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The Relationship Between Mindfulness and Self-Compassion with Perceived Pain in Migraine Patients in Ilam, 2018

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Abstract

Background: Migraine is one of the common diseases, which has been considered as one of the reasons of disability and since this disease is widespread, attention to this subject is necessity.
Objectives: The aim of study was to determine the relationship between mindfulness and self-compassion with perceived pain in migraine patients.
Methods: This was a descriptive analytic cross-sectional study, which was carried out on the 168 patients with migraine in the west of Iran, in Ilam, during year 2018. The tools used included several sections of mind-consciousness questionnaires, self-compassionate questionnaire, and numerical scale pain. Patients with migraine referring to Ilam health centers (hospitals, clinics, and offices) were studied in the research with the sampling method. The researcher collected data by referring to the required centers in order to sample. After data collection, data entry to SPSS statistical software version 16 was performed.
Results: Mean ± SD of the total score of mind-consciousness variables was 53.33 ± 4.69, self-compassion was 71.48 ± 4.85, and pain was 3.33 ± 1.75. Findings showed that there is a correlation between mindfulness and pain (F = 81.78, P = 0.000, r = 0.57), and there is no relationship between self-compassion and pain (F = 0.004, P = 0.95, r = 0.005).
Conclusions: Considering the effect of mindfulness in controlling pain, it is necessary to perform interventions based on mind-consciousness. Also, due to there being no relationship between self-compassionate behavior and pain, more research is needed in this area to provide researchers with complete information.

Keywords: Mindfulness, Self-Compassion, Pain, Migraine

1. Background

Migraine is one of the common diseases, which has been considered as one of the reasons of disability (1-3) and since this disease is widespread, attention to it is one of the most important necessities (4, 5). Psychological factors, anxiety, psychological pressures, and emotional uncertainties are important factors of migraine headaches (6). Migraine headaches are associated with psychological disorders, such as anxiety disorder and depression, and it is also influenced by other factors, such as depression and anxiety (6-9). Migraine is one of the most important reasons of headache, which may occur with untreated headache attacks, which may be taken along between 6 to 72 hours, or with nausea and vomiting (10). Migraine is very important as it is the most common reason for migraine headaches, which can disrupt a person's performance (11) and reduces life quality of these patients (12).

Headache and migraine have a considerable prevalence in such a way that in the review study done by Wober-Bingol on a group of children and adolescents demonstrated that the prevalence of headache and migraine were 54.4% and 9.1%, respectively (13). Furthermore, findings of the review study done by Farhadi et al. in Iran showed that the general prevalence of migraine in Iran is 14%, which has great importance (14). These patients experienced different degrees of pain (15) and this factor affects life quality (16), life satisfaction (17), and mental health (18) of the patients. Therefore, it is necessary to pay special attention to the ways of managing pain in patients with migraine (19).

Psychological factors are important in the persistence and inability resulted from major chronic pain. It seems that the psychological variables have a great influence on chronic pain management (20). Another important factor in patients with chronic pain is the state of pain acceptance (21). Acceptance of pain is the first step in order to adapt

to changes made in life in such a way that it makes the person continue his/her activity and try to control chronic pain (22). Acceptance of pain is one of the six treatment processes of acceptance and commitment therapy to treat chronic pain, which has an effective role in pain management. In fact, acceptance of pain is one of the positive traits of resiliency in patients with chronic pain (23, 24), which plays an important role in managing pain of patients, thus, attention to it is necessary (21).

There are various medical and non-medical methods to control pain in patients with migraine (19), and before interventions for these patients, effective and supportive factors should be identified to reduce their pain (25, 26). Through pain reduction techniques, different psychological methods, such as cognitive-psychology methods are effective to reduce pain in patients (27, 28). Mindfulness is attention without bias and a judgment about its aspects, and it is also considered as an open consciousness without any judgment of what is happening now (29, 30). In fact, mind-consciousness is a way of consciousness, which forms when we pay attention to our experiences to a certain subject (31). Mind-consciousness is a feeling without judgment as well as balancing the feeling of consciousness, which helps in seeing clearly, accepting emotions, and physical phenomena as it happens (32, 33).

