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Barriers and Facilitators of Psychological Empowerment in Chronic Pain Management: A Grounded Theory Approach

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ABSTRACT

Aim: Concerning the high prevalence of chronic pain and the remarkable role of psychological empowerment in chronic pain management, identifying factors influencing psychological empowerment in chronic pain management is of high importance. Hence, the current study aimed to explore the barriers and facilitators of using psychological empowerment in chronic pain management from health care providers and patients' viewpoints.

Method and Materials: The grounded theory approach was applied using semi-structured interviews and observation of participants as the main methods for data collection. Fifteen members of the health care providers had a greater relationship with the psychotic dimensions of chronic pain management and 6 patients with chronic pain participated with purposive and theoretical sampling methods in Ahvaz city. Sampling was continued until data saturation and data analysis were performed concurrently with data gathering based on Corbin and Strauss's proposed method. Data validity was confirmed via Lincoln and Guba's approach.

Findings: Two themes of "emotional dysregulation" and "negative attitude towards pain", were identified as barriers to psychological empowerment. Emotional dysregulation consisted of two subsets of the emotional synergy of pain and the inefficiency of symptomatic therapies. Negative attitudes toward pain also consisted of subsets of false assumptions about pain and lack of self-efficacy. Two themes of "pain acceptance" and "finding the meaning of pain" were also identified as facilitators of psychological empowerment. In this regard, the content of pain acceptance consisted of subcategories of increasing awareness, reality acceptance, and a positive attitude toward pain. Two subcategories of values and pain love also created pain meaning themes.

Conclusion: To evaluate and properly manage chronic pain, consideration of the psychological dimensions of the pain, including barriers and facilitators of the psychological empowerment process, can be beneficial in designing a comprehensive care program to improve chronic management.

Keywords: Chronic Pain, Emotion Regulation, Grounded Theory, Pain Acceptance, Psychological Empowerment.

Introduction

Undoubtedly, pain is one of the most common issues in the health system. Pain is a very complex phenomenon that will result in severe symptoms and complications, costs, as well as considerable economic and social problems [1]. One of the most important types of pain is chronic pain. that is a type of pain that takes longer than 3 months to heal. This type of pain is resistant to treatment and its recovery time takes longer than expected [2].

According to available statistics, about 30% to 50% of the world's population is affected by this type of pain and it is the most common reason for patients to seek medical care, such that patients with chronic pain use primary health care services five times more often than healthy people in the community [3, 4]. In Iran, the 6-month prevalence of chronic pain in the adult population (18 to 65 years) and the elderly population (60 to 90 years) have been reported as 9 to 14% and about 67% respectively [5].

Chronic pain can have a malignant or non-malignant source. Non-malignant chronic pain is a common problem that fundamentally impairs patients' physical, psychological, and economic well-being [6]. Non-

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malignant chronic pain can be caused by a wide range of conditions including chronic back pain and osteoarthritis. People with chronic pain have a poorer life quality and suffer more from disability and depression compared to other people in society [7].

Chronic pain also has many other complications, in a way that can lead to loss of function that puts a lot of pressure on patients and their families, it also affects the whole community and is a major concern for public health [1]. Lack of adequate treatment of chronic pain affects the health system and imposes great costs on health care systems. The cost of chronic pain and its complications is estimated at $ 560 billion to $ 635 billion a year [8].

Usually, the purpose of treating chronic pain is not to eliminate it, however, given the nature of pain, in many cases, the goal of treating this pain is to improve the performance ability of daily life activities and also to increase life quality. If chronic pain is not managed properly, it can increase the risk of suicide, cognitive disorders, and dysfunction in life and daily activities, and also affect the life of the patient and their family and thus reduce their life quality [9]. Research indicates that the pain relief or treatment in many patients is not done properly, because the effectiveness of current treatment methods is incomplete and patients suffer from their adverse limiting effects [10, 11]. For this purpose, the use of the biopsychosocial method is more effective and cost-effective for pain management [12]. In this regard, Kamper et al. [13], and Van Haden Hughes et al. [14], believe that using psychological interventions along with physical rehabilitation is more effective in patients with chronic pain than the usual measures in reducing pain and disability. Patient Empowerment is one of the effective methods of controlling and managing chronic diseases such as chronic pain [15].

