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ORIGINAL ARTICLE

Pain beliefs of chronic headache patients

Kronik başağrısı hastalarının ağrı inançları

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Summary

Objectives: This study was designed to explore the origin of the pain beliefs of chronic headache patients.

Methods: This qualitative research has been designed using a case study method. Selected using the criterion sampling method, patients consisted of a total of six chronic headache patients in algology outpatient clinic at a University Hospital in Turkey. The data were collected using focus group methods. Data were obtained using a semi-structured interview form composed of eight open-ended questions. Data were evaluated by analyzing both descriptive and content data.

Results: Chronic headache patients' views on why they have pain and which beliefs they have about origin of the pain have three subthemes: (1) Organic beliefs, (2) psychological beliefs, and (3) environmental beliefs. Patients' most frequently cited organic beliefs were genetics (familial) and physiological (tissue damage, surgery, and lifting of heavy objects). Patients' most frequently cited psychological beliefs were stress, sadness, and having a sensitive personality.

Conclusion: It is suggested to take pain beliefs differences and qualitative research into consideration in the management of pain in nursing care.

Keywords: Beliefs; focus group; nursing; pain.

Özet

Amaç: Bu çalışmanın amacı kronik başağrısı yaşayan hastaların ağrı inançlarının kökenini keşfetmektir.

Gereç ve Yöntem: Niteliksel özellikteki çalışmada vaka çalışması modeli kullanıldı. Ölçüt örnekleme yöntemiyle bir üniversite hastanesinin Algoloji Polikliniği'ne başvuran kronik başağrısı yaşayan 6 hasta seçildi. Veriler odak grup görüşmesi yöntemiyle toplandı. Veriler toplam 8 açık uçlu sorudan oluşan yarı yapılandırılmış görüşme şekliyle elde edildi. Veriler betimleyici ve içerik analizi yöntemiyle değerlendirildi.

Bulgular: Kronik başağrısı hastalarının ağrı yaşama nedeni ve ağrının kökeninin ne olduğu ile ilgili inançları temasına bağlı olarak (1) organik inançlar, (2) psikolojik inançlar ve (3) çevresel inançlar olmak üzere 3 alt tema oluşturulmuştur. Hastalar ağrı nedenini organik inançlar alt temasından en fazla genetik (ailesel), daha sonra sırasıyla fizyolojik ihtiyaçlar, (doku zedelenmesi, ameliyat ve ağır kaldırma) ile ilişkilendirdi. Hastalar ağrı nedenini psikolojik inançlar alt temasından en fazla stres ve bunun yanı sıra üzüntü ve hassas kişilik özellikleri ile ilişkilendirdi.

Sonuç: Ağrı tedavisi hemşirelik bakımında ağrı inancı farklılıklarının ve nitel araştırmaların dikkate alınması önerilmektedir.

Anahtar sözcükler: İnançlar; odak grup; hemşirelik; ağrı.

Introduction

Chronic pain generally occurs as headaches. Headaches affect the quality of life adversely.[1] The epidemiological research indicates that 50% of adults in the world have headaches at some point of their lives.[2] Moreover, it was stated in the prevalence research that headaches are experienced by people between the age of 18 and 65 and these headaches are mostly migraine and tension-type headaches.[3] Data from the World Health Organization (WHO, 2016) showed that 1.7–4% of the adult population in the world have a headache 15 days a month.[2] It is also stated that 50% of the headache patients in the world try treating the headaches themselves without consulting a medical professional and use alternative treatment methods such as acupuncture,

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physical therapy, and herbal treatments, as well as pharmacological methods.[3]

Pain management requires teamwork. The nurses in the team are responsible to listen to patients' individual experience, evaluate their pain beliefs, and realize their expectations regarding the team, the treatment, and their belief on the pharmacological or non-pharmacological methods.[4,5] By doing so, it is thought that the success rate of the treatment and care provided to the headache patients will increase. Pain is defined individually depending on the subjective experiences.[6] On the other hand, pain beliefs are the foundation of the thought system of an individual.[5] Therefore, pain believes are modifiable, so it has a key role in the treatment and care of pain.[7] In a study conducted with a focus group by Allcock et al.[8] which examined the beliefs, expectations, and priorities of headache patients, participants stated that there are three main pain beliefs. According to this study, pain patients believe (1) that the source of the pain needs to be determined, (2) that people around them are only convinced that they are in pain after there is an appropriate diagnosis, and (3) that painkillers are only a way to postpone the pain.[8] In another study conducted with a focus group by Dima et al.[9] on the beliefs of backache patients regarding the treatment, it was stated that the patients primarily want the source of their backache to be found.

