Research Square

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Correlation between medical coping style and mindfulness level of hospitalized elderly

KUN YANG
Philippine Women's University
JINWEN BAI
Philippine Women's University
EMERSON GALANG ALISWAG
Philippine Women's University
JIAN SONG
1934298053@qq.com

Jingzhou Institute of Technology

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Abstract

Background

The mindfulness level of hospitalized elderly is affected by various individual factors. However, little is known regarding the relationship between medical coping styles and mindfulness levels of hospitalized elderly. The aims of this study were to examine the relationship between medical coping style and the mindfulness level of the hospitalized elderly and provide a theoretical basis for improving the mindfulness level of the hospitalized elderly.

Methods

A survey of 253 elderly patients was conducted in the Department of Geriatrics of a 3A hospital in Tangshan from September to November 2022 using the General Questionnaire, Medical Coping Style Questionnaire (MCMQ), and Mindfulness-Attention Awareness Scale (MAAS).

Results

The average mindfulness level score of the hospitalized elderly was (59.71 ± 13.90), with a scoring rate of 66.34%, at a moderate mindfulness level. This study results revealed a positive correlation between confrontation coping and the average score of mindfulness level ($r = 0.725$, $P < 0.05$); a negative correlation between avoidance coping and the average score of mindfulness level ($r = -0.604$, $P < 0.05$); and a negative correlation between acceptance-resignation coping and the average score of mindfulness level ($r = -0.800$, $P < 0.05$).

Conclusion

The mindfulness level of the hospitalized elderly must be improved, their coping styles are closely related to their mindfulness level, and positive coping styles can help improve the mindfulness level of the hospitalized elderly. This study suggested that medical staff can formulate targeted intervention measures, guide patients to establish positive coping styles, and improve the mindfulness level of hospitalized elderly people.

Introduction

China currently has the largest elderly population in the world, but their overall health status is not optimistic [1, 2]. As age increases, body functions decline, and the coexistence of multiple chronic diseases causes the hospitalization rate of the elderly is increasing year by year, and the resulting mental health problems of the elderly inpatients cannot be ignored [3]. The incidence of mental problems in elderly hospitalized patients is 78%, and 53.8% of elderly patients with chronic diseases take negative

coping style [4]. Medical coping style reflects the patient's psychological state in dealing with problems [5] and is an important moderating variable affecting the patient's mental health [6]. Negative coping strategies can aggravate the negative impact of the disease [7], leading to negative emotions in patients [8]. Mindfulness is focusing attention on the present and perceiving each moment of experience in a receptive and nonjudgmental manner [9], which can help patients maintain their attention and alertness to current events [10], freeing them from bad thinking patterns and negative emotions [11]. At present, it is generally believed that the core factors of mindfulness are "attention" and "open attitude". This suggests that there may be a link between levels of mindfulness and medical coping styles. The mindfulness level of hospitalized elderly people is usually affected by various factors such as individual demographic factors, social psychological factors, and disease-related factors. Research on mindfulness in mainland China is relatively limited, focusing mainly on students and medical staff. There are few studies on hospitalized elderly people as research subjects to explore the relationship between coping styles and mindfulness levels. Therefore, this study aims to explore the relationship between coping style and the mindfulness level of hospitalized elderly and provide a theoretical basis for improving their mindfulness level. Our specific aims were as follows: (a) To assess mindfulness level in hospitalized older adults. (b) Determine the relationship between medical coping styles and mindfulness level.

Methods

Study design and setting

This study is a descriptive, cross-sectional study. A total of 253 elderly patients admitted to the geriatric medicine department of a 3A hospital in Tangshan from September to November 2022 were selected as the research subjects.

Ethical considerations

This study has been approved by the PWU Ethics Committee (approved ERB2022_0066) and the site of investigation.

Research object

A convenience sampling method was used to select research objects.

The inclusion criteria were as follows:

 Age ≥ 65 years old.

 Those who with stable conditions.

 Informed consent, voluntary participation, and ability to cooperate.

The exclusion criteria were as follows:

 Those who with cognitive function and communication impairment.

Those who with serious physical and mental diseases that affect the normal evaluation.

Research tools

The general information questionnaire includes age, gender, marital status, education level, religious belief, medical burden, sleep disturbance, and muscle strength.

Medical Coping Style Questionnaire (MCMQ) consists of three dimensions of "Confrontation," "Avoidance," and "Acceptance-Resignation" with 20 items [12]; using the Likert 4-level scoring method, add the scores of each dimension question; the score ranges are 1–32 points, 1–28 points, and 1–20 points, the higher the score, the more the investigators are inclined to this coping style [13].