Patient empowerment is a multi-factorial concept which is defined as a process through which people gain greater control over decisions and actions affecting their health which can be obtained through skill development, access to information and resources, and influencing those factors that affect their health and well-being [16, 17]. One aspect of this empowerment is psychological empowerment which is a psychological structure that allows a person to have effective social relationships and will cause the person to become responsible for their health [18].

Psychological empowerment is composed of the following important factors such as competence, autonomy, positive interaction with the environment, consideration of satisfying the need for communication, self-empowerment, self-value system [19]. A review of the literature shows that not all aspects of empowerment are considered in empowerment interventions [20, 21].

In the previous studies, the comprehensive empowerment programs that include all psychosocial aspects have not been taken into consideration which reflects the lack of sufficient awareness of all aspects of empowerment. While in empowerment interventions, all aspects of empowerment must be considered, including changing patients 'attitudes, self-efficacy, self-guidance, changes in psychological dimensions include reducing stress and anxiety, improvement of life quality, self-management, self-capacity, and improvement of patients' physical performance [22].

To this end, one of the essential responsibilities of medical staff treating patients with chronic pain is to prepare them to make informed decisions about their treatment. Empowering patients for self-management of chronic pain can lead to improved individual-based results.

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Therefore, empowerment and patient-centered care are the key elements for improving health outcomes, patient satisfaction with health care, communication between patients and health professionals, better patient adherence to treatment diets, and assurance of efficient use of primary health resources [23].

Up to knowledge of the researchers of this study, specifically, no similar study was found regarding the barriers to psychological empowerment in patients with chronic pain. However, Te Boveldt et al. (2014) in a qualitative grounded theory study entitled "Patient Empowerment in Cancer Pain Management: An integrative literature review", conducted in the Netherlands, concluded that patient empowerment is a key and central factor for success in pain management, and empowerment had been described with the concepts of self-efficacy, active patient participation, increasing abilities, and control of life. The elements of empowerment that could be discriminated against include role of the patient, role of the professional, resources, self-efficacy, active coping, and shared decision making [24].

In a qualitative study entitled "Perception and Experiences of Female Patients with Endometriosis about Pain: A Qualitative Study" using conventional content analysis by Riazi et al. [25] which conducted in Tehran, two main themes emerged as: "disruption of individual and family life" and "feelings of threat and vulnerability". In the end, they concluded that more and deeper attention to the symptoms of these patients is an essential factor and health authorities should not trivialize their pain so that early diagnosis is made and suitable interventions are performed to promote such patients' health.

Qualitative research could be beneficial in cases where there is little knowledge about the subject under study [26]. It should be considered that there is little knowledge about the various aspects of the psychological empowerment process regarding chronic pain and similar models from other countries cannot be used due to the racial, ethnic, and also cultural nature of the issue. Therefore, the present study aimed to explain the barriers and facilitators of psychological empowerment in chronic pain management from the perspective of group therapy members and patients.

Method and Materials

Data Collection

In the present qualitative study, the grounded theory approach was used for a better understanding of the factors affecting psychological empowerment in the chronic pain management process, during the years 2018-2020 in Ahvaz. The grounded theory approach involves a series of steps so that its accurate and regular implementation lead to the emergence of a theory hidden in information[27].

In this study, semi-structured interviews, participants' observations, and creating a checklist were used as the data collection method. Information gathering initially began on a purpose-based basis and then continued by theoretical sampling until data saturation. In theoretical sampling, the selection of each sample depends on the data collected from the previous sample or samples [28, 29].

