

Chronic Pain Management and Being Vulnerable in Older People: A Qualitative Study

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Received: April 4, 2014; Revised: May 10, 2014; Accepted: June 23, 2014

Background: With respect to high prevalence of chronic pain in the elderly, identifying factors influencing on its management process is very important.

Objectives: The present study aimed to understand this management process and its setbacks in the elderly.

Materials and Methods: The grounded theory approach using unstructured interviews and observation of participants were the main methods for data collection. Study participants consisted of 30 old people with chronic pain, 3 relatives, and 29 health care providers selected with purposive and theoretical sampling methods in Ahvaz. Sampling was continued until data saturation reached. Data analysis was performed concurrently with data gathering based on Strauss and Corbin's proposed method. Data rigor (trustworthiness) was confirmed by Lincoln and Gubba's approach.

Results: Vulnerability was one of major themes extracted as parts of a Grounded Theory study results, which composed of three categories: functional impairment, disability, and limitations. Many participants had functional impairment in their mood and emotional, social, and psychological aspects and encountered a series of disabilities for doing their daily activities. Moreover, they had limitations in physical as well as environmental aspects, all of them influenced their pain management.

Conclusions: Chronic pain in the elderly has often been assessed and treated inadequately; therefore, attention to their problems and limitations may be useful in developing a comprehensive caring program and managing effectively their chronic pain.

Keywords: Chronic Pain, Management; Vulnerability; Older People; Qualitative Study

1. Background

Chronic pain is one of the most prevalent medical problems in the world (1) and affects millions of the people every year who are deprived of proper treatment (2, 3). This pain may affect different age groups; however, it particularly affects more the elderly, as one-third of them may suffer from one or more chronic pains (4). Different diseases such as arthritis, osteoporosis, and vascular disease induce chronic pains (5). It is also prevalent among residents of nursing homes in Iran, because this pain is significantly associated with depression and decrease in life quality (6).

The pain condition among elderly may be deteriorated by their reluctance to report it, or to accept it (as a normal process for older patients), or fear of medical interventions (7). Moreover, due to these beliefs and lack of knowledge, the pain condition among older people may become worse. Thus, they become anxious, depressed and hopeless, and these factors further compromise their quality of life (8). The consequences of chronic pain are considerable among older people, which include loneliness, social isolation, depression, impaired functional mobility, and ambulation.

This condition result in increased healthcare utilization and financial costs for the society (over € 200 billion a year in Europe, and \$ 635 billion a year in the USA in 2008) (9).

Regardless of the grows of the old population in the world and Iran (10, 11), evidence shows that the pain has managed inadequately in spite of its high prevalence (4, 11). In fact, it has sometimes been neglected by the policy makers and health care planners (5), whereas pain management is one of the most fundamental human rights (12).

Pain management is not confined to pharmacological and non-pharmacological interventions but extends beyond pain relief, and includes quality improvement, productivity, and enjoying life (13).

Attention to barriers that originates from the viewpoints of the elderly, their relatives and health care providers is necessary for effective chronic pain management. There is an enhancing collaboration between parties, to reduce these barriers, increase safety and quality of life, while decrease costs for patients and the community, which is useful for comprehensive caring program development. One

of the chronic pain management barriers among elderly is vulnerability. Vulnerability is the failure to engage in self-care activities, which adequately regulate safe and independent living, or to prevent conditions or situations that adversely affect personal health and safety (14, 15).

Vulnerable older adults may have poor personal care and nutrition, have difficulty managing basic medications and personal finances, or live in unsafe environment regardless of physical appearance or behavior (16). Furthermore, they are at risk for neglect, exploitation, and numerous safety hazards, as well as functional impairment, medical morbidity, and death (17-19). Thus, above-mentioned problems can diminish their ability to perform personal-care tasks and protect themselves. Qualitative research could be useful, whenever there is not enough knowledge about the study subject (20).

2. Objectives

In the present study, qualitative research was used because there is little research or knowledge about the experiences of the elderly regarding chronic pain management from their viewpoints. It includes the practical, physical, and psychological issues they faced, also how the elderly with chronic pain could handle it and how we might better support them in these efforts. Finally, we tried to obtain information of chronic pain management process and its barriers in the elderly from participant's perspectives.

3. Materials and Methods

3.1. Data Collection

Strauss and Corbin Grounded theory approach was applied for a more enhanced identification of chronic pain management process in the elderly in Ahvaz during 2012-13. Grounded theory approach includes several steps that their careful execution will emerge one hidden theory on information as the outcome (22).