The other important and effective variable in the health status of patients is the condition of compassion towards oneself. Compassion is a three-component structure, which has been expressed as self-compassion in self-judgment, human sharing in isolation, and alertness in extreme matching (34, 35). In fact, a person, who is self-compassionate encourages himself to life changes and improves his harmful and unpleasant behavior pattern. For this reason, compassion can be considered as a strategy to control excitement in various ways, in which it is attempted to accept feelings kindly (36, 37). Another positive effect of self-compassion is that it causes more balanced reactions in environmental stresses and it is also important in the treatment of depression and anxiety and for this reason, and is considered significant (38, 39). However, in migraine patients in Iran, this issue has not been seriously addressed.

2. Objectives

Considering the prevalence of migraine disease and its role on people's health status, the present study was carried out to determine the relationship between mindfulness and self-compassion with the perceived pain in migraine patients.

3. Methods

3.1. Study Type and Settings

This study was a descriptive analytic cross-sectional research, which was carried out on a group of patients with migraine in the west of Iran (Ilam city), in year 2018.

3.2. Sample Size and Sampling

The sample size was considered as 150 patients; however, due to the possibility of non-cooperation of sample sizes and incompleteness of questionnaires, 180 patients were studied in this research and among them, 168 questionnaires were completed.

3.3. Inclusion Criteria

(1) At least six months of migraine duration, (2) lack of any other chronic disease affecting the status of pain, (3) ability to complete questionnaires, (4) conscious contentment to participate in the study.

3.4. Exclusion Criteria

(1) Failure to complete the questionnaires, (2) getting the patient to tension headaches, (3) migraine with anxiety, depression and other mental disorders.

3.5. Data Gathering Tools

The tools used include several sections. The first part of the tools includes the demographic form, which includes questions, such as age, gender, education, income status, marital status, and employment status. The other part of the tool used included mind-consciousness questionnaires, self-compassionate questionnaire, and numerical scale pain.

3.5.1. Mindfulness Questionnaire

This questionnaire has 15 questions, which consists of six Likert scales (almost always with score 1 and almost never with score 6) and the scores of mind-consciousness rises with the increase of the score. At this scale, the least mind-consciousness score is 15 and its maximum is 90 (40, 41). The internal consistency of the questions of this tool, based on the alpha coefficient of Cronbach, has been reported from 0.80 to 0.87 (42-45).

3.5.2. The Self-Compassion Scale

This scale has 26 questions and in Likert spectrum, its responses are classified to five options of almost never with score 1 and almost always with score 5. The questionnaire measures bipolar components in the form of subscales of self-compassion in self-judgment, alertness in extreme matching, and human sharing in isolation (34, 46). According to the results of Hupfeld and Ruffieux the Cronbach alpha coefficient of this questionnaire was 0.91 (47) and the result of Momeni et al. on the Persian version's validity and reliability were approved (48).

3.5.3. Numeric Rating Scale

This scale is one of the important scales in order to measure pain, which is classified from 0 to 10. In previous studies, the validity and reliability of these tools have been confirmed in various groups (49-51).

3.6. Data Collection and Analysis

To observe ethics in research, the goals of the study were explained to patients and their satisfaction was obtained. It was also emphasized that their information would be completely confidential and that the report was presented in a general way without mentioning the patient's name.

Patients with migraine referring to Ilam health centers (hospitals, clinics, and offices) were studied in the research with the sampling method. The researcher collected data by referring to the required centers in order to sample. If the migraine patients had been diagnosed by the neurologist, they would have been studied in the research and the questionnaires were completed.

