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Original Article

Are mindfulness and self-efficacy related to presenteeism among primary medical staff: A cross-sectional study

Nan Tang, Lin Han*, Purui Yang, Yanhui Zhao, Hongchen Zhang

Lanzhou University, Lanzhou, China



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ABSTRACT

Objectives: In ensuring public welfare with primary medical and health services, the primary medical staff faces new tasks. Increasing workload, and therefore degrees of stress and burnout, can influence job satisfaction and lead to presenteeism, which is defined as the appearance to be on the job but not actually working. The purpose of this study is to investigate the current working situation and the relationship between presenteeism and mindfulness of primary medical staff and determine the mediating effect of self-efficacy on this relationship.

Method: A cross-sectional survey was performed with 580 primary medical staff from 9 hospitals in Shaanxi province, northwest China. Presenteeism, mindfulness, and self-efficacy were measured by using a general information questionnaire, the Five-Facet Mindfulness Questionnaire, the General Self-Efficacy Scale, and the Stanford Presenteeism Scale. Mediating effect was analyzed by a series of hierarchical multiple regressions.

Results: A high level of presenteeism was found among 47.4% of the study participants. Presenteeism was negatively correlated with mindfulness ($r = -0.409, P < 0.001$) and self-efficacy ($r = -0.678, P < 0.001$). A positive correlation was found between mindfulness and self-efficacy ($r = 0.584, P < 0.001$). When controlling for self-efficacy ($\beta = -0.018, P > 0.05$), the association was insignificant between presenteeism and mindfulness.

Conclusion: The results identified the effect of mindfulness on presenteeism of primary medical staff is realized through self-efficacy, which also suggested to enhance self-efficacy on center location when developing management strategies for mental health education or training among primary medical staff.

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1. Introduction

As China's population ages, the burden of national health increases and the contradiction between demand and supply emerges. A hierarchical medical system has yet to be established, and services at township hospitals and village clinics, especially in less-developed areas, should be improved [1]. Only by responding to the new health care reform and strengthening basic medical service system can we alleviate the problem of medical treatment.

Primary medical staff works in township hospitals and village clinics. Doctors, nurses, and medical technicians, who had been admitted by the administrative department for public health and obtained corresponding qualification and practice certificate, are

the core power of the medical health care system; they constitute the group of basic rural medical and public health servants. Efficiency, work quality, and professional technology levels are important factors in the development of primary medical and health services, and they can also help measure the implementation effect of the new medical reform policy [2].

The improvement of the national economy and the transformation of health concept led to a new focus on health. Medical services became the main demand compared with education and housing in our society. The growing workload, intensifying relationship between doctors and patients, and media guiding public opinion decreased the medical workers' enthusiasm [3]. All these factors led to increasing pressure, lower job satisfaction, or even burnout and departure of medical staff [4].

In ensuring public welfare with primary medical and health services, primary medical staff faces a new task. Increasing workload and degrees of stress and burnout can influence job satisfaction [5,6]. In these new situations, the mental and physical health

* Corresponding author.

E-mail address: tanganlzdx@163.com (L. Han).

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problems of medical personnel are key factors that restrict primary medical and health services [7]. The mental health level of primary staff is lower than that of the general population. The degree of patients' satisfaction, trust, and faith in the medical staff's service is relatively low. In addition, the lengthy lack of job satisfaction tends to cause less enthusiasm, inability to work normally, or even presenteeism, which is defined as the appearance to be on the job but not actually working. Presenteeism originated in the 1990s when the United Kingdom experienced high unemployment. Under this social background, the staff faces the huge pressure of losing jobs and insists on working even with bad health. The Psychology professor Cary Cooper of Manchester University discovered this social phenomenon, and put forward the word "presenteeism" [8]. In recent years, presenteeism has been regarded as a new concept and used to describe work behavior or attendance status. In the 1990s, presenteeism caused concern in management as one of the important factors that led to reduced organizational productivity [9].

The endogenous factor of presenteeism is negative emotion, whereas mindfulness can effectively improve individual negative emotions. Mindfulness is a state of awareness, through conscious cognition and objective judgment, and purposefully focuses on the present moment, reduces the painful experience from thought, and avoids the interference of emotion, memory, and fantasy in our present life or work [10]. After 30 years of development, Jon Kabat Zinn committed himself to mindfulness-based reduction from extreme stress to mainstream, which has now become orthodox psychological therapy. Over 520 mindfulness training institutions are now established in the United States, and over 700 in the world. Mindfulness-based stress reduction is widely used in psychology and education treatments [11].