Data collection was started with purposeful sampling followed by theoretical sampling. During theoretical sampling, selection of each participant was based on the gathered data from previous sample or samples (22, 23). The selection criteria for elderly people participated in this study were as follows: ≥ 60 years of old, having experience of non-cancerous chronic pain, fully consciousness, willing to explain their emotions and experiences relevant to study subject, could speak in Persian, having efficient mental stability for transformation of experience, no history of cognitive disorders (which determined by gaining 6 score or higher in Iranian Version of the Abbreviated Mental Test Score) (24), and having not psychological disorders, blindness, and deafness confirmed by their physicians.

In addition, elderly participants were selected with maximum variation such as age, sex, educational back-

grounds, as well as socioeconomic and marital status, living with wife, widows and staying with families or relatives. The selection criteria for other participants were having a good deal of information related to chronic pain management among elderly relatives and health care providers, also willing to explain this information.

Hence, after gathering data from initial interviews with elderly people, primary categories emerged, which guided researchers for other interviews with some of their relatives and health care providers until selected persons could help for better clarifying of theory evolution.

The participants of this study were as follows: 30 elderly people over 60 years old, 3 elderly relatives, and 29 health care providers whose work were more related to chronic pain management in the elderly. The group of health care providers composed of 3 general physicians with MPH degree in geriatrics, 3 geriatric nurses, 3 psychologists, 3 physiotherapists, 3 specialist in clinical nutrition, 2 orthopedists, 2 neurologists, 1 neurosurgeon, 2 anesthesiologist, 2 specialist in clinical pharmacology, 2 psychiatrist, 1 occupational therapist, and 2 social workers.

Unstructured interviews, memo writing and observation of participants' nonverbal behaviors were the main methods of data collection, which continued until data saturation occurred (21). Before each interview, all participants were explained about the purpose of study and confidentiality of the information and recordings interviews. Then, the written consent was obtained with regard to willingness to participate in this study. The interviews were conducted face to face by the researcher either in the nursing homes, participant's homes, hospitals, medical clinics or parks within Ahvaz based on the respondents' preferences.

The interviews were conducted based on an open question and followed by probing questions to satisfy the study goals. The elderly interviews were started with open questions such as "what can you say about your pain?" and for their relatives, "what can you say about the pain of your elderly relative?" and for the health care provider, "what can you say about chronic pain management in the elderly?" Then the pursuit questions were discussed based on of participants' information that clarified the investigated concept. The next interview questions were designed on the basis of extracted categories. In addition, probes such as "Could you tell me more about that?" and "What do you mean by that?" were used to obtain more in-depth responses.

Regarding the time of each interview, Field and Morse recommended that it should not be longer than one hour, but experience shows interview's duration depends on interviewee (25). In the present study, the interview with each participant was conducted in one session, which lasted 30 to 50 minutes, based on participants tolerance and interests and was recorded by a voice recorder.

In order to obtain trust and confidence in transmission of participants' speech, interviews were transcribed verbatim exactly to their colloquial language, then typed

digitally and rechecked for accuracy. Next, the texts were read several times to obtain a full perception of their concepts and immediately organized and analyzed by qualitative analyzing software MAXQDA 10. Furthermore, participants' nonverbal behaviors during the interview were investigated, recorded and analyzed at the end of each interview. All of interviews and observations conducted by one researcher.

Content analysis of the interviews was performed according to Strauss and Corbin's method of constant comparison (23). All of data obtained from transcripts, observations of participants' nonverbal behaviors and memos analyzed concurrently. Analysis of the interview data was a guide for selection of subsequent samples and sampling continued until data saturation.

Open, axial, and selective coding were used for data analysis. In the open coding process, concepts related to study were identified and coded based on two coding techniques either the *in vivo* codes were respondent speech or observed their status during interview or implied by inferred codes by the researcher.

In axial coding, coded data were firstly compared with each other; then, primary codes were reduced to subcategories, and the categories were developed. The similar categories were combined and compared to others with respect to their differences until more abstract categories appeared.

Finally in axial coding, the main categories with subcategories were related to each other, based on the paradigm of "causal conditions," "context," "controlling strategies," and "consequence of strategies". In the selective coding, researcher identified the variables and main concepts and selected the topics for the concepts (21, 23).

In order to assure the data rigor, the four scales of trustworthiness recommended by Lincoln and Gubba, which consist of credibility, conformability, dependability and transferability (26). Thus, for gaining confidence of data credibility, the researcher had longtime relation with study places, which aided him to attract participants' trust and assist to reach a better understanding of study environment.

In addition, sampling guidelines, including diversity in selecting participants and gathering data were used; this technique led to obtain more data validity based on conducted variety, extension of participants, and demographic indexes.

