

The Reasons for Using Acupuncture for Pain Relief

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Background: Acupuncture has recently received considerable attention around the world due to its cost-effectiveness, few side effects, and well-established analgesic properties.

Objectives: The present study aimed to identify the factors that might lead to using acupuncture for pain relief.

Patients and Methods: This qualitative study was conducted using conventional content analysis method. The study population included eight patients and six highly experienced acupuncturists, who were able to express their opinion and were willing to take part in the study. The inclusion criteria for patients were being under treatment with acupuncture for pain relief or a history of treatment during the last year and age > 18 years. All highly trained acupuncturists with minimum of one-year active experience were included. The data were collected via semi-structured in-depth interviews. Categories were extracted through inductive analysis and codes and eventually, themes emerged. Data rigor was assured by data collection triangulation, participants' variety, and external and members' check.

Results: Initially, 1311 primary codes were extracted, then the related codes were divided into 127 subcategories according to their similarities, and after reduction and integration process, 16 categories were developed from subcategories and eventually five themes were determined, including conventional medicine limitation, efficacy of acupuncture, external promoters, internal promoters, and acupuncture inhibitors.

Conclusions: The important factors that affect choosing acupuncture for pain relief included conventional medicine limitations, external promoters, internal promoters, acupuncture efficacy, and acupuncture inhibitors. More interest can be drawn to this technique by basic planning to enhance some of the underlying factors and eliminate obstacles to its further applicability.

Keywords: Acupuncture; Analysis; Pain Relief

1. Background

Pain relief is a basic human need; since pain is an unpleasant, unique, and complex cognitive process that can be influenced by social and cultural conditions, its relief is vitally important to humans (1). Since 1995, the pain has been recognized as the fifth vital sign (2). The American Pain Society has declared that the pain relief is the inalienable right of patients (3). Timely and correct pain relief results in faster recovery and satisfaction of the patients. Conversely, persistence of pain due to inappropriate relieving methods leads to personal and social difficulties and reduces the patients' quality of life (4). There are numerous conventional treatments for pain including physiotherapy, corticosteroids injections, surgery, and analgesic medication, which may be used according to the type and site of pain (5). There are major controversies concerning the efficacy of these treatments, particularly about their side effects and dependencies (6-8). Over the past four decades, acupuncture

has received considerable attention around the world as a pain treatment method (9, 10). Although acupuncture was introduced in Iran about 3 decades ago, was scarcely used. The Iranian Scientific Society of Acupuncture was established in 2009, which further developed this natural and less complicated treatment in Iran. Acupuncture is approved and recommended by the World Health Organization as a main method for pain relief (11). Welcoming acupuncture by the health service's users has led to a global change in approach to this method by health systems (12-16). The results of studies show that authentic acupuncture is effective in pain relief and regarding the Cohen effect size table, its efficacy is categorized as large (17-19). In a descriptive study in Tehran, frequency of using different complementary medicine and acupuncture was estimated at 0.4% (20), which is a small percentage in comparison to 15.1% to 34% in the united states (21, 22) and 13.9% in England (23). On the other hand, studies con-

ducted around the world reveal increasing inclination of people toward complementary medicine (14-16). Given the social and cultural context in every society and the public interest to try different pain relief methods, investigation of this issue in Iran appears necessary.

2. Objectives

Since patients use health services according to their own particular beliefs about pain and its relief methods, factors that cause inclination of patients toward a particular method (conventional or complementary) are also influenced by them (24). Recognizing the factors that attract patients to use acupuncture for pain relief is highly important. The present qualitative study aimed to discover factors that would make patients use acupuncture for pain relief.

3. Patients and Methods

We conducted a qualitative study using conventional content analysis method. In order to find the factors that lead to use of acupuncture in the Iranian culture, a qualitative approach is required that is able to give answers to questions beginning with “how” and “what” (22). Content analysis is an appropriate method for obtaining valid and reliable results from text data in order to create knowledge, new idea, and a practical guide. This method aims to present a compact and comprehensive description of a phenomenon, with descriptive concepts as the outcome of this analysis (25). Since different aspects of the study subject can be used in content analysis for abstraction of themes, to arrive at in-depth data, acupuncturists were also invited to take part in this study although the main participants were the patients. Given their experiences, and using semi-structured questions, they were asked the reasons for patients’ choice of acupuncture for pain relief. The study population consisted of: A) Patients with history of acupuncture use for pain relief in the past year, over 18 years of age, able to express their opinion, and willing to participate in the study, and able to speak in Persian, B). Qualified acupuncturists with minimum of one year’s experience. Participants initially expressed their desire verbally, and then entered the study after signing written consents. Ethical codes including anonymity, confidentiality, and right to withdraw when they wished were adhered to and permission was obtained from the international subsidiary of Shahid Beheshti University of Medical Sciences.