Mindfulness can effectively improve all kinds of negative emotions. Moreover, high self-efficacy has been proven to be good for self-control and management abilities. People with high self-efficacy are less affected by negative emotions and finish their tasks better [12]. Therefore, reduction of presenteeism can start from the elimination of negative emotions and consideration of the relationship between mindfulness and self-efficacy with presenteeism. Since 2009, new medical reforms started and gradually standardized the primary medical and health services, in which service witnessed a comprehensive diversification. Residents' work coverage is increasing. Primary medical staff faces rapid developments of basic medical requirements not only to complete their medical work but also to undertake responsibilities in public health. Thus, preventing presenteeism of medical staff is important to ensure the quality of medical administration and primary care.

2. Methods and materials

2.1. Design and sample

This study employed a cross-sectional survey to explain the relationships among presenteeism, mindfulness, and self-efficacy of primary medical staff. The data were collected from January to May 2017 using the general information questionnaire, the Five-Facet Mindfulness Questionnaire (FFMQ), General Self-Efficacy Scale (GSES), and the Stanford Presenteeism Scale (SPS-6). The developers permitted the usage of all questionnaires in this study. The selection criteria included primary medical staff with at least 1-year clinical experience in township hospitals or village clinics, and admitted by the administrative department for public health, who obtained corresponding qualifications and practice certificates. Participants had to understand the study objectives and provide written informed consent. The exclusion criteria include absence during the survey, such as those on leave, training, or maternity

leave. Using a multi-stage cluster sampling method, the first stage considered Nanzheng County from among 10 counties in Hanzhong City of Shaanxi province as a first-order unit. The county's 18 township hospitals were divided into two groups according to economic level; better economic group and less developed group. The better economic group included 12 hospitals, from which we randomly selected 6 hospitals. The less developed group included 6 hospitals, from which we randomly selected 3 hospitals. Through the above sampling method, we obtained 9 hospitals as a second-order unit. In the third stage, we selected all medical staff in the 9 hospitals as the research subjects.

2.2. Measurement tool

2.2.1. General information questionnaire

According to the study objectives and crowd selection, we designed the general information questionnaire based on relevant literature. The factors included gender, age, education, working years, posts, titles, affiliated institutions, officially budgeted posts, and shift.

2.2.2. Stanford Presenteeism Scale

The SPS-6 short version consists of 6 items covering performance impairments due to health problems in the past month [13]. The items were: (1) Because of my (health problem), the stresses of my job were much harder to handle; (2) Despite having my (health problem), I was able to finish hard tasks in my work; (3) My (health problem) distracted me from taking pleasure in my work; (4) I felt hopeless about finishing certain work tasks, due to my (health problem); (5) At work, I was able to focus on achieving my goals despite my (health problem); and (6) Despite my (health problem), I felt energetic enough to complete all of my work. Items 2, 5, and 6 followed these scoring: strongly disagree = 1; somewhat disagree = 2; uncertain = 3; somewhat agree = 4; and strongly agree = 5. Items 1, 3, and 4 followed this scoring: strongly disagree = 5; somewhat disagree = 4; uncertain = 3; somewhat agree = 2; and strongly agree = 1. The sum of these scores was the total SPS-6 score, which ranged from 6 to 30. Lower scores indicate lower presenteeism, and higher scores indicate higher presenteeism. The reported Cronbach's α of the Chinese version of SPS-6 was 0.806, and the resulting Cronbach's α coefficient for this study was 0.901.

2.2.3. Five-Facet Mindfulness Questionnaire [14,15].

The scale had a total of 39 entries in 4 dimensions: observation (entries 1, 6, 11, 15, 20, 26, 31, 36); description (entries 5, 8, 13, 18, 23, 28, 34, 38); do not judge (entries 3, 10, 14, 17, 25, 30, 35, 39); and no response (entries 4, 9, 19, 21, 24, 29, 33). The scores were 1 = none at all, 2 = less agree, 3 = some agree, 4 = very consistent, and 5 = fully consistent. A higher total score indicates a higher level of mindfulness. The FFMQ Chinese version Cronbach's α coefficient was 0.812, and the Cronbach's α coefficient for this study was 0.970.