Mindfulness-Attention Awareness Scale (MAAS) consists of 15 items and adopts the Likert 6-level scoring method [14]. Each item is scored from "always" to "never," and the total score is 15–90. The higher the total score, the higher the mindfulness level [15]. Among them, less than 40 points are poor, 41–65 points are medium, and 66–90 points are good. After testing, the scale's internal consistency was Cronbach's r was 0.89, while the test-retest reliability was 0.87 [16].

Investigation method

Elderly patients in the Geriatrics Department of a 3A hospital in Tangshan City eligible for inclusion were surveyed via questionnaire using a unified survey scale inpatient from September to November 2022. The researcher himself was the investigator, and the purpose and significance of the survey were explained to the subjects before the survey, and informed consent was obtained. Questionnaires were distributed and collected on the spot, and the questionnaires were filled in by the respondents themselves. After collecting the questionnaires, check them one by one and ask the respondents to fill in the missing items in time. In this survey, 268 questionnaires were distributed, and 253 valid questionnaires were recovered, with an effective rate of 94.40% (253/268).

Statistical method

SPSS22.0 software was used for descriptive analysis and Pearson correlation analysis, whereas multivariate linear regression analysis were used for multiple factors. $P < 0.05$ was considered statistically significant.

Results

General Conditions of Hospitalized Elderly

This study investigated 253 hospitalized elderly patients, including 128 males and 125 females. The mean age was (75.0 ± 21.83) years old. This study has 151 cases with spouses. Moreover, 27.27% of the elderly patients had a primary school education or below. Elderly patients with religious beliefs

accounted for 39.92%. This study has 81 cases with a medical burden, 102 cases of sleep disorders, and 30.04% of elderly patients had abnormal muscle strength.

Scores of mindfulness level in hospitalized elderly

The average mindfulness level score of the hospitalized elderly was (59.71 ± 13.90), the score rate was 66.34%, and the mindfulness score was at the middle level.

Scores of medical coping styles in hospitalized elderly

A total of 253 cases of hospitalized elderly medical coping style scored (18.38 ± 6.04) points in the confrontation dimension, (14.26 ± 3.80) points in the avoidance dimension, and (10.80 ± 5.18) points in the acceptance-resignation dimension. Among them, 89 cases (35.18%) chose confrontation coping, 71 cases (28.06%) chose avoidance coping, and 93 cases (36.76%) chose acceptance-resignation coping.

Correlation analysis between medical coping style and mindfulness level of hospitalized elderly

The results exhibited a positive correlation between confrontation coping and the average score of mindfulness level ($r = 0.725$, $P < 0.05$); a negative correlation between avoidance coping and the average score of mindfulness level ($r = -0.604$, $P < 0.05$); a negative correlation between and acceptance-resignation coping and the average score of mindfulness level ($r = -0.800$, $P < 0.05$, Table 1).

Table 1
Correlation analysis between medical coping style and mindfulness level of hospitalized elderly people (r-value)

Indicator	Mindfulness Level Score	Confrontation Coping	Avoidance Coping	Acceptance-Resignation Coping
Mindfulness Level Score	1.000			
Confrontation Coping	0.725**	1.000		
Avoidance Coping	-0.604**	-0.569**	1.000	
Acceptance-Resignation Coping	-0.800**	-0.559**	0.581**	1.000
Note: ** means P < 0.01				

Univariate analysis of the mindfulness level of the hospitalized elderly

The study's results revealed that age, gender, marital status, education level, religious belief, medical burden, sleep disturbance, and muscle strength were the influencing factors of the mindfulness level of the hospitalized elderly ($P < 0.05$, Table 2).

Table 2
Univariate analysis of the mindfulness level score of the hospitalized elderly (n = 253)

Influencing Factors		*n*	Mindfulness Level Score	*t/F*	*P*
Age(Years)	65–74	151	61.38 ± 13.98	3.506	0.032
	75–84	62	58.60 ± 13.96		
	≥ 85	40	55.15 ± 12.57		
Gender	Male	128	63.37 ± 13.38	4.383	<0.001
	Female	125	55.97 ± 13.47		
Marital Status	With Spouse	102	52.88 ± 12.25	-7.009	<0.001
	Without Spouse	151	64.32 ± 13.06		
Education Level	Primary School and Below	69	52.64 ± 12.86	11.340	<0.001
	Junior High School	88	59.81 ± 12.77		
	High School	62	64.58 ± 13.03		
	College and Above	34	64.94 ± 14.62		
Religious Belief	Yes	101	64.84 ± 10.78	7.670	<0.001
	No	152	54.97 ± 13.74		
Medical Burden	Yes	81	47.70 ± 9.16	-12.884	<0.001
	No	172	65.37 ± 12.04		
Sleep Disturbance	Yes	102	52.19 ± 12.01	-7.890	<0.001
	No	151	64.79 ± 12.77		
Muscle Strength	Normal	177	64.51 ± 12.58	10.863	<0.001
	Abnormal	76	48.53 ± 9.83		

Multivariate analysis of mindfulness level score of hospitalized elderly

Multiple linear regression analysis demonstrated that age, gender, religious belief, muscle strength, confrontation coping, and acceptance-resignation coping are independent influencing factors of mindfulness level in hospitalized elderly using confrontation coping, avoidance coping, acceptance-resignation coping, and meaningful items in univariate analysis of general data as independent variables and mindfulness level score as the dependent variable (P < 0.05, Table 3).