3.1. Data Collection

Because of the depth and flexibility in qualitative studies, semi-structured interview was used for data collection (25). Interviews were conducted by the first author, a faculty member of School of Paramedicine in Anesthesia Nursing, and PhD student of nursing. Patients were interviewed at the Acupuncture Clinic, Taleghani Teaching

Hospital, Tehran. The acupuncturists were interviewed in their own private offices. After obtaining the approval of Ethics Committee of the university, the researcher (R.S.) briefed the participants on the study, anonymity, and confidentiality. The participants voluntarily attended the study. Interview began with obtaining the demographic details and history as well as type of the pain, and then linking them to the main questions about reasons for opting to use acupuncture for pain relief. Asked questions from patients included “why have you come to this medical center?”, “What made you choose acupuncture?” and “What are your feelings or experiences of using this method so far?” Asked questions from acupuncturists included the followings: 1). what makes patients choose acupuncture according to your experience? 2) In your opinion, what obstacles inhibit patients from using this method? 3) In your opinion, what factors can persuade patients to use acupuncture?

Interviews were conducted one-on-one as per appointments in a calm and peaceful atmosphere, recorded by an MP3 player, transcribed, typed by MAXQDA software, and completed with initial codes and subcategories. Interviews stopped with data saturation, when new data and new category were no longer produced (25). Participants were selected purposefully with maximum variation sampling, which continued until data saturation. On the 14th interview, the collected data were repetition of previous data and no new information was obtained, therefore, the interview stopped and sampling ended. Duration of each interview varied from 25 to 54 minutes (mean, 34 minutes) over one or two sessions.

3.2. Data Analysis Method

For analysis of data, we used inductive content analysis approach. Conventional content analysis based on Graneheim and Lundman approach was used to analyze the data in the following stage:

1) Transcribing all the interview, 2) determining the analysis unit, 3) determining the meaning unit, 4) summarizing the meaning units, 5) determining primary codes, 6) categorizing similar primary codes in more comprehensive categories, and 7) determining themes (26). The interviews formed units of analysis. Meaning units were identified in the form of statements or paragraphs from interviews. For extraction of themes, after interviewing each participant, first, recorded texts were transcribed verbatim. For familiarization with data and their accurate evaluation, they were reviewed and re-read several times to obtain a general understanding of participants’ words. To identify key statements and concepts, interview texts were read line-by-line and word-by-word, a code was assigned to each key statement or word, and initial codes were identified. Next, similar initial codes in a category were put together to form initial categories. Efforts were made to create maximum homogeneity within categories and maximum heterogeneity between them. First, categories were given names,

which did not contain abstraction. With constant comparison, similar categories were merged and eventually, main themes were extracted. To determine accuracy and rigor of the data including credibility, transferability, dependability, and confirmability, the following actions were taken:

1) The researcher was careful in selecting participants to have maximum diversity in terms of age, sex, cause of pain, history of acupuncture use, education level, and experience of the study subject as well as willingness to express their own experiences.

2) Expressing and describing the link between extracted categories was made with caution.

3) First, the researcher's ideas and presumptions were identified to prevent them influencing analysis of data.

4) Results were reviewed by some of the participants.

5) To ensure consistency of categories with participants' statements, extracted codes and categories were examined by research team members and some of the faculty members of the Shahed University of Medical Sciences and Army University of Medical Sciences and their comments were implemented.

6) To determine transferability, results were presented to some people who had not participated in the study (patients and acupuncturists).

7) Researcher explained direction of the study and taken actions in detail so that others could make their own judgments by reading them.

