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Present situation and influencing factors of presenteeism among nurses in China: a cross-sectional multicenter study



Zehua Li¹, Zongting Luo¹, Lifang Chen¹, Lijuan Chen¹, Yue Chang¹, Xiaolin Ma¹ and Lan Tao^{1*}

Abstract

Background Due to the nature of their work, nurses are increasingly becoming a high-risk group for presenteeism. However, research on the factors influencing nurses' presenteeism, particularly psychological detachment, remains limited. This study aims to investigate the current status of nurses' presenteeism in China, based on the theory of effort-recovery, analyze the factors that affect presenteeism, and provide a theoretical foundation for targeted interventions.

Methods A cross-sectional online questionnaire survey was conducted among 1647 clinical nurses from 37 hospitals in Sichuan Province, China, between September and November 2024, using a convenience sampling method. The questionnaire included demographic data, the Stanford Presenteeism Scale, and the Psychological Detachment scale.

Results The average presenteeism score among Chinese nurses was (17.01 ± 5.10) , with 65.5% reporting high levels of presenteeism. Multiple linear regression analysis revealed that department, gender, job-pay matching, and psychological detachment were significant factors influencing nurses' presenteeism (P < 0.05). Furthermore, psychological detachment was negatively correlated with presenteeism (r=-0.274, P < 0.01).

Conclusion Presenteeism among nurses in China is above the medium level. Hospital administrators should pay greater attention to this issue and implement effective, targeted strategies to mitigate its occurrence.

Clinical trial number Not applicable.

Keywords Chinese nurses, Psychological detachment, Presenteeism

Introduction

Presenteeism, often referred to as hidden absenteeism, occurs when individuals who are physically or psychologically unwell continue to work for various reasons, despite the need for rest [1]. While present at work, these individuals are less engaged, resulting in decreased work enthusiasm, reduced productivity, and lower efficiency

*Correspondence: Lan Tao 3415706344@qq.com ¹The Third People's Hospital of Chengdu, Chengdu, Sichuan, China [2]. The impact of presenteeism is more detrimental than that of visible absenteeism [3]. Presenteeism prevents individuals from taking the necessary time to recover from physical or psychological discomfort, potentially leading to burnout, further declines in work efficiency, and even worsening health issues [4]. In addition, presenteeism leads to organizational productivity losses, causing significant economic damage to organizations both directly and indirectly [5]. Some studies have suggested that the economic losses due to presenteeism are four times greater than those caused by direct absenteeism [6].



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With the continuous development of the social economy, there is an increasing demand for health and high-quality nursing services. However, nursing human resources remain insufficient. Additionally, nursing work is characterized by tedious tasks, high workloads, night shifts, multiple responsibilities, high pressure, frequent exposure to various risks, and low fungibility. These factors may pose significant challenges to the physical and mental health of nurses, directly or indirectly affecting work efficiency and presenteeism [7–8]. The incidence of presenteeism among nurses is 3–4 times higher than in other professions [9]. A meta-analysis revealed that the average prevalence of presenteeism among global nursing staff is as high as 49.2% [10].

As a primary force in the healthcare workforce, nurses account for about 59% of health professionals. Positioned at the frontline of patient care, nurses have the closest contact with patients and play a crucial role in improving patient health and advancing medical development [11]. Presenteeism among nurses can have detrimental effects on individuals, patients, and the quality of healthcare. Prolonged presenteeism prevents nurses from recovering physically and mentally, leading to issues such as worsened health conditions, fatigue, decreased quality of life, job burnout, and increased turnover intentions [12–14]. Furthermore, presenteeism can impair attention, judgment, decision-making, and processing abilities, increasing the risk of nursing errors and compromising patient care quality [15-16]. In addition, nurses are unable to devote themselves to their work due to health problems, and their work efficiency decreases, which directly or indirectly leads to decreased productivity and increased medical costs [17-18]. By the end of 2022, the number of registered nurses in China was approximately 3.7 per 1,000 people, and the nursing human resources in our country are still in a strained condition. Due to many factors, nurses face severe challenges in their physical and mental health and become a group with high presenteeism [19]. Therefore, addressing nurses' presenteeism and its influencing factors is essential for promoting nurses' well-being, ensuring patient safety, and improving the quality of healthcare.

