Frontiers of Nursing • 7(4) • 2020
DOI: 10.2478/FON-2020-0047

sciendo

Frontiers of **Nursing**

A qualitative study of the psychological processes in patients with post-herpetic neuralgia

Original article

Jun Wu, Zhi-Lan Yang*

School of Nursing, Shanxi University of Chinese Medicine, Taiyuan, Shanxi 030619, China

Received: 22 April 2020; Accepted: 11 June 2020; Published: 20 December 2020

Abstract: **Objective:** To understand the psychological process of patients with post-herpetic neuralgia (PHN) and provide references for the psychological management of PHN.
Methods: The objective sampling method was used to conduct semi-structural in-depth interviews on 10 PHN patients, and Colaizzi's phenomenological analysis method was used for data analysis.
Results: According to the different pain durations of PHN patients, the patients were divided into three stages and five themes were extracted: the need for strong pain relief, the helpless tolerance of pain, the self-feeling burden, the need for health education, and the positive response to pain.
Conclusions: PHN has complex psychological activities, so it is necessary to pay attention to the psychological process of patients and take effective psychological measures to intervene negative psychology so that patients can actively cope with the pain.

Keywords: *post-herpetic neuralgia • chronic pain • psychological process • psychological experience • self-perceived burden • qualitative study*

© Shanxi Medical Periodical Press.

1. Introduction

Post-herpetic neuralgia (PHN) is the most common neuropathic pain that lasts for more than 1 month after the herpes zoster rash heals.[1] Pain can be intermittent or persistent,[2] can be manifested as hypersensitivity burning like kind of electric shock or kind of knife cutting or kind of needle cutting or kind of rope binding or kind of taut pain, can give priority to a kind of pain, and can also coexist with various pain.[3] The pain duration was more than 1 year for 30–50% of PHN patients and the duration for some patients could be more than 10 years.[4] At present, clinical pain management mainly focuses on pain relief and pays little attention to the psychological state of PHN patients. Being a chronic pain, PHN is not only a physiological process but also a complex psychological process. About 45% of PHN patients have negative emotions such as anxiety and depression,[5] and even 60% of them have suicidal thoughts.[6] Studies showed that psychological factors play a significant role in predicting the pain experience of patients with pain,[7] which can help patients to relieve pain. Therefore, it is particularly important to deeply understand the psychological process of PHN patients. This study used a phenomenological research method to explore the psychological process

How to cite this article: Wu J, Yang ZL. A qualitative study of the psychological processes in patients with post-herpetic neuralgia. *Front Nurs*. 2020;4:379-384.

* *Corresponding author.*
E-mail: yrlrose@163.com (Z.-L. Yang).

Open Access. © 2020 Wu and Yang, published by Sciendo. BY-NC-ND This work is licensed under the Creative Commons Attribution NonCommercial-NoDerivatives 4.0 License.

of PHN patients with different pain durations and provide a reference for PHN pain management from psychological aspects.

2. Materials and methods

2.1. General information

The objective sampling method was adopted to select 10 PHN patients who were admitted to the pain department of Shanxi Bethune Hospital in Taiyuan, Shanxi Province, between June and September 2019. The inclusion criteria were as follows: (1) the clinical diagnosis was PHN; (2) longer than 30 days; (3) age ≥18 years; (4) noncancerous pain; (5) clear consciousness, normal cognitive function, and no communication barriers; and (6) voluntarily sign an informed consent and actively cooperate with treatment.

The exclusion criteria were as follows: (1) a history of primary mental illness or mental illness and (2) serious organic diseases such as heart, liver, and kidney. The study sample size was based on data saturation and no longer presented new topics.

A total of 10 patients were included, including four males and six females; age 51–75 years, mean age (65.5 ± 9.676); education: five patients in primary school or below, two patients in junior middle school, one patient in senior high school or technical secondary school, and two patients in junior college or above; marital status: married; pain site: head and face in three patients, trunk in six patients, and extremities in one patient. The average duration of the disease was 336.60 ± 408.123 days, the shortest was 31 days and the longest was 4 years.

