudinally. Third, this study did not collect information about the departmental distribution of male nurses. Future research could cover a wider region, increase the sample size and pursue more in-depth methods of obtaining results.

5 | CONCLUSIONS

The present study found that male nurses' occupational well-being was at a moderate level. The influencing factors include mindfulness, experiential avoidance, professional identity and years of work. The study findings underscore that developing the level of mindfulness and professional identity of male nurses, as well as reducing their experiential avoidance, may improve their

occupational well-being. Future research could also develop courses on mindfulness, professional identity and reducing experiential avoidance for male nurses. Such courses may help improve male nurses' professional well-being, thereby helping reduce their turnover rate and improving the quality of nursing services they provide.

CONFLICT OF INTEREST
No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS
Liang Wang and Huiling Li: Data collection and manuscript drafting. Caixia Xie and Ping Jia: Study design, data analysis and supervision of the whole process. Xinyu Li, Jia Zhang and Yu Lv: Result execution and manuscript drafting. All authors read and approved the final version of the manuscript.

ETHICS STATEMENT
Research Ethics Committee approval for the study was obtained by the Ethics Committee of Sichuan Provincial People's Hospital (Protocol No. 2019188).

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID
Caixia Xie https://orcid.org/0000-0002-2996-7528

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