2.2.4. General Self-Efficacy Scale

The scale was compiled by Schwarzer et al. [16] and became widely used internationally. Jianxin Zhang and Schwarzer [17] published the Chinese version of GSES in 1995 in a co-translation. The scale has 10 entries and the score is 1 = Not at all true, 2 = Hardly true, 3 = Moderately true, 4 = Exactly true. The application is simple and easy to operate. The GSES Chinese version of internal consistency was 0.87 and the retest reliability was 0.83. The Cronbach's α coefficient for this study was 0.926.

2.3. Data collection

Finally, we conducted a face-to-face questionnaire survey with the medical staff. Our research group of 6 members was divided into 3 teams, and each team was responsible for 3 hospitals. Before the investigation, the team leader conducted a unified training for all the members, including relevant knowledge, questionnaire delivery methods, unified caliber, and so on. In this study, 650 questionnaires were issued and 636 questionnaires were collected. Invalid questionnaires were eliminated, leaving 580 questionnaires used in the final analysis. The rate of effective recovery was 89.23%.

2.4. Ethical consideration

The Institutional Review Board of Lanzhou University approved this study. The developers permitted usage of all questionnaires in this study. Approval was also obtained from the relevant institution directors where data were collected. Finally, all participants provided written informed consent prior to completing the questionnaires.

2.5. Data analysis

The collected data were analyzed by using SPSS for Windows 18.0. Descriptive statistics were employed to assess the participants' characteristics. According to these characteristics, the differences in presenteeism were analyzed by a rank test, a non-normal distribution. Inter-group comparison was analyzed by using the independent sample Kruskal–Wallis test. Correlations between variables were analyzed by using Spearman's correlation coefficients. To test the mediating effect, a series of hierarchical multiple regressions was performed according to Baron and Kenny's [18] procedures and the Sobel test.

3. Results

3.1. Demographic characteristics

This study employed a total of 580 primary medical staff. The participants' age mainly fluctuated between 31–40 and 41–50. Most of them had management titles (60.2%), worked in township hospitals (81.7%), officially budgeted posts (69.0%), and obtained education below an undergraduate degree (88.7%). Statistically significant differences in presenteeism were observed according to the participants' characteristics (Table 1). Participants were divided into two groups by the median score (15.00) of presenteeism. The outcome of inter-group comparisons are as follows. Men scored higher than women ($P < 0.001$). Primary medical staff aged 31–40 scored higher than ≤ 30 ($P < 0.001$), 41–50 ($P = 0.015$), and ≥ 51 ($P = 0.001$). Those with bachelor degrees scored lower than those with secondary vocational school education ($P < 0.001$) and 3-year college education ($P < 0.001$). Primary medical staff with a working life of 1–5 years scored lower than other groups ($P < 0.001$). Middle management primary medical staff scored higher than those with no supervisory positions ($P = 0.0040$), primary management ($P < 0.001$), and vice-senior management or higher ($P = 0.01$). Medical staff working in village clinics scored less than those working in township hospitals ($P = 0.027$). Doctors scored lower than nurses ($P < 0.001$), medical technicians ($P = 0.012$), and management ($P = 0.001$). Medical staff with officially budgeted posts scored lower ($P = 0.025$). Lastly, medical staff who shifted down scored lower ($P < 0.001$).

3.2. Correlation analysis among presenteeism, mindfulness, and self-efficacy

Descriptive statistics (median and quartile) of the main variables are as follows: presenteeism 15 (11, 22), mindfulness 105 (88, 126), and self-efficacy 25 (19.25, 30). The median of the presenteeism score was taken as the truncated value and divided into two groups, in which 275 scored higher than the median for presenteeism. Among the participants, 47.4% were classified to have high presenteeism.

The correlation analysis showed that presenteeism was negatively correlated with mindfulness ($r = -0.409$, $P < 0.001$), and with self-efficacy ($r = -0.678$, $P < 0.001$). Meanwhile, mindfulness was positively correlated with self-efficacy ($r = 0.584$, $P < 0.001$).

3.3. Mediating effect of self-efficacy

Mindfulness significantly affected presenteeism and self-efficacy, and self-efficacy exerted a significant impact on presenteeism, which meets the basic conditions of intermediary test. We considered mindfulness (x) as the independent variable, self-efficacy (m) as the mediator variable, and presenteeism (y) as the dependent variable (Table 2).