Table 3
Multiple linear regression analysis of mindfulness level score of hospitalized elderly

Influencing Factors	B	*SE*	Beta	*t*	*P*
Constant	60.407	5.425	—	11.135	<0.001
Age	-1.290	0.622	-0.070	-2.074	0.039
Gender	-1.988	0.947	-0.072	-2.099	0.037
Religious Belief	-2.482	0.995	-0.088	-2.494	0.013
Muscle Strength	-5.288	1.081	-0.175	-4.890	<0.001
Confrontation Coping	0.755	0.092	0.328	8.246	<0.001
Acceptance-Resignation Coping	-0.966	0.129	-0.360	-7.498	<0.001
Note: R^2 = 0.802, Adjusted R^2 = 0.793, F = 88.511, P < 0.001					

Discussion

Current status of mindfulness levels in hospitalized elderly

The study's results exposed that the mindfulness level score of hospitalized elderly people was (59.71 ± 13.90) points, the score rate was 66.34%, and the mindfulness level score was at a medium level, consistent with Jin's [17] research results on patients with chronic heart failure. Related studies have indicated [18] that the higher the patient's self-stigma, the lower the corresponding mindfulness level [11, 19]. Various factors, such as disease and the hospitalization environment, affect the mental health of hospitalized elderly people [20]. While suffering from physical diseases, they are also prone to negative emotions, such as low self-esteem, anxiety, and depression, leading to stigma [21]. Decreased self-behavioral regulation in response to illness stress in elderly hospitalized patients, leading to reduced levels of mindfulness. Therefore, medical staff should pay more attention to the mental health status of the hospitalized elderly, actively conduct psychological counseling, strengthen psychological care, and improve the mindfulness level of the hospitalized elderly.

Current status of medical coping style in hospitalized elderly

This survey's results presented that hospitalized elderly medical coping style scored (18.38 ± 6.04) points in the confrontation dimension, (14.26 ± 3.80) points in the avoidance dimension, and (10.80 ± 5.18) points in the acceptance-resignation dimension. Among them, 89 cases (35.18%) chose confrontation coping, 71 cases (28.06%) chose avoidance coping, and 93 cases (36.76%) chose acceptance-resignation coping. This study revealed that the selected subjects seldom adopt confrontation coping styles but mostly avoidance and acceptance-resignation coping styles, consistent with Li [22]. It may be related to the obvious discomfort symptoms of hospitalized elderly people during

the acute attack stage of the disease [23]. The elderly hospitalized suffer from physical and mental pressure due to degenerative changes and body pain [24]. The negative coping style of avoidance can instead divert attention and reduce pain, but it is not beneficial to use it for a long time as the disease progresses [25]. The avoidance coping style enters a vicious circle under the constant suggestion of negative psychological conditions and eventually develops into a coping style of acceptance-resignation [26]. Simultaneously, most respondents are retired, their interpersonal network is narrowed, and they have few opportunities to accept new things, resulting in limited ability and access to disease-related knowledge, making it impossible for hospitalized elderly people to adopt positive coping methods [27]. Therefore, medical staff should reduce patients' negative emotions during clinical treatment, explain disease-related knowledge, and encourage the elderly to cope with the disease actively, enhancing the therapeutic effect.

Correlation between medical coping style and mindfulness level in hospitalized elderly

This survey's results displayed a positive correlation between confrontation coping and the average score of mindfulness level ($r = 0.725$, $P < 0.05$), a negative correlation between avoidance coping and the average score of mindfulness level ($r = -0.604$, $P < 0.05$), and a negative correlation between acceptance-resignation coping and the average score of mindfulness level ($r = -0.800$, $P < 0.05$). The studies [28, 29] have demonstrated that improving patients' positive coping styles and eliminating negative coping can further increase patients' attention to the disease, improve patients' confidence in treatment, encourage patients to focus on the present, and they can adopt positive coping strategies to deal with the negative effects of stress events, thereby improving their level of mindfulness [30].