Participants in this study consisted of 15 group therapy members whose work was mostly associated with the psychological aspects of chronic pain management, and 6 patients suffering from chronic pain. The members of the treatment group included seven psychologists, three psychiatrist nurses, and five psychiatrists in Ahvaz. The selection criteria for treatment team members include having appropriate experience and information related to the

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research topic and also the willingness of all participants to retell this information.

Criteria for patients participating in the study also include being 18 years of age or older, having experienced noncancerous chronic pain, having full consciousness, being willing to express their inner feelings towards the concept under study, having the necessary psychological stability to transfer their experiences and the absence of confirmed mental illness, blindness, and deafness according to the diagnosis of their physician. Moreover, the participants were chosen with maximum diversity in terms of age, gender, marital status, and socioeconomic status. As for criteria for selecting group members, in data collection, the triangulation method or spatial and temporal integration was used to select the participants.

Before the beginning of each interview, the purpose of the study was mentioned and the confidentiality of the information and the recording of interviews was explained to the participants. After that, if they were willing to participate in the study, written consent was completed consciously. The interviews took place face-to-face in diagnostic treatment centers, workplaces, and parks in the city of Ahvaz, based on what the participants desired and, in a place, where they felt comfortable. Guidance questions were used in the interviews, which were adjusted based on the objectives of the research.

Interviews with patient participants began with the open-ended question, "What you can say about the psychological issues that affect your pain." and the interviews for group therapy members began with the open-ended question, "What you can say about psychological empowerment in the process of managing chronic pain in patients." Then, follow-up questions were asked based on the information provided by the participants to clarify the issue under study. Subsequent interview questions were asked in accordance with the extracted classes. Based on previous researches [30-31] recommendation, in this study, the duration of interviews with each participant took place in one session depending on their tolerance and interest. The duration of the interviews was a minimum of 30 minutes and a maximum of 50 minutes that were recorded using a mobile phone.

In the analysis process of the interviews, to ensure the observance of fidelity in the transmission of the participants' statements, the sentences were handwritten exactly with the participants' informal expression and word for word from the recorded voice by the mobile phone, and then they were written on a digital text file on a commuter. Their text was then read several times to gain a general understanding of them and was immediately organized and analyzed using MAXQDA version 10 quality analysis software. In the observations that took place, participants' non-verbal reactions /interactions and communication during the interview were examined, and recorded immediately after the end of the interview, and then analyzed using the above-mentioned software. All interviews and observations were performed by one researcher.

Strauss and Corbin's content analysis method and constant data comparison were used to analyze the data [29]. Data obtained from interviews, observations, and checklists were analyzed simultaneously using constant comparison methods. Analyzing the data obtained from the initial interviews with the participants and the emergence of the primary classes, guided the researcher to conduct further interviews with a number of group therapy members so that the selected individuals can help to further clarify the emerging theory. Sampling and observation continued until data saturation was achieved. Three methods of open, axial, and selective

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coding were used to analyze the data. In the open coding method, the concepts related to the study were identified and codes were assigned to them. For this purpose, two coding methods were applied, in such a way that the obtained codes or statements of the participant during the interview or observation were implicit situations or cases inferred by the researcher.

In the axial coding method, coded data were compared with each other, the initial codes were reduced to classes, and classes were expanded, so that similar classes were combined and each class was compared with the other classes to ensure that the classes were distinct from each other and more abstract classes were formed. In axial coding, the main classes were connected to their subclasses based on the paradigm model of "conditions causing creation", "context", "strategies used to control the phenomenon", "interferers" and "consequences". In selective coding, the researcher determined the main variables and concepts and selected some titles for these concepts [27, 29].

Lincoln and Gaga's four criteria of authenticity were used to ensure the reliability of the data including credibility, verifiability, reliability, and transferability [31]. For this purpose, initially, the researcher was in contact with the research locations for a long time, to ensure the validity of the findings, and this helped the researcher gain the participants' trust and also to understand the study environment.