The effort-recovery model, proposed by British scholars Meijman and Mulder, suggests that after an individual exerts effort at work, a certain period is required for physical and psychological recovery [20]. If recovery does not occur, physical and mental imbalances, fatigue, and presenteeism may develop, ultimately affecting overall health. Psychological detachment, a self-regulation mechanism first introduced by Etzion [21], refers to the process where individuals consciously avoid work-related thoughts during non-working hours. Effective psychological detachment not only promotes physical and mental recovery but also enables individuals to re-engage with their work more effectively [22]. Despite the significance of psychological detachment, there is limited research on its impact on nurses' presenteeism. Therefore, based on the theory of effort recovery, this study investigated the presenteeism of nurses in China, providing reference for early identification of nurses' presenteeism and taking targeted measures.

Method

Study design and sample

This study employed a multicenter cross-sectional design. An online questionnaire survey was conducted among clinical nurses in 37 hospitals in Sichuan Province, China, from September to November 2024, using convenience sampling. After excluding invalid responses, a total of 1647 valid questionnaires were collected, yielding an effective response rate of 98%.

Inclusion criteria: A nurse professional qualification certificate, with at least one year of work experience; Informed consent and voluntary participation in the study.

Exclusion criteria: Absentees due to personal leave, maternity leave, or other reasons; nurses currently in practice, advanced study, or other training.

According to Kendall's sample size calculation method, the required sample size is at least 5–10 times the number of independent variables [23]. This study included 16 variables, with an estimated sample size of 80–160. Considering that 20% of questionnaires might be invalid, the expected sample size was 192. Therefore, the sample size for this study was deemed sufficient.

Measures

General information questionnaire

The questionnaire was designed by the researcher based on a literature review and group discussions. It includes 13 variables, such as age and gender.

Presenteeism scale

The Stanford Presenteeism Scale-6 (SPS-6) was used to assess nurses' presenteeism. Developed by Koopman et al. [24] and later translated into Chinese by Zhao Fang [25], the scale consists of 6 items across 2 dimensions. A 5-point Likert scale was used, ranging from 1 (completely disagree) to 5 (completely agree), with items 5 and 6 scored in reverse. The total score ranges from 6 to 30, with higher scores indicating more severe presenteeism. The Cronbach's α coefficient of this study is 0.838.

Psychological detachment scale

This scale, developed by Sonnentag et al. [26], and later translated and revised by Chinese scholar Lu [27], assesses individuals' physical and mental detachment from work during non-working hours. It consists of 4 items, using a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree), with a total score ranging from 4 to 20. Higher scores indicate a greater degree of psychological detachment. The Cronbach's α coefficient of this study is 0.845.

Ethical consideration

This study was approved by the Ethics Committee of the Third People's Hospital of Chengdu ([2024] -S-263). Data collection was conducted following the principles of anonymity and informed consent.

Procedures

The electronic questionnaire was created using Questionnaire Star, with each IP address allowed to submit only once. The first page of the questionnaire explained the purpose and significance of the research. All questions were set as required to ensure questionnaire completeness. The study coordinator contacted the hospital's nursing management staff via phone or WeChat to explain the study's purpose and obtain consent from each hospital. Hospital administrators then distributed the link to their nurses. Participation was voluntary, with participants free to withdraw at any time. All respondents who completed the questionnaire provided informed consent. After the survey is completed, the collected data will be organized. Questionnaires with response times less than 120 s, those with identical answers to all questions, or those containing logical errors will be eliminated.

Statistical analysis

Statistical analysis was performed using SPSS 26.0. Measurement data with a normal distribution are presented as mean \pm standard deviation (SD), while categorical data are described using frequency and percentage. One-way ANOVA or independent sample t-tests were used for inter-group comparisons, and Pearson correlation analysis was employed for inter-group correlation analysis. Univariate variables with P < 0.05 were included in the regression model for multivariate regression analysis.