4. Results

A total of 14 participants (eight female and six male) comprised of six acupuncturists and eight patients, entered the study from April to October 2012 in Tehran, Iran. The mean age of patients was 41 ± 7.94 years (range, 29-54) and the mean age of acupuncturists was 46 ± 6.44 years (range, 37-57). The lowest and highest level of education of the patients was high school diploma and Masters' Degree, respectively. The level of education of acupuncturists varied from associate diploma to PhD degree (Table 1).

Initially, 1311 primary codes were extracted and related codes were divided into 127 subcategories according to their similarities; after reduction and condensation, subcategories were transformed into 16 main categories and eventually, five themes were determined (Table 2).

Themes and subcategories with a selection of interviews were as follows:

4.1. Conventional Medicine Limitations

According to the study results, conventional medicine limitations included frequent and long-term use of a variety of analgesics, treatment method complications, prevalence of pain relapse due to lack of improvement, and expensive treatment methods. About treatment difficulties in conventional medicine, patient 1 stated, "I have visited many physicians, each prescribing an X-ray or ultrasonography and that is how I have come to collecting

Table 1. Baseline Characteristics of Study Participants

Patients (n = 8)	
Age, y (mean \pm SD)	41 \pm 7.94
Sex	
Female	5
Male	3
Education Level	
Diploma	4
Associate's Degree	1
Bachelor's Degree	1
Master's Degree	2
Marital Status	
Married	7
Single	1
Duration of Pain, mo (range)	3-10
Acupuncture Sessions, mo (range)	6-10
Acupuncturists (n = 6)	
Age, y (mean \pm SD)	46 \pm 6.44
Sex	
Female	2
Male	4
Education Level	
Bachelor's Degree	1
PhD	2
MD	3
Experience in Acupuncture, y (range)	4-15

Table 2. Main Categories and Themes

Themes	Main Categories
Conventional Medicine	Treatment difficulties
Limitations	Conventional medicine complications
	No recovery
	Low satisfaction
Efficacy of Acupuncture	Acupuncture attributes
	Being natural
	Scientific
External Promoters	Cost effective
	Interaction of acupuncture and conventional medicine
	Supportive resources
Internal Promoters	Familiarity
	Personal characteristics
Acupuncture Inhibitors	Health status
	Uncertainty of effectiveness
	Opposition to use

so many documents, all with the spending money and time, and no use what so ever". In addition, about "conventional medicine complications", patient number 10 expressed, "there are these pills that damage intestines. My uncle's wife had arthritis and used to take these pills that calmed her pain, but after a while she died of a hemorrhage in the stomach". Regarding no recovery with conventional medicine, patient number 7 said, "The pain stretched from one side over to the shoulder and every time I went to the doctor, he sent me for X-rays and other tests, all to no avail and no diagnosis". About lack of satisfaction, participant number 6 stated, "It had become like I had a headache for two or three days continuously. Out on the street, at home, and even pills had become a bother. Sometimes I had to spend all day under the serum, morning through night or night through morning. Pills were useless, so was the serum. I used to sleep and wake up with headaches".

4.2. Efficacy of Acupuncture

Acupuncture efficacy was another finding of the present study. The participants supported this concept in four categories of "acupuncture attributes", "being natural", "being scientific", and "cost-effectiveness". For instance, concerning acupuncture attributes, patient number 9 said, "I knew that acupuncture would adjust your whole body system. The night after acupuncture session, I slept so well. It gives you such tranquility, it is as if all your works are done for you and you have no more problems; they are all resolved inside me without my saying so". About the same subject, patient number 7 stated, "I am tired of pills, so I go for acupuncture. I am now well and very happy, very happy indeed. At least I can work with my right hand now and don't need any help no more". Regarding acupuncture being natural, the patient number 7 also added, "At least it is safe, and I know I am not taking in chemical medication, as we are in pieces, taking in so many drugs, and to take drugs for this (right hand) as well, every day, is just too much". Moreover, participant number 5, who was an acupuncturist, stated, "In any case, the highest attendance is from those who had not improved with western medicine or does not believe in medication treatment much. So, they look for a more natural way for pain relief". In the opinion of participants, being scientific is an issue that makes acupuncture effective. Participant number 8 (an acupuncturist) said, "People are more highly informed and that is why we have been able to break the barriers with universities in the past couple of years and now we observe these scientific discussions". He added, "Other countries began to explore acupuncture and saw its positive effects. The world's approach has changed. It used to sit in a corner like an old project, now it is playing in the field and articles are aplenty". Concerning participants' opinions, cost-effectiveness of acupuncture also meant its efficacy. Patient number 2 expressed, "I only wanted my pain to

get better; it is OK and doesn't cost much". Participant number 3 said, "Compared to other methods, it is inexpensive, considering duration of treatment, done things, and results; in fact, patient saves time and money".