Besides, the sampling method used has placed the participants in a wide range of samples and demographic indicators to further ensure the reliability of data and this method included spatial and temporal integration and sample variation in the selection of participants and the method of data collection. Moreover, to increase the credibility and reliability of the data, various methods were used including constant monitoring and observation, allocating sufficient time to collect data, proper communication with participants, and conducting interviews in appropriate locations selected by participants (such as participants' homes, hospitals or parks in Ahvaz).

Participants' reviews were used to ensure the validity of the findings and to verify the data and codes. That is, after coding, the text of the interview was returned to the participant to ensure the correctness of the codes and interpretations. Codes that did not reflect the views of the participants in their opinion, were modified. To determine the reliability of the data, the text of some of the interviews were reviewed by observers. That is, the extracted codes and classes were examined by 3 faculty members in addition to the researcher, and there was 85-90% agreement among the extracted results.

The method proposed by Polit and Hungler was used to calculate the agreement percentage [32]. As an example, if the number of codes extracted from one of the interviews by the researcher was 92 codes, the second coder agreed with the researcher in 81 of these codes, so the agreement was calculated as 88.04%. To confirm transferability, the findings were shared with samples that did not participate in the study, and their opinions on the fitness of the findings were examined, which confirmed the fitness of the findings.

Findings

This study was conducted on two groups of medical staff and patients. Medical staff consisted of 15 members whose work was mostly associated with the psychological aspects of chronic pain management, and their specializations were in psychology and psychiatry, among which there were seven psychologists, three psychiatrist nurses, and five psychiatrists (Table 1). The patient

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Table 1) Demographic characteristics of the participating medical staff (n = 15)

Type of specialization	N	Gender		Age (years)	Marital status		Education		
		Male	Female	M ± SD	Married	Single	Bachelor	Masters	PhD
Psychologist	7	4	3	32.45 ± 5.12	4	3	1	4	2
Psychiatric nurse	3	1	2	35.30 ± 3.65	2	1	1	2	0
Psychiatrist	5	3	2	38.62 ± 6.20	4	1	0	0	5