Results

General data and scores of psychological detachment and presenteeism of nurses

The 1647 nurses included in the study were aged 21-59 years (mean age: 32.98 ± 7.28). Their years of work experience ranged from 1 to 41 years (mean: 11.11 ± 7.85), as shown in Table 1. The nurses' psychological detachment scores averaged 7.92 ± 3.49 , while the presenteeism scores averaged 17.01 ± 5.10 (Table 2). Based on the median presenteeism score of 15, scores greater than 15 were classified as high presenteeism. A total of 1,079 nurses (65.5%) exhibited high presenteeism in this study.

Single factor analysis of nurses' presenteeism

The single-factor analysis revealed statistically significant differences in presenteeism based on department, gender, age, years of work experience, marital status, professional title, income, frequency of night shifts, nature of employment, and work pay matching degree (P < 0.05) (Table 1).

Correlation analysis between psychological detachment and presenteeism in nurses

Pearson correlation analysis showed that psychological disengagement score was negatively correlated with recessive absenteeism and scores of all dimensions (P < 0.01), as shown in Table 3.

Multivariate analysis of presenteeism in nurses

A multivariate analysis was conducted with the total presenteeism score as the dependent variable, and statistically significant variables from the general data and psychological detachment scores as independent variables. The results indicated that department, gender, work pay matching degree, and psychological detachment were significant factors influencing presenteeism among nurses (P < 0.05) (Table 4).

Discussion

Presenteeism levels of nurses

Nurses' presenteeism was above the medium level, and 65.5% of nurses exhibiting high presenteeism, which was similar to the results of related studies [28-29]. Nurses are a group with a high presenteeism, which has become one of the significant challenges in the healthcare field [30-31]. Nurses often experience physical and mental health issues due to the unique demands of their work, such as long hours, high-intensity workloads, and constant exposure to emergency situations. These factors contribute to presenteeism in this population. Research has shown that nurses are prone to physical ailments, including digestive and musculoskeletal disorders, as a result of their work environment. Additionally, the nature of nursing work requires constant mental alertness and often entails late-night shifts, leading to psychological problems such as insomnia, anxiety, and depression [32-33]. Health issues are thus the root cause of presenteeism, as both physical and psychological health problems deplete nurses' energy, reduce their work commitment and concentration, and diminish their overall work capacity and productivity. This creates a vicious cycle, where presenteeism exacerbates physical and mental health issues. In addition, with the advancement of society and improved health literacy, there has been an increasing demand for medical and healthcare services, placing higher expectations on nursing standards. However, the shortage of nursing staff remains a significant issue in the healthcare industry, with the limited

Table 1 General data of nurses and univariate analysis of presenteeism (n = 1647)

Item		Number of cases (%)	Total score of presenteeism	F/t value	P value
Hospital grade	Level III, Class A hospital	597(36.2)	17.03±5.31	F=0.666	0.573
	Level III, Class B hospital	356(21.6)	17.20±4.92		
	Level II, Class A hospital	545(33.1)	16.78±5.00		
	Level II, Class B hospital	149(9.0)	17.28±5.04		
Department	Internal medicine	481(29.2)	17.36±4.75	F = 3.080	0.015
	Surgery and Operating Room	372(22.6)	17.35±5.11		
	other	236(14.3)	16.35±5.20		
	Obstetrics and gynecology	442(26.8)	16.56±5.49		
	Emergency severe disease	116(7.0)	17.48±4.51		
Gender	Male	64(3.9)	16.93±5.10	t=3.245	0.001
	Female	1583(96.1)	19.03±4.75		
Age(years)	≤30	727(44.1)	17.71±4.88	F = 15.842	<0.001
	31–40	674(40.9)	16.71±5.22		
	≥41	246(14.9)	15.74±5.09		
Highest education	Technical secondary school	24(1.5)	15.92±4.55	F = 2.114	0.097
	Junior college	540(32.8)	17.40±5.05		
	Undergraduate	1079(65.5)	16.83±5.13		
	Master degree	4(0.2)	19.25±2.98		
Years of work	≤5	436(26.5)	17.86±4.66	F=13.952	<0.001
	6–10	480(29.1)	17.29±5.17		
	≥11	731(44.4)	16.31±5.21		
Marital status	Married	1198(72.7)	16.75±5.18	F=6.717	0.001
	Unmarried	404(24.4)	17.81±4.68		
	Divorced/widowed	45(2.7)	16.60±5.81		
Professional post	Junior	837(53.0)	17.50±4.93	F = 10.306	<0.001
	Middle level	680(41.3)	16.58±5.21		
	High-level	94(5.7)	15.55±5.27		
Average monthly income (RMB)	<5000	607(36.9)	17.48±4.66	F=3.503	0.015
	5000-10,000	1004(61.0)	16.75±5.32		
	10,001-15,000	33(2.0)	16.39±5.30		
	>15,000	3(0.2)	12.67±6.11		
Average monthly Night shifts (times)	<4	785(47.7)	16.58±5.34	F = 5.667	0.004
	4–8	657(39.9)	17.32±4.93		
	>8	205(12.4)	17.65±4.52		
Average overtime hours per week (h)	<5	1172(71.2)	17.05±5.11	F=1.432	0.239
	5–10	365(22.2)	16.69±5.10		
	>10	110(6.7)	17.58±4.92		
Nature of employment	Contract employment or otherwise	1415(85.9)	17.12±5.07	t=2.247	0.025
	Officially on the list	232(14.1)	16.31±5.23		
Matching degree of work reward	mismatch	381(23.1)	17.57±4.20	t=2.456	0.014
	match	1266(76.9)	16.84±5.33		