The notion of pain beliefs depends on experience and symptoms. It is believed that there may be some difficulties when pain beliefs are estimated with quantitative measurements or that they cannot be fully understood. Thus, qualitative studies which include verbal expression from patients regarding their pain beliefs are required. There is no study on pain beliefs among the national studies and no qualitative study on headaches among the international studies in the literature. In this study, it will be determined which beliefs about the source of the pain based on the self-expression of chronic headache patients, and which supportive treatment and care methods benefit the patients according to their pain beliefs. Therefore, it is thought that this study will fill the gap in determining supportive methods in coping with pain that can be chosen according to the patients' pain beliefs in the treatment and care of chronic headache patients. This study aims to find the origin of the pain beliefs of chronic headache patients.

Material and Methods

Design

A case study model was adopted in this qualitative study. Case study model can be defined as the study which examines individuals, groups, or other social units profoundly and whose aim is to reveal problems systematically and to make suggestions to solve these problems.[10–12] In this study, a focus group study model was adopted by including the chronic headache patients who consulted to Algology Polyclinic at Eskişehir Osmangazi University Hospital. Focus group studies aim to reveal the people's feelings on a certain matter or event, to generate new ideas regarding the research topic, and to explain the things that matter for those who share the same characteristics.[11] The researchers have complied with the guidelines of consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist (Appendix 1).[13]

Research sample

The research sample was determined using the criterion sampling which is a purposive sampling adopted in qualitative research. The criterion sampling method allows the chosen situation to be profoundly assessed based on a certain criterion or feature.[10,14] A focus group study usually has 6–10 participants in accordance with the literature. The sample size and number of sessions change depending on the data collected from patients, repetitiveness of the data, and satisfaction of the validity of the data.[15,16]

According to this, the sample of this study was composed of chronic headache patients (n=6) who consulted the Algology Polyclinic at a University Hospital and met the inclusion criteria. All of the patients (n=6) attended to the research. The patients were coded from P1 to P6 for confidentiality reasons (Table 1).

Inclusion criteria

The following criteria were included in the study:

- To be over the age of 18
- To have non-malignant chronic headaches (except tumors, brain cancer, etc.)
- To have headaches for at least 3 months
- To have <17 points in the beck depression inventory (BDI).

Table 1. Participants' personal information

Participant	Age	Gender	Diagnosis	Pain level	Pain duration
P-1	48	Female	Tension-type headache+Migraine	Intolerable	144 months
P-2	51	Female	Tension-type headache	Intolerable	120 month
P-3	45	Female	Cervicogenic headache	Very intense	96 months
P-4	42	Female	Tension-type headache	Very intense	6 months
P-5	56	Male	Migraine	Very intense	480 months
P-6	26	Female	Migraine	Intense	72 months

P: Patient.

Exclusion criteria

The following criteria were excluded from the study:

- To be diagnosed with a psychiatric disease
- To have sensory loss because of a disease or a medication which is used
- To have communicative problems.

Data collection

Research data were collected between the dates of November 29, 2016, and January 29, 2017, during the focus group discussion. The focus group discussion was carried out using the semi-structured questionnaire with eight questions which were created in accordance with the literature[7,9] and a semi-structured interview by the researcher. That single session focus group discussion lasted for 60 min.