Table 2 and Fig. 1 present the results of multiple regression models that tested the mediating effect of self-efficacy in the relationship between presenteeism and mindfulness. Results met the four criteria for mediation: mindfulness was significantly and negatively associated with presenteeism ($\beta = -0.448$, $P < 0.001$) and significantly and positively associated with self-efficacy ($\beta = 0.611$, $P < 0.001$); self-efficacy was significantly and negatively associated with presenteeism ($\beta = -0.703$, $P < 0.001$). The β coefficient for mindfulness decreased and became statistically insignificant when both self-efficacy and mindfulness were included ($\beta = -0.018$, $P > 0.05$) compared with the figure when only mindfulness was included ($\beta = -0.448$, $P < 0.001$). Self-efficacy fully mediated the relationship between mindfulness and presenteeism. The significant indirect effect of mindfulness on presenteeism through self-efficacy was confirmed by the Sobel test ($Z = -19.574$, $P < 0.001$).

4. Discussion

Presenteeism refers to the fact that employees are at work, but internal or external factors reduce their work efficiency and impair their productivity. Work efficiency due to presenteeism is only 1/3 of the normal state [19]. Previous studies have focused more on the decline in productivity or economic losses caused by presenteeism, but recent investigations have found that the long-term impact of presenteeism due to residual effects of health problems and working with health problems is much greater compared with the impact of sick leaves [20,21]. The results of our survey show that the incidence of presenteeism in the Hanzhong area is as high as 47.5%, which is higher than that of Portugal's investigation on presenteeism among nurses and junior secondary teachers in public hospitals [22,23]. Related research found that the incidence of presenteeism in the health care industry is about 3–4 times higher than in other occupational groups [24], which may be due to their professional specifications. Medical work is a high-risk occupation, where factors such as knowledge, skills innovation, job competition, work intensity, and unstable economic income affect the physical and mental health of medical staff and become a main source of stress [4]. Presenteeism can reduce enthusiasm for their work. As a life-saving worker, in their professional ethics, medical staff always prioritizes the patient's life safety and health over their own. Medical staff continues working even when sick, and it is easy

Table 1
Study participants' characteristics and presenteeism(n = 580).

Characteristics categories		n(%)	Presenteeism M(P ₂₅ , P ₇₅)	Z	P
Gender	Male	250(43.1)	14(10,19)	-3.666	<0.001
	Female	330(56.9)	16(11,23)		
Age(years)	≤30	93(16.0)	10(7,20.5)	45.463	<0.001
	31–40	220(37.9)	18(13,26)		
	41–50	199(34.3)	15(11,20)		
	≥51	68(11.7)	14(9,19)		
Education	Secondary Vocational School Education	259(44.7)	16(12,27)	63.094	<0.001
	Three-year college Education	255(44.0)	15(12,21)		
	Bachelor Degree	66(11.4)	7(6,14)		
Work experience(year)	1–5	96(16.6)	10.5(7,21)	47.129	<0.001
	6–10	95(16.4)	18(12,23)		
	11–20	191(32.9)	16(13,24)		
	21–30	138(23.8)	16(12,24)		
	≥31	60(10.3)	12(7.5,16.75)		
Technical title	No title	53(9.1)	13(9,15)	24.020	<0.001
	Primary title	349(60.2)	15(10,23)		
	Middle title	154(26.6)	17.5(12.75,22)		
	Vice-senior Title or higher	24(4.1)	12(6,15.75)		
Mechanism	Township hospitals	474(81.7)	15.5(11,23)	-2.216	0.027
	Village clinics	106(18.3)	14(11,17.25)		
Position	Doctor	295(50.9)	14(9,19)	35.382	<0.001
	Nurse	117(20.2)	18(13,25)		
	Medical technician	88(15.2)	16(12,24)		
	Management	80(13.8)	17(13,26.75)		
Officially budgeted posts	No	180(31.0)	16(12,23)	-2.240	0.025
	Yes	400(69.0)	15(10,21)		
Work shift	No	294(50.7)	16(12,24)	-3.641	<0.001
	Yes	286(49.3)	14(9,21)		

Table 2
Mediating effect test of self-efficacy between mindfulness and presenteeism (n = 580).