4.3. External Promoters

Another theme that has a role in direct and indirect use of acupuncture was "external promoters". External promoters refer to social determinant factors that affect choice of acupuncture such as conventional medicine experts' advice to use this method, acupuncturists' skill, health system's support, insurance companies' support, availability in health centers, acupuncturist-patients' good relationship, and proper advertising for introduction of this method to the society. Interaction of conventional medicine and acupuncture is one of the above themes. Patient number 10 expressed, "A radiologist had said to my mother that she should try an acupuncturist for the pain in her arm". Acupuncturist number 8 stated, "We have now broken the one-dimensional bounds of western medicine and this will improve the health of the nation. We want to prove that western medicine cannot cover all possibilities, and if acupuncture can help with this, in a small way, why not. It is for the people, isn't it?"

Supportive resources are also another subtheme of external promoters. In this regard, acupuncturist number 5 stated, "It is so important. If the Ministry of Health approves, surely then they can combine the two and so for some diseases or for pain relief we won't have so many problems with medication. I know the role of Ministry of Health in this, and I know they can help". Familiarity is another theme in external promoter category that can be very effective in patients approach to acupuncture. For example, acupuncturist number 3 stated, "As a word of mouth, many have heard of this. Many others like the young generation surf the net and read articles. Some have relatives abroad with whom they are in touch, and they suggest seeing an acupuncturist for their pain, if there is any in Iran." Patient number 10 said, "I think it should be advertised on billboards. I got the best response from Payk-e-Bartar, because it is distributed everywhere and on time with the right number. They can advertise in this way".

4.4. Internal Promoters

The internal promoters theme was abstracted from this study. These promoters are inner personal factors that show patients' attitude and belief about efficacy of acupuncture such as hope and trust in effects of acupuncture, patients' expectations and awareness in relation to use of acupuncture, and type and severity of pain. In this respect, patient number 9 said, "Almost ten people have been introduced to acupuncture through myself, followed it, and done this: one of them for seven sessions, another is still carrying on, and one has just started. I told them it might not be as effective on them because people

are different. When you give them the right and intelligible information, they are all happy to try it. Like I always say, anything is worth trying at least once". Regarding health status, patient number 2 stated, "Because they suffer pain and they want to get well". The same participant also added, "The pain got worse and I said I didn't want to be in plasters again. So, I thought maybe I should go and see if my pain reduces".

4.5. Acupuncture Inhibitors

Acupuncture inhibitors are indicative of lack of knowledge about acupuncture and its effects, doubt about use of acupuncture, concern about its effectiveness, acupuncture complications, lack of acceptance of acupuncture by friends and relatives, lack of support from insurance companies, and lack of adequate patients' information about names and places of acupuncture service providers that makes accessibility difficult. For instance, regarding concern about effects, patient number 11 stated, "Before I came here, all my sisters and family members had been to acupuncturists except for me. So, I thought I give it a go. Those who had been, had not achieved much result. I think this may be the easiest way". In addition, regarding the opposition to use, acupuncturist number 13 expressed, "In any case, deterrents could even be lack of awareness of people due to the media that may not be aware. Of course, there is also some conducive resistance to not educating at all. I don't know from where. However, there have not been any tendencies in the media to clarify this for people. Sometimes they even say if you go to acupuncturist, it will worsen". Administrative barriers were also considered as an acupuncture inhibitor factor, as acupuncturist number 14 stated, "We cannot say how much opposition there is. There are some problems with these barriers. In my opinion, it has something to do with aping each other. They oppose it because it prevents use of medication".