It was conducted by a moderator (first author), reporter (second author), and observer (third author) who were all researchers. The focus group discussion was conducted by the first author around a round table in a quiet atmosphere in the seminar hall of the hospital where the study was conducted. Before the discussion, participants were informed about the session, reciprocal expectations, and the aim of the study. The information given to the participants after included the duration of the session (approximately 60 min), the questions to be asked of the participants about their pain complaints, flowchart of the session mentioned below, data collection methods, data analysis, and storage. They were also informed that their names were not going to be mentioned in the study.

Discussion steps were as follows:

- The sociodemographic data form and the BDI were completed before the group discussion. Forms were completed by patients adopting the face-to-face interview method
- On the day of the session, every participant was given a number before the discussion and they were called by these numbers during the discussion
- There was a moderator, a reporter, and an observer in the discussion. The moderator directed the session by asking the questions, the reporter made some notes regarding the discussion, and the observer watched the discussion from the outside
- One of the researchers recorded the discussion through an iPhone 6S
- Participants were also informed that the transcript, which was going to be created after the analysis of the research, might be published in scientific journals without mentioning patients' names, and that they had the right to quit the discussion at any moment
- Discussion was started with those who were willing to participate
- It is taken feedback on the findings from participants by the first author at the end of discussion part.

Measures

Sociodemographic data form

This form was created by the researcher in accordance with the relevant literature.[4,17,18] It was composed of some questions regarding sociodemographic features such as patient's age, gender, diagnosis, pain duration, and pain level.

Semi-structured questionnaire form

The semi-structured questionnaire form created by the researcher was composed of eight open-ended questions after reviewing the literature.[7,9]

The questions are as follows:

- What does pain mean to you?
- What do you think about the causes of the pain?

- How do you feel when you are in pain?
- Why do you think you are in pain?
- What do others think about your pain?
- How do you cope with pain?
- What do you think about pain coping strategies?
- In your opinion, who controls pain and how?

BDI

It is a 21-question multiple-choice self-report inventory created by Beck et al.[19] and it uses a 4-point Likert scale. Seventeen points and over indicate depression. The reliability analysis of the Turkish form was done by Hisli.[20] This inventory was used for sample selection, since the patients with depression were not included in the study. Patients who got more than 17 points in the BDI were not included in the study.

Data analysis

At the end of the discussion, the voice recorders were ended. Then, they were transferred into a Sony CD (700 MB). After the voice records were saved to a CD, the copies on the phone were deleted. The first author researcher listened to the discussion through CD and converted the voice record (raw data) into text. She was the nursing PhD student and she is working as a research assistant at faculty. Hence, she did not contact any direct patient care during the study. Furthermore, the notes which were taken during the discussion were converted into text. These texts included not only participants' verbal expressions but also their emotions such as laughter and weeping and the duration that they remained silent. Each participant had a code number between P1 and P6. The raw data which were converted into text (transcript) were analyzed by the first author. Therefore, she has done a special course for qualitative research and content analysis. The data were categorized and themes were created adopting the content analysis method in accordance with the discussion results. In the content analysis, the notions which corresponded to similar meanings in the different parts of the text were categorized in consideration of the research questions and patients' answers to them. Common directions were found between sentences and notions for this categorization, and themes and subthemes were formed correspondingly. The notions mentioned in subthemes were also coded.

Moreover, the verbal expressions of participants were directly quoted adopting descriptive analysis method in accordance with the themes and codes created with content analysis.[11,16] All data collection tools, raw data, and the CD which include the voice recordings will be stored in the researcher's locked office cabinet so that they can be examined if need be.

Table 2. Pain perception of chronic headache patients

Subtheme	Codes	f
Loss	Labor loss	14
	Role loss (mother, father, child)	10
	Sensory loss	5
	Life quality loss	2
	Time loss	1
Emotional changes	Fear (pain anticipation)	7
	Loneliness	6
	Unhappiness	2
	Pain, misery	2
	Sadness	2

f: Frekans.

Ethics approval

To execute the study, the ethics approval was obtained from the Non-interventional Clinical Research Ethics Board of the relevant university (no. 80558721/G-30, 28.11.2016 dated and 02 numbered decision) and researchers obtained the informed consent of the patients.