Regression equation		SE	β	t	P
Dependent variable	Independent variables				
Presenteeism	Mindfulness	0.008	-0.448	-12.033	<0.001
Self-efficacy	Mindfulness	0.007	0.611	18.552	<0.001
Presenteeism	Mindfulness	0.008	-0.018	-0.485	0.628
	Self-efficacy	0.035	-0.703	-19.118	<0.001

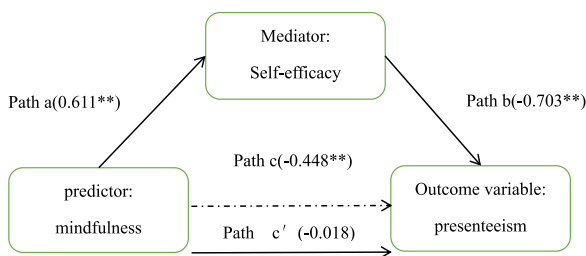


Fig. 1. Mediation Effect of self-efficacy on the Relationship between presenteeism and mindfulness (n = 580).

for them to ignore their own health problems, resulting in high presenteeism. The risk of presenteeism increases the risks of the employee, reduces the health index, and even causes a mental illness; as such the work unit performs at a reduced efficiency and quality of work [25,26]. The health status of medical staff is directly related to the residents' health care work, daily care, rehabilitation, health management, and other tasks [27]. Nurses' presenteeism can lead to problems such as falling, falling beds, medication errors, decreased care quality, and so on [28,29]. Presenteeism may cause not only an increase in the incidence of medical errors but also endangers the lives of medical staff and patients [30]. Presenteeism is one of the main reasons leading to emotional exhaustion [31]. Therefore, it is very important and feasible to study how to reduce the occurrence of unknown casualties of medical personnel. The above studies have all suggested an association between

presenteeism and adverse factors such as stress and negative emotions, but the current study is the first to show its relationship with positive factors among primary medical staff.

In our study, self-efficacy of primary medical staff was completely mediated between mindfulness and presenteeism, which indicated that the effect of mindfulness on presenteeism is achieved by a stratified regression of self-efficacy. High-minded individuals have better self-control to generate less negative emotions from work stress, interpersonal conflicts, or failed setbacks. These individuals find it easy to accept and respond positively to adverse physical condition or life events [32]. High mindfulness can also promote their abilities to solve problems better and thus obtain a higher sense of self-efficacy [33], which can also determine the individual's attitude, responsibility, and behavior at work. High-minded individuals adjust their working states better and avoid negative influences, such as health, emotional, or other factors that. Thus, they are inclined to show a low presenteeism. Low mindfulness of medical staff lead to immediate and aggressive negative emotions when faced with frustration or conflict at work. They cannot be aware of self-emotional experience and self-control, causing inability to judge and effectively react to the current event. Their mood swings lead to a disorder of self-evaluation, reducing their problem-solving abilities. Therefore, low-minded people appear to have low work efficiency, low work quality, and other presenteeism effects. The connotation of self-efficacy is the belief that the individual has a specific goal in different areas of work after the integration of information. In other

words, self-efficacy is the ability to judge and to faithfully complete the task [34]. However, self-efficacy is not just a belief or judgment, but also a cognitive, motivational, and behavior choice. Thus, self-efficacy is a key factor affecting the behavior model. The level of self-efficacy determines the attitude and task intensity, which directly determines the efficiency and quality of work.

This study validates the complete and important mediating effect of self-efficacy in the relationship between mindfulness and presenteeism, that is, reducing presenteeism cannot be realized directly by mindfulness but rather needs to rely on the mediating effect of self-efficacy. Individuals with high mindfulness level have a high awareness of their ability to determine their own sense of control. They regulate management emotions correctly by observing the perceived objective situation. Such relaxed physical and mental experience helps them to judge the information, and promote their self-acceptance at work or in life. At the same time, their self-confidence and self-evaluation are also more active. Individuals with these abilities show a higher sense of self-efficacy. Good self-efficacy plays an important role in protecting health-related factors.

This study provides a new concept for medical and health care institutions, that the lack of mindfulness of medical staff prone to presenteeism is largely related to individual self-efficacy. Therefore, development of management strategies for mental health education or training should pay attention to improvements of self-efficacy. Future research should validate the impact of mindfulness-based intervention on self-efficacy and presenteeism. Such intervention, therapy or even related lectures among primary medical staff can improve self-efficacy and effectively control the occurrence of presenteeism in primary care.

5. Limitations of the research

The method of sampling of this study presented limitations. The research participants from Hanzhong, Shaanxi province may not be sufficiently representative, and the findings may not support the routine use of these supplements among primary medical staff. The research method is mainly based on the questionnaire, which cannot avoid subjective deviation. Future studies may use a longitudinal design to identify the trajectory of presenteeism and mindfulness. In addition, the combined self-assessment and mutual assessment can improve the accuracy of the measurement result. More diversified samples are similarly necessary to represent the target population.

Conflicts of interest

No conflict of interest was declared.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijnss.2019.03.004>.

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