3.7. Statistical Analyses

After data collection and data entry to SPSS statistical software version 16, the data was analyzed with the use of descriptive statistical tests (mean and standard variation) as well as analytical statistical tests (independent *t*-test, ANOVA, Pearson correlation coefficient, and intensity correlation).

4. Results

Mean ± SD of the total score of mind-consciousness variables was 53.33 ± 4.69, self-compassion was 71.48 ± 4.85 and pain was 3.33 ± 1.75. The findings showed, there was a correlation between mindfulness with gender and education. This mean ± SD mindfulness was higher in women and those with academic education. Also, there was a correlation between pain with gender and education, therefore the level of perceived pain was higher in males and those with literacy reading and writing education. Regarding the amount of self-compassion, the findings showed that there was no significant relationship with any of the demographic characteristics. The mean ± SD age of the patients was 43.13 ± 8.76 and a significant relationship was found between age with mindfulness (P = 0.000, F = 35.495) and age with pain (P = 0.000, F = 49.444) yet not relationship was found between age and self-compassion (P = 0.61, F = 0.25) (Table 1).

There was a correlation between mindfulness and pain (F = 81.78, P = 0.000, r = 0.57), and there was not relationship between self-compassion and pain (F = 0.004, P = 0.95, r = 0.005) (Table 2).

The findings of Table 3 show the beta coefficient for the relationship between self-consciousness and self-esteem with pain. Therefore, the standard beta coefficient for the relationship between pain and mindfulness was -575 and this amount is in the field of self-compassion with perceived pain of -0.005.

5. Discussion

The present study was carried out to determine the role of mindfulness and self-compassion on the perceived pain scale in migraine patients in Ilam, in such a way that with the increase of mindfulness scale in patients, their pain was reduced. In a study done by Ciere et al. in a group of migraine patients, it was shown that mindfulness can reduce pain in patients (52). In the descriptive cross-sectional study done by Namjoo et al., it has been demonstrated that there is a meaningful and negative statistical correlation between mindfulness and pain severity (41). Furthermore, in the meta-analysis done by Gu et al. with the aim of determining the effect of mindful mediation on patient's headache, the findings showed that mindful mediation can reduce the pain of these patients (53). In relation to the findings consistent with the present study results, the result of the review study done by Anheyer et al. suggested that mindfulness-based stress reduction can lead to headaches (54), which is consistent with the results of this study. In fact, mindful people seem to be patient and look at the upcoming events and issues that they have been facing for the first time and use coping strategies (55).

Regarding studies on mindfulness effects on pain scale of other patients, it is possible to refer to the study done by Ahmadi et al., which showed that in cancer patients mind-consciousness variance can result in increase of their life quality (56). In a systematic and meta-analysis review study done by Garland et al., it was shown that mindfulness-based stress reduction interventions (MBSR) reduce chronic pain of the patients (57). Furthermore, in the systematic and meta-analysis review study done by

Table 1. Relationship Between Demographic Characteristics and the Variables Studied in Patients with Chronic Pain[a]