 Table 2
 Psychological detachment and presenteeism scores of nurses (n = 1647)

Table 3	Correlation analysis correlation coefficient	ents between
nurses' p	sychological detachment and presentee	eism (<i>n</i> = 1647)

nurses(n = 1647)			
Item	Score (score, x±S)		
Psychological detachment	7.92±3.49		
Presenteeism	17.01±5.10		
Work limitation	11.24 ± 4.24		
Work energy	5.77 ± 2.25		

	2			,
ltem	psychological detachment	presenteeism	Work limitation	Work en- ergy
psychological detachment	1	_	—	
presenteeism	-0.274	1	—	_
Work limitation	-0.157	0.900	1	_
Work energy	-0.324	0.570	0.154	1
Note: All P<0.01				

Note: All P<0.01

 Table 4
 Multivariate linear regression analysis of presenteeism in nurses (n = 1647)

Item	В	SE	β	t	Ρ
Constant	28.218	1.624	_	17.374	<0.001
Department (In- ternal medicine as reference)					
Obstetrics and gynecology	-0.873	0.326	-0.076	-2.678	0.007
other	-1.105	0.390	-0.076	-2.833	0.005
Male (with female as reference)	-2.126	0.636	-0.081	-3.344	0.001
Matching degree of work reward	-0.890	0.297	-0.074	-2.993	0.003
psychological detachment	-0.430	0.034	-0.294	-12.503	<0.001

Note: R = 0.343; R² = 0.118; Adjusted R² = 0.110; F = 14.542; P < 0.001

flexibility of nurses' roles increasing the workload in clinical settings. Nurses often prioritize patient care and fear financial penalties due to absenteeism or understaffing, leading them to neglect their personal health and continue working while ill, resulting in presenteeism and related phenomena [34]. Therefore, hospital and department managers should address nurse presenteeism by implementing reasonable scheduling, rotation, and shift systems, promoting health-conscious work practices, strengthening nursing team structures, ensuring optimal nurse attendance, preventing adverse events, and safeguarding patient safety.

Presenteeism is influenced by multiple factors

Nurses in obstetrics, gynecology, pediatrics and other departments had lower levels of presenteeism than nurses in internal medicine, emergency intensive care, surgery and operating rooms. This is similar to related research [35]. This may be due to the more positive and less contentious work environment in departments such as obstetrics, where the focus is on the arrival of new life, while the severity of illness and medical disputes are less prevalent. In contrast, the working environment in emergency and intensive care units, operating rooms, and similar settings tends to be high-pressure, fast-paced, and focused on critically ill patients, resulting in heightened stress, physical strain, and associated issues such as anxiety, fatigue, and physical ailments, which contribute to presenteeism. Surveys have indicated that presenteeism among nurses is closely linked to factors such as work environment, burnout, and fatigue [36-17]. Therefore, managers can enhance the work environment, allocate resources efficiently, optimize shift arrangements, alleviate nurses' psychological stress, and ensure they receive adequate rest.