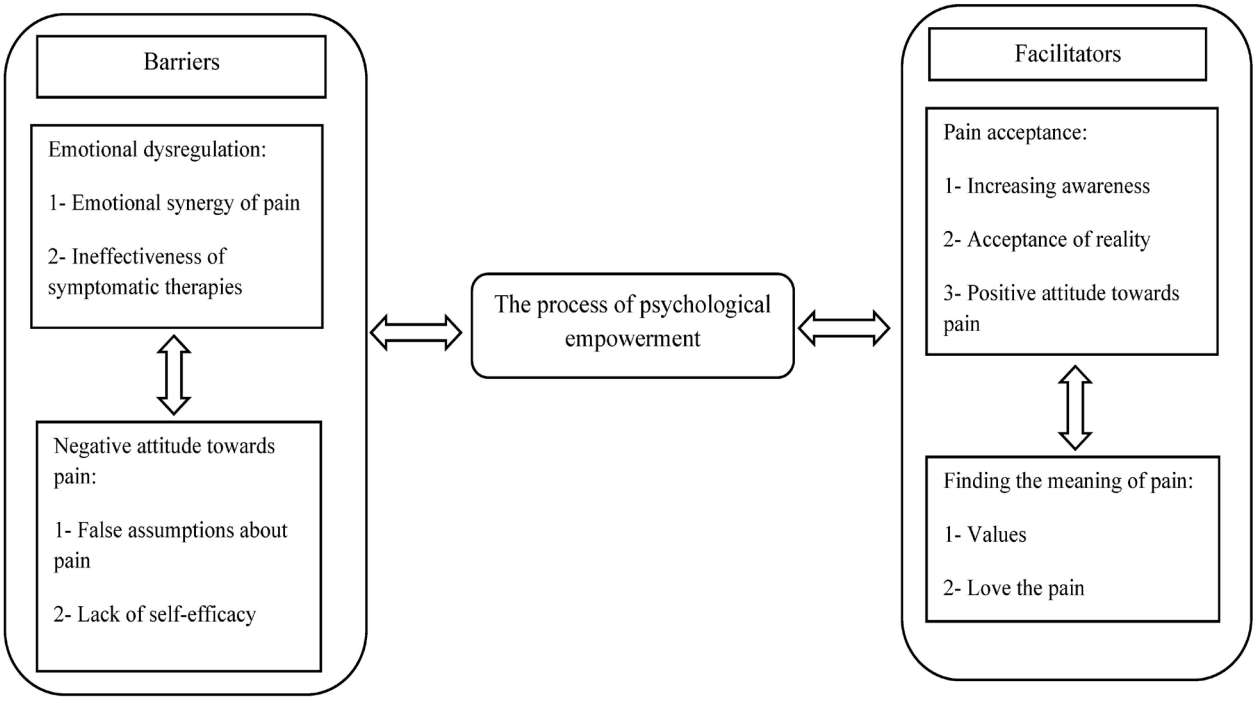

Figure 1) The psychological empowerment process, including barriers and facilitating factors

group included 6 patients with chronic low back pain that half of these patients were men, married and were educated at college and the rest had high school education. Furthermore, these patients aged between 20 and 60 years with an mean age of 49 years.

According to the opinions of participants in this study and based on data content analysis, out of 405 primary codes, the psychological empowerment process, including obstacles and facilitating factors were identified. (Figure 1). In this regard, two themes of "Emotional Dysregulation" and "Negative Attitude Towards Pain", were identified as barriers to psychological empowerment, and two themes of "pain acceptance" and "finding the meaning of pain" were also identified as facilitators of psychological empowerment (Table 2).

When the patient, as well as the medical staff participating in this study, were asked about psychological issues affecting the control and management of chronic pain, most of them emphasized the need to control pain. They believed that they faced several barriers as well as contributing factors, and since they want to keep on living, they have to get rid of this pain or at least control it. In this regard, one of the participants said, "Pain is a really bad thing, and not a good thing at all, but anyway, we are somehow living with this pain" (participant 14). Two categories of Emotional Dysregulation and Negative

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Table 2) Main and subclasses Barriers and Facilitators of Psychological Empowerment

Factors	Main classes	Subclasses
Barriers	Emotional dysregulation	Emotional synergy of pain
		Ineffectiveness of symptomatic therapies
	Negative attitude towards pain	False assumptions about pain
		Lack of self-efficacy
Facilitators	Pain acceptance	Increasing awareness
		Acceptance of reality
		Positive attitude towards pain
	Finding the meaning of pain	Values
		Love the pain

Attitude towards Pain were identified as barriers to the psychological empowerment of chronic pain.

Emotional Dysregulation

Emotional Dysregulation was one of the psychological empowerment barriers of chronic pain for many participants in this study. As in many patient participants in this study, Emotional Synergy of pain was identified by various factors such as pain synergy with emotional thoughts, anxiety, regret, comparison, loss, and depression. To this end, a member of the treatment team stated, "These people often have a depressive mood that we have to find what the cause is. Most of the time they have anxiety or a depressed mood, which are introduced to us with many different physical diseases" (Participant 2).

Another participant stated that "I always tell my patients that your pain is because of your thoughts that are full of negative emotions and this is why your behaviors become emotional and this can increase your pain..." (participant 3).

Another factor identified in relation with emotional dysregulation was the ineffectiveness of symptomatic therapy in patients. In this regard, a member of the treatment team said that "patients do various things to get rid of thoughts that make their pain worse, like distracting themselves, listening to music, taking painkillers and doing drugs. We call these symptomatic therapies, might be effective in the short term but ineffective in the long term ..." (Participant 1).

Negative attitude towards pain

A negative attitude towards pain was identified as the second barrier to psychological empowerment in some participants in this study and false assumptions were identified about pain in this context. In this regard, one of the patients participating in the study said, "This is the pain of my parents' curse that, I made them suffer a lot, God is punishing me, now I deserve to suffer until I die ... "(Participant 5). "I will never get better," said another patient participant in the study. My pain is the cause of all my misery, my life was ruined because of it. Ever since the pain came to me, misery came with it..." (participant 7).