5. Discussion

According to the results of this study, conventional medicine limitations are important and pose challenges in choosing the pain relief method. These observations are in concert with previous evidence; in a meta-analysis, Sadeghi et al. argued that since a comprehensive and holistic attitude toward patient health is not very important in conventional medicine, patients express concern about provided services by conventional medicine professionals (27). In addition, Ndao-Brumblay, Burke et al. and White in separate studies concluded that patients are dissatisfied with provided services by the conventional medicine, which were in agreement with findings of the present study (9, 28, 29). In a study in 1999, Zollman and Vickers concluded that conventional medicine service providers do not give adequate explanations about nature of pain and new drugs' side effects, which leads to a feeling of lack of holistic care in patients (30). Rugg

et al. concluded that one of the main reasons for patients' use of complementary medicine is lack of recovery with conventional medicine (31). A study by Mirzai et al. in Iran showed that due to lack of results from modern techniques of conventional medicine, patients visit traditional medicine experts, which could be associated with Iranians' beliefs and traditions or possible successes (32). Yet, Astin and Bonafede in separate studies concluded that lack of trust and satisfaction with conventional medicine could not be an obvious reason for patients' use of complementary medicine (33, 34).

Another finding of the present study is acupuncture efficacy. Along with our observations, Ndao-Brumblay, Burke et al., Mirzai et al., Mao et al. and Billhult et al. in separate studies concluded that acupuncture was a natural and efficient pain relief method with low risk of side-effects, which could also maintain balance of general state of the body (9, 28, 32, 35, 36). Moreover, Tehrani et al. and Barlow et al. found that due to the holistic effect on the body, acupuncture can help maintain and improve general health and relieve symptoms as insomnia, pain, migraine, depression, anxiety, fatigue, and low energy level with minimum side effects (20, 37). Bishop et al. found that in addition to pain relief, there was growing indirect evidence about many nonspecific clinical effects of acupuncture (1). Furthermore, Bonafede et al. in their study concluded that patients using complementary medicine, due to belief in the scientific basis of these methods, normally highly valued given explanations by complementary medicine service provider about problems and solutions for them (34).

Another finding of the present study was external promoters that are created by the conventional medicine service providers' beliefs and change in the country's health system approach to the effects of acupuncture. Bishop (2008), Bishop et al., Burke et al., Astin, Barlow et al., and Lewith, Mafton et al., Long et al. and concluded that interactions between conventional medicine and acupuncture in pain relief had an incremental trend (1, 15, 28, 33, 37-39). In addition, Burke et al., Ndao-Brumblay, and Bonafede et al. argued that support of insurance companies and health system caused patients' increased use of complementary medicine (9, 28, 34). Bishop and Lewith and Mafton et al. concluded that friends and the media played an important role in familiarizing patients with complementary medicine methods (1, 38). This study revealed that internal promoters that involve patients' beliefs played an important role in opting for acupuncture as a means of pain relief. Along with the same lines, Bishop et al., Burke et al., Astin and Bonafede et al. found that there was an increased rational tendency toward promoting health in complementary medicine users. These patients also believed that using complementary medicine caused pain relief and concluded that attitudes and beliefs could influence application of complementary and conventional medicines or their interaction with each other (15, 28, 33, 34).

With regards to acupuncture inhibitors, Billhult et al. and Barlow et al. concluded that some conventional health service providers and patients rejected it and opposed using it due to lack of knowledge about how acupuncture actually operates (36, 37). White and Bonafede et al. found that despite attempts to reduce heavy costs in healthcare system, health improvement and use of health services were still very expensive and lack of insurance cover and high costs due to repeated treatment sessions prevented use of acupuncture for pain relief, especially in chronic pains (29, 34). Furthermore, Rezvani assessed possible risks associated with acupuncture and reached conclusion of ambiguity of complications and effects of acupuncture (40). Other studies had indicated treatment search, patients' expectations, fear and anxiety about acupuncture needles, and patients' experience of injection feeling could affect pain relief outcomes (1, 41).

Influencing factors that affect choose of acupuncture for pain relief include conventional medicine limitations, external promoters, internal promoters, acupuncture efficacy, and acupuncture inhibitors. This method can gain more interest with basic planning to enhance some of these factors and eliminate obstacles on the path of this method becoming more applicable. In the future studies, considering experimental interventions on discovered factors is recommended. Qualitative studies should be interpreted with caution because of limitation such as lack of transferability and the effect of researcher's presence on the results, which mandates more extensive and varied studies.

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Authors' Contributions

RS was responsible for study design, interviews, transcribing recorded interviews, and analysis of data. MAH (corresponding author), MZT, MR, and HS, participated in, supervised, or instructed various stages of data collection, analysis, and presentation.

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