Results

Pain perception of chronic headache patients

In this study, opinions of chronic headache patients were presented as themes and subthemes within the scope of the data. The pain subthemes on pain perception, which were (1) loss and (2) emotional changes (Table 2). Patients stated that the most common losses were either labor losses or role losses among the loss subthemes, which indicates their pain perception. Patients' expressions on that matter were as follows:

"I was a primary school teacher. Can you imagine? I was teaching like that. How can anyone be efficient like that?... The children were hovering around me. 'Sir does it hurt so much, does it hurt so much?' They were trying to give me a massage." (He got emotional.) (P5)

"When you have a headache, it is like taking you back. It gets to the point where you feel like your brain does

Table 3. Beliefs of chronic headache patients on the reasons of the pain

Subtheme	Codes	f
Organic beliefs	Genetics (familial)	9
	Physiological needs (hunger, lack of sleep)	6
	Tissue damage (car accident, trauma)	4
	Surgery	2
	To lift heavy objects, moving	2
Psychological beliefs	Stress	27
	Sadness	16
	Sensitive personality traits	12
	Interpersonal relationships (marriage, work etc.)	4
	Future anxiety	3
	Pain anticipation	2
Environmental beliefs	Change of air (wind, feeling cold etc.)	10
	Seasonal change	5
	Smoking	4
	Noise	1

f: Frekans.

not work. When you get a severe headache, you feel like you are going backwards. Your brain stops functioning." (P2)

"I have children. One is 27, the other is 23 years old. I cannot cook for example. I cannot do anything for them." (P1)

Chronic headache patients stated that they are most afraid of pain anticipation among the emotional changes subtheme which indicates their pain perception. Patients' expressions were as follows:

"It is a hard situation. It started to give me anxiety. I constantly ask myself. When will it occur again? When will I get a headache?..." (P5)

"...Now I get headaches thinking about the possibility of a headache." (P6)

Pain beliefs of chronic headache patients

The subthemes, regarding why they have pain, are as follows: (1) Organic beliefs, (2) psychological beliefs, and (3) environmental beliefs (Table 3). Patients associated their pain with genetics (inherited headaches), physiological needs, tissue damage, surgery, and lifting heavy objects, respectively, regarding the organic beliefs subtheme:

"First of all, headache is in my family. In my family... I primarily believe that it is genetic." (P6)

"My mother's side has headaches. It is thought to be inherited. One of my maternal uncles also suffers from headaches."(P5)

"We had a car accident. I started to have headaches after that accident. I hurt my neck a little back then. After that, I started to have headaches. It never stopped since that day." (P1)

"I had a thyroid surgery 8 years ago. It was removed completely. So, I believe that I started to have headaches after that surgery." (P3)

Patients associated their pain with stress, as well as sadness and sensitive personality traits regarding the psychological beliefs subtheme:

"It is either sadness or stress. Sadness. I suffered a lot. I suffered from my children, husband, and poverty. It caused stress. I tried to hold back. Then I started to have headaches. I had none before. I had not even known what a headache was, before I got married. Like I said, we had many troubles after getting married." (P2)

"Stress is an especially important factor. It all started, when I was having very stressful times. It started with stress and started to trigger everything." (P6)

Table 4. Family support and support from people around chronic headache patients

Subtheme	Codes	f
Family support	To be sad	11
	To get used to the pain	6
	Not to believe the pain	4
	To arrange surroundings	2
	To suggest to take medication	2
	To consult to a hospital	2
Support from people around chronic headache patients (neighbors, friends etc.)	Not to understand the pain	13
	Not to believe the pain	6
	Negative support/suggestions	5

f: Frekans.