2.2. Methods

2.2.1. Data collection method

This article adopts the phenomenological research method of qualitative research in which the researcher himself conducts an open semi-structured interview without guidance and suggestion to the research object in the natural scene. Follow the principle of informed consent, explain that the research process can be terminated or quit at any time, and promise that all information is anonymous, confidential, and only used for this study. The whole interview collected PHN patients' psychological processes through shorthand and synchronous recording and fully encouraged patients to express their thoughts, experiences, and feelings. During the interview, various interview techniques were reasonably used to timely adjust the sequence of interview questions and the way of questioning.

Before the start of the interview, the pain degree of each PHN patient was assessed using a visual analog scale (VAS): from painless (0 mm) to most painful (10 mm) is a straight line. The length of the self-calibration line segment is the pain degree, which is calculated as 0–100 scores.

2.2.2. Interview outline

Make an interview outline according to the research purpose, including the following contents:

(1) Please describe your pain experience and how you feel when you experience pain?
(2) What inconvenience does the pain bring to you? Cross-examine: what is the change that ache gives you psychology and mood?
(3) What is the trouble and pressure that pain brings to you?
(4) What is your primary need after suffering pain? Follow-up: what kind of help do you need?
(5) What other doubts or doubts do you have?

2.2.3. Interview implementation

The interviews were conducted after the daily morning treatment of PHN patients and a short rest. The interview was conducted in a quiet lounge for about 20–40 min. At the beginning of the interview, introduce yourself and the purpose, significance and method of the interview in a friendly way. During the interview, the speech expression was easy to understand and accept, and the interview content was conducted around the outline. The content of the interview was carried out around the outline, mainly including the feeling when suffering pain, the psychological and emotional changes caused by pain, and what kind of help was needed, and so on. The whole process could reasonably use the conversation skills, timely adjust the order and manner of questions, and record well.

2.2.4. Quality control of the research process

Quality control mainly through the following methods:

(1) The 10 patients were typical and representative in terms of pain site, course, and duration to ensure that the subjects of the study could reflect the characteristics and needs of different psychological changes of patients.

(2) Key steps in interviewing, recording, and transcribing texts were performed by the researcher himself.
(3) The same data were analyzed by two researchers to avoid subjective bias by one researcher.
(4) The collected text was returned to the interviewee to confirm its authenticity.

2.2.5. Data analysis method

After the interview, SPSS 25.0 software was used for data entry and analysis of VAS measurement results for the first time. The measurement data were expressed as mean ± standard deviation ($x \pm s$). The average pain score of PHN patients was obtained by statistical analysis. Then, the recording was converted into text and all records were carefully read and sorted out. Colaizzi method was used for analysis[8]: (1) the research team carefully read all the interview materials; (2) extract the significant statement analysis; (3) encode information that appears repeatedly; (4) bring together the ideas from the code; (5) write a detailed description without missing anything; (6) summarize the theme concept; and (7) go back to the interviewee for verification.

3. Results

Through repeated comparison of interview texts of 10 patients, according to the duration of PHN pain, three stages were divided and five subjects of the psychological process of patients with post-herpes zoster neuralgia were summarized.

3.1. The psychological process of PHN pain initial stage (pain duration ≤ 3 months)

3.1.1. Theme 1: Strong need for pain relief

PHN patients with disease duration <3 months were measured by VAS, the average pain score is 70.86 ± 7.425. As can be seen from the VAS results, the degree of pain in PHN patients is severe. All the subjects interviewed in this study had moderate or above pain when they visited the doctor. The patients indicated that the need for pain relief was the strongest when the pain appeared and lasted for 3 months. Five patients had experience of visiting a doctor in the early stage of pain, and they took acupuncture, drugs, and other measures to relieve the pain, but the time of pain control was limited, and even the control effect was gradually weakened, which indicated that the pain relief effect was not good. Four patients went to the hospital without treatment because they could no longer tolerate the pain. P3: "before in the hospital when the pain can quickly hit painkiller injection, but feel the number of dozen, slowly the effect is not as good as before, the next pain faster and faster, but I have no other way to control the pain." P6: "I have seen this disease in other hospitals before, and I have done a lot of treatments, including acupuncture and infusion, but the pain is still severe and the effect is not good. I hope this time I can relieve my pain." P2: "I have been trying not to go to the hospital, but I think it will be ok. If I can't bear it, I will see if it can be cured."