Demographic Variables	No. (%)	Mindfulness	Self-Compassion	Pain
Gender				
Male	91 (54.2)	52.38 ± 4.92	71.46 ± 4.79	3.63 ± 1.83
Female	77 (45.8)	54.46 ± 4.17	71.50 ± 4.96	2.97 ± 1.59
P value, F	-	0.004, 8.566	0.95, 0.004	0.01, 6.130
Education				
Literacy reading and writing	13 (7.7)	51.69 ± 5.67	72.84 ± 4.57	4.69 ± 1.70
Diploma and diploma	89 (53)	52.50 ± 4.83	71.79 ± 4.60	3.41 ± 1.82
Academic	66 (39.3)	54.78 ± 3.93	70.78 ± 5.19	2.95 ± 1.54
P value, F	-	0.004, 5.631	0.25, 1.38	0.004, 5.843
Income				
Weak	27 (16.1)	52.07 ± 4.25	70.66 ± 3.28	3.62 ± 1.90
Medium	93 (55.4)	53.60 ± 4.99	71.36 ± 5.30	3.32 ± 1.80
Excellent	48 (28.6)	53.54 ± 4.29	72.16 ± 4.66	3.18 ± 1.57
P value, F	-	0.31, 1.171	0.41, 0.883	0.57, 0.548
Marital status				
Single	89 (53)	53.51 ± 4.72	71.00 ± 5.07	3.22 ± 1.69
Married	79 (47)	53.13 ± 4.68	72.02 ± 4.56	3.45 ± 1.82
P value, F	-	0.60, 0.269	0.17, 1.87	0.39, 0.72
Employment status				
Employed	57 (33.9)	53.22 ± 5.11	72.38 ± 4.68	3.47 ± 1.73
Unemployed	111 (66.1)	53.39 ± 4.49	71.01 ± 4.89	3.26 ± 1.77
P value, F	-	0.82, 0.048	0.08, 3.02	0.46, 0.54

[a]Values are expressed as mean ± SD unless otherwise indicated.

Table 2. Relationship Between Mindfulness and Self-Compassion with Pain

Model	Sum of Squares	Df	Mean Square	F	P Value
Mindfulness					
Regression	12171.201	1	1217.201	81.789	0.000
Residual	2470.460	166	14.882		
Total	3687.661	167			
Self-compassion					
Regression	0.095	1	0.095	0.004	0.95
Residual	3939.851	166	23.734		
Total	3939.946	167			

Ngamkham et al. on the cancer patient group, the findings showed that mindfulness intervention results in pain reduction in this group of patients (58), which is consistent with the results of the present study indicating a meaningful statistical correlation between mindfulness and pain severity.

According to the findings, there was no relationship between self-compassionate and perceived pain. In the study done by Salehi (34) on a group of patients with musculoskeletal pain, the findings showed that there was a reverse statistical correlation among self-compassion, perceived pain, disaster-induced pain, and negative emotions, in such a way that with the increase of the score of self-compassion, the perceived pain, disaster-induced pain,

Table 3. Statistical Test Results for Assessing the Contribution of Mind-Consciousness and Self-Compassion with Pain

Model	Unstandardized Coefficients		Standardized Coefficients	T	P Value
	B	Std. Error	Beta		
Mindfulness (constant)	58.462	0.640		91.36	0.000
	-1.53	0.170	-0.575	-9.04	0.000
Self-compassion (constant)	71.527	0.808		88.51	0.000
	-0.014	0.215	-0.005	-0.063	0.95

and negative emotions decreased. Moreover, the findings showed that there was a positive and meaningful correlation between pain self-efficacy scale and positive emotions and with the rise in compassion scale the score of self-efficacy and positive emotions increased (34). In the study done by Wren et al., it was also shown that self-compassion can be effective on disaster pain-induced scale and the perceived pain (59), which is not consistent with the study results. The causes of the dissimilarity of the results of this study with the mentioned studies can be noted in the characteristics of studied patients.

5.1. Conclusions

Considering the effect of mindfulness in controlling pain, it is necessary to arrange interventions based on mind-consciousness. Also, due to the no relationship between self-compassion and pain, more research is needed in this area to provide researchers with complete information.

Footnotes

Authors' Contribution: Study concept and design: Asma Tarjoman and Aminollah Vasigh; analysis and interpretation of data: Behrouz Soltani and Milad Borji; drafting of the manuscript: Asma Tarjoman, Aminollah Vasigh, Behrouz Soltani and Milad Borji; critical revision of the manuscript for important intellectual content: Behrouz Soltani and Milad Borji, Aminollah Vasigh and Asma Tarjoman; statistical analysis: Milad Borji and Asma Tarjoman.

Conflict of Interests: No conflict of interest was reported.

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Patient Consent: Informed consent was obtained from all the participants.

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