"I have had headaches since my childhood. I had future anxiety back then. I go over everything with a fine-tooth comb. So, I accept that it is all about mentality. I was also sensitive, when I was a kid. For example, I used to be thinking about the possibility to fail in a written test more than I should. Else I used to be devastated, when I got a low mark. So, I believe that headaches are sort of related to this." (P5)

Emotions of chronic headache patients when they are in pain

The feelings that chronic headache patients get when they are in pain were determined under the "emotions" theme. Thus, some of the emotions and their frequency are as follows: Isolation (f=9), anger (f=7), remorse (not being able to protect yourself from pain) (f=6), sadness (f=5), estrangement (f=5), getting emotional, weeping (f=3), and fear (fear of death) (f=2). Chronic headache patients stated that they mostly suffer from isolation when they are in pain. They also added that they experience other emotions such as anger, sadness, getting emotional, and fear. Some of their expressions on this matter were as follows:

"I do not do anything. I do not even talk. I keep quiet. Even if I have a headache" (P2)

"First of all, I try to find its source. I asked myself what I did. Did I get cold? Didn't I wear warmly? Did I get stressed? Did I think about someone? Then I regret what I have done. I wish I hadn't done these things, so that I did not have a headache. Also I regret all the plans that I postpone. I have lots of postponed plans. I feel like I should have realized them in time rather than postpone them." (P6)

"To be honest, when I have a very intense headache, I feel afraid of dying. Because it feels like someone is drilling my head..." (P5)

Family support and support from people around chronic headache patients

The two subthemes regarding support, (1) family support and (2) support from people around chronic headache patients (Table 4). It was stated that when patients have a headache, their families support them by feeling bad for them or they get used to the pain. Patients' expressions on this matter were as follows:

"I have a son who is 20 years old. He is the one who feels sorry for me, since I am always sick. Poor boy. He cries. He turns in upon himself. He feels sad... so sad. When he feels sad, I feel sad too." (P2)

"...Family members also learn how to live with that pain. They got used to it." (P4)

"My family adapts to my headaches. They draw the curtains and turn the volume down." (P6)

On the other hand, it was stated that when the patient is in pain, people around them, who not family members are, do not understand or believe the pain and they make negative suggestions or show negative support. Patients' expressions on that matter were as follows:

"People do not understand other's pain, if they do not experience the same pain themselves. For example, when you say that you have a headache and you cannot participate in something, they do not react in a

Table 5. Pain coping strategies adopted by chronic headache patients

Subtheme	Codes	f
Biologic	To apply peppermint and tung oil	7
	To tie potatoes	3
Physical	Massage	6
	Cold compress	6
	To wrap the head	4
	Hot compress	3
	To remain in the sitting position	3
Spiritual	To sleep	7
	Relaxation techniques (exercise, walk)	5
	Self-maintenance	5
	To reduce environmental influences (noise, light, crowd)	5
Medical treatment	To take painkillers	32

f: Frekans.

positive way. Else you feel like you are obliged to make further explanations. They make silly suggestions. For example, 'Why do you have a headache?... Why don't you take good care of yourself? Do you have a problem?' they ask. I'm damned if i explain and damned if I don't..." (P4)

"For example, people ask 'Are you having a headache again? Again?' They do not understand. They believe that I am making it up. Maybe it is such an exaggeration for them..." (P1)

Pain coping strategies used by chronic headache patients

The four subthemes on pain coping strategies: (1) Biologic, (2) physical, (3) spiritual, and (4) medical treatment are shown in Table 5. Patients stated that they most commonly use peppermint and tung oil regarding the biologic subtheme. Patients' expressions on that matter were as follows:

"Peppermint or tung oil. I always put them on. It has been around 4–5 years. It provides a temporary relief, however it is not an exact solution." (P5)

"I have essential oils. I put them on my forehead and temporal region and then I sleep. I try to convince myself that I will not have a headache in the morning." (P3)

Patients stated that they most commonly apply cold compresses or they wrap their head regarding the physical subtheme. Patients' expressions were as follows:

"We sometimes get massages. Cold water also does well. For example, I put a towel on my forehead and ice on the back of my neck." (P1)

"I put some peppermint oil on and wrap my head with a piece of cloth. My family members make fun of me calling me sleeping Rambo. (She laughs.)"(P6)

Patients stated that they most commonly prefer sleeping regarding the spiritual initiatives. Their expressions were as follows:

"Sleeping makes it so much better. I turn my phone completely off or put it on silent." (P6)

Patients stated that they usually prefer to take painkillers regarding the medical treatment subtheme. Their expressions on this matter were as follows:

"Sometimes it does not go away whatever you do. It lasts for a week. It does not go away without taking painkillers."(P2)

"I really try not to take painkillers. However, it is inevitable. "The more I postpone it, the more painkillers I take." (P6)

"I come close to a solution thanks to other things that I do. However, when I cannot find a solution, I take medication."(P4)

Pain locus of control of chronic headache patients

The subthemes and codes regarding pain locus of control, which determines who controls the pain were (1) internal locus of control and (2) external locus of control. It was stated that it is usually patients, their body, or their personality traits which control the pain regarding the internal locus of control theme. Patients' expressions were as follows:

"First of all, it is up to me, since I can reduce stressors, stress factors. I can stay away from noisy places at work. I can decide not to be involved in situations which will depress me. I get a headache when it is windy. Some environmental factors may also trigger it. But, in general it rests with me." (P6)

"I believe that our bodies control the pain. I consider it as a kind of energy discharge. It is also related to personality traits. People should not overthink and care too much." (P5)

It was observed that pain control is usually associated with environmental factors, as well as spirituality and medicine regarding the external locus of control theme. Patients' expressions on this matter were as follows:

"It is related to what I eat. For example, spicy things affect me the most. Chocolate and spicy things. The pain is not something that we can control." (P1)

"I perceive the pain in a spiritual way. I can only resist it, when I consider the pain as redemption of our sins." (P3)

Discussion

Pain perception of chronic headache patients

Chronic headache is very common and it affects the quality life of patients adversely.[21] In this study, the thoughts and pain perception of chronic headache patients were categorized into two subthemes which are "loss" and "emotional changes." Patients describe their pain perception as a loss. It can also be deduced that the most addressed code under this subtheme is labor loss (Table 2). It was stated in a prevalence study conducted by Breivik et al.[22] on chronic pain patients in 15 different European countries that 19% of pain patients lost their jobs because of the pain from which they suffer and 13% of them changed their job. Besides that, chronic headache patients associated the pain mostly with the pain anticipation among the emotional changes subtheme in our study. In a qualitative study conducted by Peters et al.[23] examining the pain perception of patients with migraine and chronic headache patients, it was found that pain patients feel incapable and their condition adversely affects people around them such as their family, friends, and colleagues, which correspond to our findings. Moreover, patients stated that they feel afraid of even the idea of the pain. One of the patients expressed his or her experience as follows: "I feel afraid thinking the fact that I may have migraine. If I have a migraine, I will not be able to fulfill my duties. The house will be in a state of chaos. I will not be able to do anything at home either. I have to lie down and children feel like they have to gather around me and play games every time..."[23] On the other hand, in a study examining the psychological experiences of chronic pain patients conducted by Talaei et al.[21] it was found that patients worry about their family members and they have anxiety thinking something bad and unexpected will happen to them. Furthermore, it was stated that chronic pain patients worry about not being able to maintain their daily life routine and enhance the relationships with their family members, which corresponds to our study.[21] In the qualitative study with the new daily persistent headache patients conducted by Palacios-Ceña et al.[24] it was stated that the patient's success had the greatest effect on daily life and caused life changes.

According to the research results, it is clearly seen that chronic headache patients have trouble fulfilling their roles in their daily life because of the pain that they experience. When they have trouble fulfilling their roles and duties, they also worry and feel afraid of putting their family members, colleagues, and other people around them behind the eight balls. Another important issue is the fact that chronic headache patients are afraid of even the possibility of having a headache. In other words, they experience the fear of pain anticipation. Chronic headache patients should be encouraged to express themselves regarding their emotions and thoughts on pain to nurses. Nurses should also guide the patients making suggestion on coping with fears that they experience.