Another factor identified in the negative attitude towards pain was lack of Self-efficacy. In this regard, one of the members of the treatment team mentioned that "One of the barriers in the way of chronic pain recovery is the lack of confidence in one's ability to face pain. People with low self-efficacy are unable to manage their pain", (Participant 6).

Two categories of pain acceptance and finding the pain meaning were identified as facilitators of psychological empowerment of chronic pain.

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Pain acceptance

Pain acceptance was one of the facilitating factors of psychological empowerment in chronic pain management in most participants in this study. In many cases, increasing awareness was stated as a significant factor in creating pain acceptance. In this regard, one of the members of the treatment team stated, "Increasing information about pain can be the most important and initial step in accepting pain because when the patient has more information about pain or anything else, he can better control it ..." (Participant 7).

One of the patients participating in the study said that " Ever since the doctor informed me about my pain, I am no longer waiting for a miracle, I know that my pain is not going to completely heal, some days are good and some days are not ..." (Participant 9).

Another factor that was identified concerning pain acceptance was the acceptance of reality in patients. In this regard, one of the patients participating in the study said that "I can take control of my life even when I am in pain... "(Participant 8). Another patient mentioned that, "my pain is back, but I know it is only temporary and these days are bad, and I get better by thinking about patients who are in more pain than me..." (Participant 20).

A positive attitude towards pain was another important factor that was determined about the acceptance of pain. In this context, a member of the treatment team stated that "Patients with a healthy attitude can have a lot of control over different aspects of their lives, especially pain. They give factors such as destiny or luckless value because they cannot control them ... "(Participant 11).

Finding the meaning of pain

The second factor facilitating psychological empowerment in chronic pain management in most participants in this study was finding the meaning of pain so that values were expressed as an important factor in achieving the meaning of pain.

In this regard, one of the members of the treatment team said that "It is very important to put a value behind our goals when we are teaching the patients about pain management so that the patient can endure the difficulties of achieving goals, for example, a value like being a good mother. When we tell them to these things to heal pain better, they say that it is difficult, and we remind them about the value of being a good mother, a good mother cares about her health values guide her life... "(Participant 12).

One of the participating patients said, "Sometimes I am sad because of my pain and not in the mood to do anything, but as soon as I remember how much my children need me in their lives, I get up and do my daily chores..." (Participant 14). Another factor identified in finding the meaning of pain was the love of pain. In this regard, one of the patients participating in the study said that "I have reached a stage where I have become friends with my pain, I love my pain like a friend, my friends sometimes bother me too, but my pain is with me for many years now, pain must exist for me to enjoy painlessness..." (Participant 18).

Another patient said, "I love my pain because it reminds me of my mother, God rest her soul. Sometimes she would scold and bother me, but I knew that her presence in my life had a reason..." (Participant 20).

Discussion

According to the findings of the present study, several barriers exist in the process of psychological empowerment of chronic pain. One of these barriers were"emotional dysregulation" which could be influenced by the emotional synergy of pain and the ineffectiveness of symptomatic pain treatments. Various factors were involved in creating an emotional synergy of pain so

that, synergy was identified with anxiety, regret, comparison, and loss. In this regard, Johanson and Bejerholm [33] in their study also found that anxiety and depression were effective factors on psychological empowerment, in a way that reduced it and on the other hand, would have negative effects on life quality. Özbaş and Tel [34], also concluded that the lack of efficient management of stress and emotions caused fatigue and burnout specially in individuals which were closely related to disability.

In this regard, Jerofke-Owen and Bull [35], also in their research on barriers to empowerment of hospitalized patients, pointed out a variety of barriers, including conflicting information about treatment programs, lack of time, fear and anxiety of unfamiliar environments and routines, inefficient or inadequate support systems, low responsiveness, and loss of spirituality. The difference between the above findings and the results of the present study could be due to differences in the samples and various psychological dimensions which were not the same in the two studies.