Influencing Factors of mindfulness level in hospitalized elderly

Multiple linear regression analysis revealed that age, gender, religious belief, muscle strength, confrontation coping, and acceptance-resignation coping are independent influencing factors of mindfulness in hospitalized elderly. This study's results displayed that the older the hospitalized elderly, the lower the mindfulness level ($P < 0.05$). It may be related to the poorer mental health status of the elderly and the more prone to negative emotions [31]. As the body ages, the number of chronic diseases increases, and the sense of physical discomfort gradually increases, producing destructive emotions and negative coping styles and a lower mindfulness level in the older hospitalized elderly [32]. This study's results present that gender is one of the influencing factors in the mindfulness level of the hospitalized elderly, with males having a higher mindfulness level than females ($P < 0.05$). Women are born with delicate and fragile emotions [33], are highly susceptible to adverse stimuli, have relatively poor physical fitness, are prone to exhaustion, and have a greater physical and mental burden, so mindfulness is low [34]. This study's results exhibited that the hospitalized elderly with religious beliefs had a higher mindfulness level than those without religious beliefs ($P < 0.05$). The reason may be that the internal mechanism of religion helps alleviates the depression of the elderly due to the decline of physical

function [35] and disease and eliminates their fear and anxiety in the face of disease and death threats with the aid of religion's ideal world [36]. Therefore, hospitalized elderly people with religious beliefs have higher mindfulness levels. This study's results revealed that the hospitalized elderly with normal muscle strength had a higher level of mindfulness than those with abnormal muscle strength ($P < 0.05$), possibly because the elderly with abnormal muscle strength are more prone to depression [19]. The elderly can easily lead to impaired daily activities and loneliness due to abnormal muscle strength [37]. Simultaneously, the reduced self-care ability of the elderly makes them elderly feel depressed [38], decreasing their mindfulness level. The research results indicated that the coping style of confrontation has a positive predictive effect on the mindfulness level, whereas the coping style of acceptance-resignation has a negative predictive effect on the mindfulness level ($P < 0.05$), consistent with Qin et al[11]. For the elderly, choosing the confrontational coping style to deal with the stressful events caused by hospitalization can form better self-behavior regulation, maintain an optimistic emotional state, and actively clarify the cognitive disease itself and its adverse effects stimulation [39], thereby helping maintain high levels of mindfulness. An acceptance-resignation coping style can easily lead to the loss of confidence in rehabilitation for the hospitalized elderly, and they are uncertain for a long time, so the elderly are unwilling to pay attention to the present and cannot concentrate, resulting in a low mindfulness level [40]. Therefore, medical staff should actively guide the hospitalized elderly to adopt correct coping styles, focusing on the elderly, female, non-religious, abnormal muscle strength, and hospitalized elderly who adopt negative coping styles, and pay attention to their emotional changes to improve clinical symptoms. We should adjust the patient's state, face the changes of the disease with a positive psychological state, reduce their negative emotions, and improve mindfulness.

Conclusion

In conclusion, the mindfulness level of hospitalized elderly is in the middle state, and coping styles are closely related to their mindfulness level. Positive coping styles can help improve the mindfulness level of hospitalized elderly people. Age, gender, religious belief, muscle strength, confrontation coping, and acceptance-resignation coping are independent factors affecting the mindfulness level in the hospitalized elderly. Therefore, in the health education work for the hospitalized elderly, medical staff can refer to various factors that affect the mindfulness level to help the hospitalized elderly to achieve an effective response to the disease and should take active measures to improve their disease coping level, thereby contributing to the increase the mindfulness level in patients. However, this study still has some limitations. This is a cross-sectional study with a small sample size, the time sequence and causal relationship between the various influencing factors need further research and demonstration.

Abbreviations

MCMQ：Medical Coping Style Questionnaire

MAAS：Mindfulness-Attention Awareness Scale

Declarations

Data availability

The datasets generated during and/or analyzed during the current study are not publicly available due to the majority of participants are minor but can be reasonably requested to corresponding author.

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Author information

KUN YANG and JINWEN BAI contributed equally to this work and share first authorship.

Authors and Affiliations

School of Nursing, Philippine Women's University, Malate, Manila, Philippines

KUN YANG, JINWEN BAI, EMERSON GALANG ALISWAG

Jingzhou Institute of Technology, Jingzhou, China

JIAN SONG

Contributions

KUN YANG and EMERSON GALANG ALISWAG.; Writing - Original Draft Preparation, KUN YANG., JINWEN BAI.; Writing–Review & Editing, KUN YANG., JINWEN BAI., and JIAN SONG. All authors reviewed the manuscript.

Corresponding author

Correspondence to JIAN SONG

Ethics declarations

Ethics approval and consent to participate

This study has been approved by the PWU Ethics Committee (approved ERB2022_0066) and all procedures were conducted in accordance with the Declaration of Helsinki. All participants gave

informed consent.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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