Pain beliefs of chronic headache patients

In the study, chronic headache patients' beliefs on the causes and the origin of the pain were categorized into three subthemes which were organic, psychological, and environmental beliefs. Patients thought that the origin of the pain is related to genetics, physiological needs, and tissue damage, respectively, regarding the organic beliefs. On the other hand, they most commonly associated the origin of the pain with stress and sadness regarding the psychological beliefs (Table 3). Besides that, patients, who believe that environmental factors cause the pain, most commonly related their pain to the change of air. In a qualitative study examining the pain perception and experiences of headache patients conducted by Leiper et al.,[25] some of the patients believed that organic factors such as brain tumor, hemorrhage, and stroke cause pain, which correspond to our study. They also stated that pain is related to factors such as stress, diet, and lifestyle. In the study conducted by Leiper et al.,[25] some of the patients' expressions on that matter were as follows: "I believe that it is all about stress. Stress is the reason behind my headaches. It is a kind of anxiety. The things that I eat may also trigger it." "I remember the day that I had my first migraine. It was the day that I started primary school. Maybe it is because it was a very stressful day for me, or I started to bud at that age."[25] It is understood that the pain from which chronic headache patients suffer is associated with organic, psychological, and environmental factors. Various studies proved that pain coping strategies may vary depending on the patient's pain belief.[4,26] Thus, it is important for nurses to evaluate patient's pain and pain belief, which are subjective notions, using scales and considering the verbal expressions of the patient. The nursing care which is provided regarding the pain varies depending on the patient's pain belief.

Therefore, nurses have to adopt biomedical treatments and exercise methods for patients with organic beliefs; distraction and relaxation methods, as well as music therapy for patients with psychological beliefs; initiatives to reduce environmental factors such as wind, temperature, and noise for patients with environmental beliefs.

Pain coping methods adopted by chronic headache patients and their emotions

In this study, patients explained the feelings that they have when they are in pain as negative feelings such as isolation, anger, remorse, sadness, and fear. In a qualitative study conducted by Belam et al.[27] which examined patients with migraine, patients stated that they were having negative emotions regarding the pain, which corresponds to our findings. In the study conducted by Belam et al.,[27] the expressions of some of the patients on this matter were as follows: "The pain made me a pessimist. I became a pre-destinationist," "Migraine makes people defenseless and vulnerable." In a qualitative study conducted by Palacios-Cena et al.[28] which examined patients with cluster headaches, it was found that patients experience fear, anxiety, and life estrangement and they get emotional regarding the pain. Thus, nurses have to consider the fact that headache patients may have negative emotions and encourage them to express their feelings. Moreover, nurses have to plan their nursing initiatives suggesting alternative emotional coping methods for pain patients.

In this study, it was stated that when patients have a headache, their families support them by feeling bad for them or they get used to the pain. On the other hand, patients stated that when they are in pain, people around them, who not family members are, do not understand or believe the pain and they make negative suggestions or show negative support (Table 4). In other studies, it was deduced that family members of headache patients are adversely affected; they feel sad for the patient and children are affected the most from this situation similar to our findings.[25,28,29] Once again similar to our findings, it was stated that headache patients believe that people around them cannot understand their pain.[28,30] In another qualitative study examining the effects of the pain on the social life of patients with migraine conducted by Donovan et al.,[31] some of the expressions of the patients were as follows: "My friends do not care about my pain. They cannot understand the pain level or its frequency, they cannot understand how it affects my life quality either." "I do not talk to anyone, but my mother, since other people do not understand anything." In another study, the expressions of migraine patients are as follows: "I mean, my partner's very supportive. But again, there's only so far he can empathize... when I am poorly, because he doesn't know what it's like, he hasn't experienced one before."[32] Thus, nurses have to plan their nursing initiatives taking patients' families into consideration regarding the pain management for pain patients.