3.1.2. Theme 2: Only endure the pain

In the early stage of pain, PHN patients had poor pain coping, and they had no effective way to control the pain so they could only tolerate it. This view was expressed by eight patients in this group. P3: "to endure the pain to do things, should do also have to do, can only endure, no way." P10: "if you can bear it, continue to work. If you can't bear the pain, just stop." P4: "when the pain started, I pulled back, put my head in the pillow, pressed my head with my hands, and shouted, feeling that this was how I could endure it."

3.2. PHN pain duration ≥ 6 months

3.2.1. Theme 3: Self-perceived-burden

(1) *Psychological burden*: In this interview, seven patients had psychological burden. As the duration of pain increased, a pain attack was accompanied by anxiety and suffering. P4: "when the pain starts, I feel irritable and can't move. My family is also anxious. I don't know when I can get better." P5: "too much pain, I really suffered a lot. I went to several hospitals but didn't get good treatment. I really suffered a lot." P9: "this disease, the pain is terrible, do not know when it will be painful, quite troublesome."
(2) *Quality of life goes down*: All the subjects interviewed in this study had pain lasting for 2–3 h or more at night, and the pain degree was significantly higher than that in the daytime. The long-term sleep time was shortened, leading to decreased sleep quality. Six patients reported that PHN pain sites had an adverse effect on the quality of life. P9: "the pain is worse at night than during the day. I can't sleep at all. I think I can sleep two or three hours." P8: "I can't sleep well when I feel pain at night. My head is heavy and my whole body is weak. I want to sleep when the pain is not severe during the day." P5: "I don't know what will hurt, so I dare not move this arm

for fear that it will start to hurt and this arm can't do anything."

3.2.2. Theme 4: Demand for health education

Patients with PNN say they can cope with pain over time, but do not know what to do. Among the interviewees, eight patients said that they did not know how to deal with pain, two patients did not know that their disease was PHN before definite diagnosis, and three patients had only heard about the disease and did not know what the symptoms were and how to treat it. P10: "painful, I also can't method, before love listen to music, feel diversion attention try, result a listen to more painful." P7: "I just heard the name of the disease, do not know what it is like, do not know the pain so severe, do not know why I got the disease." P1: "before I thought it was some common skin disease, but it was all right after treatment. I didn't think it was still painful. It had been painful for so long."

3.3. PHN pain duration $\geq$ 1 year

3.3.1. Theme 5: Actively deal with the pain

Four PHN patients with pain lasting more than a year said that they were actively looking for ways to relieve their pain, such as shifting their attention, adjusting their mindset, and sharing experiences with others. P8: "I have this pain for a long time, I gradually get used to it, I feel like it starts to hurt, just look at my phone, watch TV, transition." P5: "I dared not move this arm before, but later I found that it was not so serious. I told the patient yesterday not to dare to move, so as to build up their confidence."

4. Discussions

4.1. Understand the patient's need for pain relief

The results of this study showed that all PHN patients had an urgent need to relieve or relieve the pain, and the pain was most intense in the early stage, consistent with the results of Zhong,[9] 82.6% of patients with chronic pain also wanted to control the pain. Studies have shown that chronic neuropathic pain accounts for 32.87% of chronic secondary pain syndrome and has become the main population of chronic secondary pain syndrome.[10] At present, the multidisciplinary pain management team in the hospital has shifted from doctors to nurses,[11] and the role of nursing staff in the team has become increasingly important. Nursing staff should not blindly follow the doctor's advice and be passive in pain management but should take the initiative to understand patients' needs for pain control and express empathy. According to the specific situation of patients, appropriate non-drug analgesic nursing measures are taken for patients, such as physical therapy (including laser therapy, microwave therapy, etc.), dietary intervention, psychological intervention, and so on.[12]

4.2. Reduce the burden of self-perception

Self-perceived burden (SPB) refers to the psychological phenomenon that patients worry about others being weighed down by them economically and emotionally because they need others' care and support for medical treatment.[13] Studies have found that SPB can cause negative emotions, such as guilt, depression, and anxiety, and even affect the quality of life of patients.[14,15] The results of this study show that most patients have SPB, which is manifested in psychological mood and quality of life. Owing to the lack of regularity of PHN pain attacks, patients cannot effectively cope with sudden severe pain. Long-term pain tolerance leads to negative emotions such as anxiety and depression in PHN patients. In addition, some PHN patients have pain in their extremities or lower back, so they are afraid of triggering pain and cannot move their extremities normally as before, leading to mild limitations in daily activities. In addition, PHN patients have severe pain at night, which seriously affects their sleep and seriously reduces their sleep quality, thus reducing their quality of life. Consistent with the research results of Song Chunyan[16], patients with chronic pain also have psychological self-feeling burden.