To determine the conformability of the results and confirm data accuracy and codes, we used revision by the participants (Member check), namely after coding process, returning the text of the interview to them for accuracy assurance of codes and explanation were conducted. Then, correction of codes would be conducted if earned codes hadn't matched with explanatory participant's codes.

To determine data dependability, some of the interview texts were revised by colleagues (Expert check), and as the more codes and categories emerged the research was

revised by three other faculty members. This revision showed 86%-90% agreement in derived results. We used method of Polit and Hungler to compute agreement rate (26). For instance, if the number of emerged codes in one interview by a researcher was 92 codes, and the second person agreed upon 81 codes out of the total 92 codes, this was calculated to a rate of 88.04%.

The results were discussed with samples who had not participated in this study for confirming data transferability and their viewpoints in the line of our assessed results and found as that confirmed too.

Moreover, for increasing data validity and acceptability, different methods were used

such as constant observation and investigation, designation of efficient time for data gathering, well communication with participants and conducted interviews in suitable places selected by them (such as the nursing home, participant's home, hospitals, medical clinics or parks, which are located in Ahvaz City).

4. Results

This study were conducted on 30 old people with chronic pain (14 women and 16 men) aged 61-84 (Mean = 67) years, 3 old relatives (2 men and 1 woman) aged 35-57 (Mean = 40) years, and 29 health care providers whose work were more related to chronic pain management in the elderly (13 women and 16 men) with working experience of 1-30 (Mean = 16) years, which had different specialty and work experience. With respect to participants' viewpoints and content data analysis, three categories composed of functional impairment, disability, and limitations were created, which vulnerability was one of the major themes (Table 1).

When participants in this study were questioned in relation to chronic pain and its management, many of them stated that although there is no possibility of a complete cure, but it is believed that the pain is manageable and should be reduced drastically in order to return to normal life. Here is one of the elder's statement:

"This pain is a dissonant thing and not a good thing, cannot become well and will not be like the first, but may get better, took control and does not make progress, put down the pain."

An anesthesiologist remarked:

"We don't cure chronic pain; we manage it. Therefore, the patient should know that the day comes. It's a chronic process and improvement may not be 100%."

Many of the health-care providers participated in this study believed that the barriers should be identified for determining a caring plan for these patients, until efficacy of therapeutic intervention increases. A neurosurgeon said:

"Human is multifactorial being, if, as a physician, we focus to only remove the disease, sometimes reach to the opposite effects; hence, if we see to all of patient's living factors, we can help them better. For example, regarding their living style, sometimes a person needs a surgery but

says that I live alone, and there isn't anybody for helping me, even for 2 days I do not have any assistant and helper, so we stop his operation, because he will need to post operation factors but that isn't here."

Table 1. Theme, Categories and Subcategories

Vulnerability
Functional Impairment
Mood and emotional
Social
Psychological
Disability
Indoor daily activities
Outdoor daily activities
Limitations
Individual
Environmental

4.1. Vulnerability

Medical staff participating in this study believed that the vulnerability is a barrier in the chronic pain management among the elderly. They stated that abilities of the elderly decrease with old age and they typically encounter with restrictions and disabilities in their private life and treatment process. In this respect, a GP with an MPH degree in "Aging" said:

"Elderly patients may not have disease but their physiologic reserve has diminished; therefore, you see that the elderly are more vulnerable than the younger people, a little stress doesn't create any problem for a young person, but in the older people the same stress can cause a disease." The three concepts of functional impairment, disability, and limitations compose the theme of vulnerability, and all of these factors influence on the management of chronic pain.

4.2. Functional Impairment

One of the most important factors related to the elderly's vulnerability is the functional impairment in their mood and emotional, social and psychological aspects of life that cause many problems for the elderly. Regarding the mood and emotional aspect, many statements were expressed, including lack of life enjoyment, impatience, feeling of being hurt, sadness and not bothering to take pain relief medication. As one of the elders said: "I have not enjoyed my life a bit since I had this pain. Now I have reached a point that the only joy in my life is to see my children reach a certain level of stability in their lives."

Accordingly, a number of healthcare providers participated in this research believed that many of the elderly suffer from depressed mood and emotions and their quality of life decreases gradually. In this context, a psychiatrist stated:

"Chronic pains sometimes cause impatience (feeling of being bored), sadness and a decrease in the life quality among the elderly."

With respect to the social aspect, a large number of elderly mentioned a series of factors causing problems in their pain controlling process, including the rising tendency towards isolation, feeling worthless, staying at home, difficulty in performing duties at home and feeling of making troubles for others, including the family members.