In this study, patients declared that they most commonly prefer to take painkillers among medical treatments. Furthermore, they also stated that they prefer various non-pharmacological initiatives (Table 5). In a study conducted by Dekker et al.,[17] it was stated that patients with migraine adopt many after treatments and alternative treatments to cope with the pain such as relaxation methods, diet, vitamin supplements, and the use of herbal products. They also declared that they take painkillers, when they cannot cope with the pain using aforesaid treatment methods.[17] In the qualitative study of Bendelin et al.,[33] the statements of the chronic pain patients about their coping with pain are as follows: "I suppose relaxation techniques helped me the most so to say (...) I did... I have one that's fairly good. I suppose that's the one I listen to even now, maybe once, twice a month. Well it does help sometimes if I turn off the TV and just listen to that tape and take it easy for 10 min."[33] In another qualitative study conducted by Rutberg and Öhrling[34] which examined the experiences of women with migraine, it was stated that women take painkillers to cope with the pain thinking they do not have any alternative. Women also stated that taking painkillers are not an easy solution, since it has side effects which cause fatigue, stomach problems, and orientation disorders and that they are afraid of becoming addicted to painkillers.[34] Therefore, nurses have to question the methods used by headache patients to cope with the pain, guide them to choose the most appropriate method, and inform them about the effects and side effects of painkillers which are the most opted method.

This study, patients most associated the pain control with environmental factors. Various studies indicated that patients highly believe that multiple environmental factors such as wind, noise, and light affect the pain.[35,36] It was also deduced that patients may have internal or external locus of control regarding the pain control. Thus, nurses have to take the locus of control into consideration while assessing patients, taking initiatives to increase internal control to have a successful pain management.

Conclusion

Consequently, it can be deduced that chronic headache patients may have different pain beliefs and that especially the qualitative research helps reveal the pain beliefs of patients. It was found that the pain beliefs of patients are composed of organic, psychological, and environmental beliefs. It is suggested that nurses plan nursing initiatives in accordance with the pain beliefs of chronic headache patients. Thus, it is believed that nurses have to track qualitative studies in the literature to provide proper care for chronic headache patients regarding pain management.

Study limitations

Specific limitations for this study are small sample group and include only non-malignant chronic headache outpatients.

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Appendix 1. Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No. item	**Guide questions/description**	**Reported on page#**
Domain 1: Research team and reflexivity		
Personal Characteristics		
1. Inter viewer/facilitator	Which author/s conducted the interview or focus group?	Methods , page 4
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	Methods, page 6
3. Occupation	What was their occupation at the time of the study?	Methods, page 6
4. Gender	Was the researcher male or female?	Methods, page 6
5. Experience and training	What experience or training did the researcher have?	Methods, page 6
Relationship with participants		
6. Relationship established	Was a relationship established prior to study commencement?	Methods, page 3
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Methods, page 4
8. Interviewer characteristics	What characteristics were reported about the inter viewer/ facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Methods, page 6
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Methods, page 6
Participant selection		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Methods, page 3
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Methods, page 4
12. Sample size	How many participants were in the study?	Methods, page 3, 4
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Methods, page 4
Setting		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Methods, page 4
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	N/A
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Results, Table 1
Data collection		Methods, page 5, 6
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes, it was pilot tested before the study.
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	No Methods, page, 4
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Methods, page 5 Voice recorder
20. Field notes	Were field notes made during and/or after the inter view or focus group?	Methods page 4, page 6
21. Duration	What was the duration of the inter views or focus group?	Methods, page 4

Appendix 1 (cont.). Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No. item	**Guide questions/description**	**Reported on page#**
22. Data saturation	Was data saturation discussed?	Methods, page 6
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	N/A
Domain 3: analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	Methods, Table 2, 3, 4, 5
25. Description of the coding tree	Did authors provide a description of the coding tree?	Table 2, 3, 4, 5
26. Derivation of themes	Were themes identified in advance or derived from the data?	Methods, page 6, 7
27. Software	What software, if applicable, was used to manage the data?	It is condacted without software. The first author has done a special course for qualitative research and content analysis. Page 6
28. Participant checking	Did participants provide feedback on the findings?	Methods, page 5
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Results, Table 1 Yes, participants number were given (P1-P6).
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Relationship to existing knowledge
31. Clarity of major themes	Were major themes clearly presented in the findings?	Results, Table 3
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Results, Table 2, 3, 4, 5 Discussion

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