A large number of studies have shown that SPB is related to psychological status and social support.[14,17] Nursing staff should timely understand the psychological status and social support of patients and provide effective measures to reduce the burden of self-feeling. First, nursing staff should pay attention to the psychological treatment of PHN patients, decrease negative emotions, relieve patients' pain, and improve their quality of life through psychological intervention.[18] Treatment methods include cognitive behavioral therapy, relaxation training, suggestion therapy, and so on. Through psychological nursing intervention, PHN patients can improve their understanding of pain, make patients accept and adapt the pain, and effectively cope with pain. Second, the nursing staff helps the patients to establish a good way of communication with their families and friends, creates an environment of mutual understanding, gives the patients social support and spiritual encouragement, and establishes a good social and family support system.

4.3. Conduct simple and effective health education

PHN patients do not understand the disease and have no choice but to accept the psychological pain, which is related to the lack of knowledge about the disease and pain. Liu Haiyan[19] selected 48 PHN patients for a randomized controlled study. Patients in the experimental group were provided with health education and psychological care, while patients in the conventional group were provided with care in addition to health education and psychological care. The results showed that the quality of life and anxiety and depression scores of the experimental group were better than those of the conventional group, which confirmed that health education and psychological care had good effects on PHN patients to eliminate bad emotions and improve the quality of life. This study found that most PHN patients just did not understand the symptoms of the disease itself, treatment methods, pain coping, and relief methods and did not have a catastrophic understanding of the pain nor did they have an uncertain sense of diagnosis and prognosis, which was different from other chronic pain patients' psychological process. First of all, the diagnosis is clear and the treatment starts quickly. On the other hand, chronic pain patients have complex etiology, multiple medical treatment or treatment experience, and still have progressed in pain after treatment. They have a more serious understanding of the disaster of pain, and a prominent sense of uncertainty in disease diagnosis and prognosis.[15] Second, it is related to the low degree of PHN's influence on patients' daily activities and social interaction. The results of this study suggest that PHN patients do not stop completely during a pain attack, but rather endure the pain and continue to move. When the pain does not occur, daily life can be carried out better, the number of restricted behaviors is less, the degree of restriction is less, and there is no obvious and serious social avoidance psychology.

Therefore, health education should be strengthened for PHN patients, including knowledge of disease and pain management. Social aspects can appeal to public media, such as radio, television, and websites, to participate in health knowledge publicity and expand the influence of health knowledge. The hospital can broadcast propaganda videos through the outpatient service, distribute health knowledge manuals to patients, and hold knowledge lectures. The health education content should be related to herpes zoster neuralgia symptoms, treatment, prognosis, pain response, etc., and the propaganda way can use modern means of intelligence, such as building pain WeChat public issue, smart APP, etc., to improve the PHN awareness and improve the awareness of the pain. The PHN patients can be right to accept the pain when effectively cope with pain, it reduces the degree of pain.

4.4. Pay attention to the pain duration divided into stages of psychological process and targeted pain management

The results of this study showed that PHN patients had different pain duration and psychological process, and previous studies on the psychological processes of patients with chronic pain had not been discussed in stages. PHN patients have different psychological reactions in different pain periods, which suggests that medical workers can choose different aspects of pain management to patients according to the psychological process in different pain periods. At the same time, pain management programs and procedures for PHN patients can be formed according to the psychological process at different stages so that the pain management team can adopt direct and effective intervention programs according to the duration of pain, focusing on different psychological reactions.