Ineffectiveness of symptomatic therapies was another factor identified in emotional dysregulation. When an individual has thoughts with emotional content in their mind, he takes actions such as distracting himself, engaging in another activity, or using painkillers, to overcome these thoughts. These are called symptomatic treatments. These treatments are sometimes effective in the short term due to unfamiliarity with the relevant skills, but in the long run, they lack the necessary effectiveness. The study by Abrahams et al. [36] was consistent with these results as they reached the same conclusion in a qualitative study, that the lack of a comprehensive look at the issue of the treatment and the inadequacy of existing treatments can cause problems in the empowerment of patients.

A negative attitude towards pain was the second identified barriers to psychological empowerment. In this regard, having false assumptions about pain and inefficiency were effective in causing pain. False assumptions about pain may become a habit and turn into a way of thinking in the mind of a person with chronic pain. These assumptions make the person focus on the worst-case scenario in the future [37]. Consistent with this finding, Vanhaudenhuyse et al. [38], state that changing patients' attitudes and misconceptions about pain is a factor in progress in the treatment of chronic pain. In contrast, the findings of Bostick et al. [39] showed that emotions can act as a compatible belief, such that after providing information and education on pain, patients may believe that their pain is more influenced by emotional states.

One of the facilitators in the process of psychological empowerment of pain was "pain acceptance". It was influenced by various factors such as increasing awareness, acceptance of reality, and a positive attitude towards pain. Acceptance of pain is one of the most important and fundamental aspects in the management of chronic pain, in such a way that having good performance and capability, requires acceptance of pain [40]. In this context, Lami et al. [41] in their study found that a higher pain acceptance leads to a lower prevalence of anxiety, depression, and dysfunction. When a person with chronic pain is more informed of the type and nature of the pain as well as the methods to deal with it, a better healthy acceptance can occur for him, which means accepting life with a certain amount of pain [42]. On this subject, Chou et al. (2018), found that receiving more information and awareness improves the relationship of patients with the treatment staff and therefore, empowers them in managing the disease [43]. Acceptance of reality was identified in this study as a

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realistic understanding of pain, one of the subclasses of pain acceptance. A positive attitude towards pain can be a beneficial tool to accept (living with pain) in creating a healthy attitude towards it [37].

Finding the meaning of pain was the second-factor facilitating psychological empowerment. In a way, values and loving the pain were effective in forming the meaning of pain. Finding a meaning in pain that is in line with one's values and consistent with living in the direction of values, can play an important role in identifying and recognizing pain in a person's life as a motivating factor for continuing to live with pain. In this regard, Castro et al. [44] stated that since values, beliefs, and specific needs play an important role in empowering patients, they should be taken into consideration. It is essential to pay attention to the above-mentioned factors, at the beginning of communication with the patient.

Since the participants were only related to one geographical area, the generalizability of the results of this study is limited. Although, appropriate and various sampling strategies were used to control this limitation, which included a spatial and temporal integration method and diversity in the selection of participants and data collection methods. To better understand the process of psychological empowerment in the management of chronic pain and its related factors, further research needs to be conducted.

Conclusion

To evaluate and properly manage chronic pain, paying attention to barriers and facilitators of psychological empowerment such as emotional dysregulation and negative attitudes toward pain as barriers, and pain acceptance and finding the meaning of pain as facilitators, can be useful in designing a comprehensive care program, and also improve the chronic pain management and reduce the problems of the patients, their family and medical staff for the management of chronic pain.

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Authors' contribution

V A: Study concept and design, acquisition of data, analysis and interpretation of data. F N. & B M: Administrative, technical, and material support, study supervision. R P. & P A: Critical revision of the manuscript for important intellectual content.

Confident of Interest

The author declares that there is no interest of confident for this study.

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