In this regard, an elderly said: "I always stay at home. I cannot go anywhere, and most of my daily chores are done by my daughters and there is nothing I can do about it. I guess it is my destiny."

Similarly, a physiotherapist said: "Usually the tendency of staying at home rises, while the tendency of spending time with others gradually decreases among the elderly with chronic pain. Thus, we will try to identify more active social networks around them in order to activate them and ask their family members to have a more active attitude towards their elderly and giving them more support."

Regarding the psychological impairment, many factors were mentioned by the elderly, including inappropriate mental reactions, concerns of slipping and falling down, worsening the pain, side effects of different treatment, and gradual decreasing of mobility.

One of the elderly's relative commented:

"My mum often says that she has pain and prefers to lie down when we ask her to go for a short walk. She is afraid of slipping and falling down and breaking a part of her body."

In this regard a physician said:

"When we ask some of the elderly with severe osteoarthritis of the knee to undergo a knee surgery, they usually refuse since they are afraid of not awakening after anesthesia."

4.3. Disability

Disabilities due to aging at indoor and outdoor daily activities were a base for the elderly's vulnerability, as these disabilities impair the person's life, make discomfort and induce several problems in the treatment and care of the elderly. For example, when an investigator was referred to a retirement center for interview with the elderly with chronic pain, saw an old lady who barely walked with a cane, her face was very tense, and she mumbled something, then, after her agreement to participate in the study she said:

"Right now, I'm in torment; the pain is bothering me, because I cannot do any activity, I must have a car that I could go somewhere. Before, I performed my works by walking and now I cannot and this is a torture for me, I have problem for going to the toilet and I must use the bowls toilet, my travel has diminished, and I travel if I know there are bowls toilet there."

4.4. Limitations

Participants in this study declared that, there are many limitations in individual and environmental activities among the elderly which can lead to their vulnerabilities. In this context, a rehabilitation specialist stated:

“Elderly limitations make their treatment a little different from young patients. For example, a young person might have a limitation of motion in the knee joint, it’s very easy for me to force into his knees, but if I exert the same force into an elderly knees, he gets hurt.”

Study participants were mentioned social restrictions such as bad weather conditions, lack of social support and a high percentage of suffering from chronic pain in limited environments. On the other hand, problems of access to health care systems, high costs and limitations of treatment in the provision of care were mentioned in the health-care systems constraints. In this context, one of the elders said:

“The drugs are expensive, there are very expensive for daily use. We don’t know to whom we complain. How much is the salary of retiree? I want my God to be satisfied with me, then I die.”

5. Discussion

According to participants’ viewpoints, chronic pain management in the elderly means controlling physical, psychological and social aspects of pain until the elderly could have independent lives and perform their roles according to their life stage.

Based on the study results, chronic pain cannot be cured completely; however, this pain and its side effects must be managed. As Weiner declared: “Though chronic pain is not a normal part of aging, but it should be treated aggressively with respect to several issues for the elderly.” Moreover, treatment of the elderly pain should be performed very fast because it may provide significant relief and improve quality of life and health status (27).

In this area, attention to the roles of facilitators and barriers in effective management of this pain are essential. In this regard, Bair and colleagues identified the chronic musculoskeletal pain facilitators and barriers in a qualitative study for improving self-management and increasing the effectiveness of therapeutic interventions (28).

Vulnerability was one of the themes extracted from the participants’ opinions and also the analysis of data content, which identified as a barrier for proper control of chronic pain. Vulnerability is susceptibility to health problems, helplessness, need of protection, and loss of control that individuals experienced during life transitions (29).

Study results showed that the three categories of functional impairment, disability and limitations compose the vulnerability theme. Also, Naik and colleagues in their research described social services and health professionals’ perceptions of vulnerability among older adults living in the community. They concluded that vul-

nerability comprised four themes: inability to perform daily activities, lack of social support, sociodemographic factors, and neuropsychiatric conditions (30).

One of the categories that forms vulnerability theme is functional impairment in the mood and emotional, social and psychological domains among the elderly with chronic pain. Many factors such as lack of life enjoyment, impatience, feeling heart, sadness and tired of taking pain medication were identified in relation to the mood and emotional impairment areas, which makes them vulnerable to pain.

In this respect, the results of the other studies showed that the lack of chronic pain management can affect physical and psychological status of the elderly living, as induce poor sleep, disturbed appetite, weight loss, cognitive impairment, suicide risk, mood disorder (such as depression and anxiety), impaired functional mobility and activities of daily living and finally decrease in the quality of life in elderly and their family (31, 32).