Presenteeism were lower among male nurses than female nurses. This finding is consistent with the results of Gillet et al. [37]. This may be attributed to external factors, as men tend to have higher tolerance levels, both physiologically and psychologically, compared to women. Women, on the other hand, are more susceptible to physical health issues due to the high physical demands, workload, and frequency of work [38]. Additionally, women are more likely to assume family roles, such as daughter, mother, and wife, which increases the likelihood of work-family conflict, contributing to higher levels of presenteeism [39]. Relevant studies have shown that nurse presenteeism is significantly positively correlated with work-family conflict [40]. When nurses struggle to balance their family roles, they often choose to continue working due to workload and financial considerations, yet their work engagement decreases, leading to presenteeism and other related issues.

Nurses with a lower degree of job compensation alignment were more prone to presenteeism. The social-psychological work environment refers to the interaction between an individual's social context and their behaviors and emotions [41]. The pay-back theoretical model further emphasizes that in social work, the balance between pay and return should be maintained. Pay includes working hours, job responsibilities, work pace, and job requirements, while return includes respect, income, promotions, and job security [42]. Imbalances in either side can negatively impact the other. When individuals do not receive adequate rewards, such as remuneration or recognition, after their efforts, negative emotions or behaviors may arise [43]. Presenteeism occurs when a nurse's salary, promotion prospects, or respect fall short of expectations or are perceived as inadequate after significant effort, leading to a sense of inequity that adversely affects both their physical and mental health [44]. Therefore, hospital managers should strengthen the management of the working environment by developing fair and reasonable performance and reward systems, ensuring a balance between effort and reward, and continuously fostering nurses' motivation to maintain their optimal mental well-being while on the job.

The results of this study indicated that psychological detachment was negatively correlated with presenteeism, suggesting that nurses with lower psychological detachment are more prone to presenteeism. This finding is consistent with the results of Liao D et al. [45]. According to the effort-recovery model, psychological detachment, as an active form of psychological adjustment, facilitates the recovery of physical and mental health and serves as a strong predictor of improved engagement in subsequent work [46]. Nurses expend significant physical and psychological resources during high-load, high-intensity work. Through effective psychological detachment, nurses can distance themselves from work both physically and mentally, promoting recovery and enhancing

their performance during subsequent shifts, thereby reducing presenteeism [47]. Therefore, nurses should actively practice psychological detachment after work to ensure effective recovery and better engagement in future tasks. Additionally, hospital administrators should prioritize nurses' psychological detachment, minimize work-related interference during off-hours, and ensure that nurses have sufficient time and space for physical and mental recovery after work.

This study has several limitations: First, it focused solely on nurses in Sichuan Province, China, limiting the generalizability of the findings. Future research should expand the geographical scope to enhance the representativeness and universality of the sample, reducing selection bias. Second, this study employed a cross-sectional design to investigate the factors influencing presenteeism in nurses. Future research could incorporate qualitative and mixed-method approaches to explore other contributing factors.

Conclusions

Presenteeism among Chinese nurses is above the medium level, with a relatively high incidence of high presenteeism. Department, gender, and job compensation alignment are factors affecting nurses' presenteeism, while psychological detachment is negatively correlated with presenteeism. These findings suggest that hospital managers should prioritize addressing presenteeism among nurses by implementing effective measures to improve the work environment, enhance human resource capacity, develop reasonable work requirements and rotation systems, promote nurses' physical and mental health, and reduce presenteeism.

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Author contributions

All authors contributed to the research idea and design. ZL and LT are the principal investigators of the study. ZL and LT conducted the statistical analysis and wrote the paper. ZL, ZL, LC, LC and YC helped conduct the research and revise the manuscript. XM and LT helped oversee the survey and examine the data.

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Data availability

The datasets used and analyzed during the current study are available from the corresponding authors on request.

Declarations

Ethical approval

This study was approved by the Ethics Committee of the Third People's Hospital of Chengdu ([2024] -S-263). Data collection was carried out according to the principle of anonymity and the informed consent of the subjects. Throughout the study, the ethical principles of the Declaration of Helsinki were followed.

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Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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