5. Conclusions

PHN patients have complex psychological activities caused by intense and persistent pain, and negative circulation leads to increase the pain. The multidisciplinary pain management team should pay attention to the important role of psychological factors in pain management. It is suggested that further research on intervention based on cognitive behavioral therapy should be carried out to enable patients to correctly understand pain, accept pain, and take positive measures. Since qualitative research is the individual observation of the researcher and the research object is selective, further quantitative research is needed to explore the relationship between psychological state and pain in PHN patients.

Author contributions

Wu and Yang contributed to the conceptual framework and design, paper revision, and proof-reading and contributed to the implementation, data collection and analysis, and writing of the article.

Ethical approval

Ethical issues are not involved in this paper.

Conflicts of interest

All contributing authors declare no conflicts of interest.

References

1. Yu SY, Wan Y, Wan Q, et al. Consensus of Chinese experts on the diagnosis and treatment of postherpetic neuralgia. *Chin J Pain Med*. 2016;22:161-167 (in Chinese).
2. Gan EY, Tian EA, Tey HL. Management of herpes zoster and post-herpetic neuralgia. *Am J Clin Dermatol*, 2013;14:77-85.
3. Wang JS. Interpretation of Chinese multidisciplinary expert consensus for diagnosis and treatment of postherpetic neuralgia. *Pain Clinic J*. 2016;12: 139-142 (in Chinese).
4. Kawai K, Gebremeskel BG, Acosta CJ. Systematic review of incidence and complications of herpes zoster: towards a global perspective. *BMJ Open*. 2014;4:e004833.
5. Oster G, Harding G, Dukes E, et al. Pain, medication use, and health-related quality of life in older persons with postherpetic neuralgia: results from a population based survey. *J Pain.* 2005;6:356-363.
6. Wang JS, Bao JJ, Wei X, Du WQ. A clinical investigation on postherpetic neuralgia (PHN). *Chin J Pain Med.* 2011;17:198-200 (in Chinese).
7. Gatchel RJ, Peng YB, Peters MI, et al. The biopsy-chosocial approach to chronic pain: scientific advances and future directions. *Psychol Bull*. 2007;133:581-624.
8. Li Z, Liu Y. Nursing research methods. *Beijing: People's Medical Publishing House*. 2012:197-199 (in Chinese).
9. Zhong CX, Xie XP, Liu L, et al. Investigation of current status of chronic pain and quality of life in patients with chronic pain in community. *Sichuan Med J*. 2016;37:1272-1275 (in Chinese).
10. Wang JL, Zhang WJ, Luo WJ, Du R, Tian DH, Chen J. Investigation of patients pain department based on ICD-11 classification of chronic pain. *Chin J Pain Med*. 2019;25:267-275 (in Chinese).
11. Xie XP, Yuan DM, Lin H, Liu L. Investigation and analysis of clinical pain nursing records and current situation of pain management. *Chin J Pain Med*. 2015;959-960 (in Chinese).
12. Huo HM, Wu DC. Progress in pain management and nursing of postherpetic neuralgia. *Chin General Pract Nurs.* 2017;15:2968-2970 (in Chinese).
13. McPherson CJ, Wilson KG, Murray MA. Feeling like a burden: exploring the perspective of patients at end of life. *Soc Sci Med*. 2007;64:417-427.
14. Wilson KG, Chochinov HM, McPherson CJ, et al. Desire for euthanasia or physician-assisted suicide in palliative cancer care. *Health Psychol*. 2007;26:314-323.
15. Tian XL, Liu HX, Chai SM. Advances in self-perceived burden in patients with advanced cancer. *Chin J Nurs*. 2008;43:955-958 (in Chinese).
16. Song CY, Wu HY, Dai HM, Tan X. A phenomenological study on psychological experience of outpatients with chronic pain. *J Nurs Sci*. 2017;32:81-84 (in Chinese).
17. Kowal L, Wilson KG, McWilliams LA, et al. Self-perceived burden in chronic pain: relevance, prevalence, and predictors. *PAIN*. 2012;153: 1735-1741.
18. Wu XB. The effect of psychological intervention on the neuralgia of herpes zoster. *Chin J Med Device*. 2015;28:118-119 (in Chinese).
19. Liu HY. The effect of health education and psychological nursing on improving the quality of life of elderly patients with neuralgia after herpes zoster. *Med Innovation China*. 2016;13:70-73 (in Chinese).