Low social contacts with others was revealed as one of the functional impairment in social domains, as they must or like to have low social contacts and live alone while this problem increase their vulnerability (33). Because, they have small and restricted social networks, their isolation, absence of family support, and lack of education further increase their vulnerability (34-36).

Study results showed that concerns about the consequences of therapeutic actions such as paralysis, drug interactions and being grounded were mentioned as other factors included in the psychological impairment domain, which have predisposing effects on their vulnerability. In the light of these results, other studies showed that the interaction of various medical pathologies and interventions with age-related body changes result in a physiologic change characterized by a decreased ability to respond to stressors. It causes vulnerability to adverse health outcomes, such as functional impairment, falls, fractures, social isolation, hospitalization, etc. (37). Moreover, some of the older adults worry about adverse effects of analgesics, so this concern makes them not to use medication except when the pain is severe (38, 39).

Hence, modification of these impairments by lifestyle changes in physical, psychological and social domains could be a considerable aid for pain management and improvement of their quality of lives (38, 40).

Disability in routine indoors and outdoors activities was the other category that constitutes vulnerability. It causes several problems for the elderly, their relatives and health care providers. Disability is the impairment of daily activities in such a way that people cannot perform at least one of their daily activities and need some help in this regard (41, 42). Indeed, disability, aging, and illness can adversely affect the ability of an elderly to live independently by increasing one’s vulnerability to health and safety risks (15). Vulnerable older adults are at risk for neglect, exploitation, and numerous safety hazards, as well as functional impairment, medical morbidity, and death (17, 19).

Thus, disability in the elderly is an important indicator for checking the community health (41), and its prevention or postponing must be a major goal for public health (43). Study results showed that disability in routine activities alters elderly's daily living as it decreases their comfort, and causes several problems in treatment and caring process. Hence, attention to chronic pain management planning could be useful and decrease treatment problems. The other category that forms vulnerability is limitation in individual and environmental aspects. Elderly people encounter a great deal of individual limitation because of their physiology and increase in degenerative disease prevalence that causes vulnerability in them (37).

Restriction in the movement was one of the major limitations, because it induces overweight, low social communications, depressed mood and low quality of life. In this regard, Qiu and colleges declared that mobility restriction in vulnerable elderly may put them at higher risk of developing physical and mental health problems (44).

In fact, older people are more susceptible than younger people to poor outcomes, including increased disability, symptom burden, and mortality. This may be due in part to reduced physiological reserve, and multisystem functional decline associated with normal aging (45). Thus attention to and controlling these restrictions can reduce medical intervention complications. Making decision for the control of social problems, health and medical system limitations (discussed in environmental domains) can help to better manage chronic pain. Besides the pain, older persons suffer from functional disability. Consequently, they may become more dependent and inactive. Likewise, many barriers such as cost, access to health care, related disorders, attitudes of health professionals, and lack of communication (mentioned by Lansbury) must be overcome in order to achieve effective chronic pain management among the elderly (46).

Finally, we can conclude that as chronic pain in the elderly is not usually relieved properly and induce many problems for the elderly, relatives, health-care providers, and also society, attention to their problems and restrictions may be useful in developing a comprehensive caring program and effectively managing their chronic pain. Moreover, we can reduce adherence barriers and costs for patients and society, increase safety, and finally improve their quality of life.

5.1. Ethical Considerations

During the research, confidential and freedom of staying or leaving the study has been respected for the participants. This study was confirmed by Ethics Committee of Shahid Beheshti University of Medical Sciences in Tehran and Jundishapur University of Medical Sciences in Ahvaz. Also, written consents were taken from managers of the study fields and participants before start of data gathering process.

5.2. Limitations

With respect to the living of participants in one geographic zone, generalizability of study results is restricted. Hence, suitable and different approach was used for its control such as triangulation in time, place and informant type in selection of participants, and data-gathering methods. Though, more research would be needed for the better understanding of chronic pain management in the elderly and its related factors.

Acknowledgements

Our heartfelt thanks are extended to the elderly and other participants for their patient cooperation with the research team in this study.

Authors' Contributions

Dr Human Manoochehri: study guidance at all stages of the research; Manouchehr Shirazi: data gathering (interviews, observations), transcription, typing, as well as data analysis and writing the manuscript; and Dr Mansoreh Zagheri Tafreshi and Dr Farid Zayeri; study counseling at all stages of the research.

Financial Disclosure

This study was done without any financial support, and all of the costs were paid by the corresponding author.

Funding/Support

This study was done in the framework of a dissertation project for fulfillment of PhD degree in Nursing Sciences of Shahid Beheshti Nursing and Midwifery school (International branches) in Tehran.

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