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Adaptation to chronic benign pain in elderly adults

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Objective. This study sought to comprehend and analyze the experience of living with chronic benign pain during aging from the perspective of the adaptation model by Callista Roy. **Methodology.** Ours was an exploratory descriptive study using for analysis tools from the theory based on criteria by Strauss and Corbin. The strategy involved in-depth interviews of 10 elderly adults residing in Medellín, Antioquia, and Chía, Cundinamarca (Colombia) with chronic benign pain. **Results.** In elderly adults, behaviors were identified that were secondary to the presence of pain and which are consequence of the capacity to adapt to their experience, managing to modify the environment by using internal and external resources that permitted their controlling the pain-generating stimuli in the human beings adaptation means based on the Adaptation model by Callista Roy. **Conclusion.** Elderly adults respond effectively to their new secondary condition: presence of benign pain in all the means of adaptation.

Key words: chronic pain; aged; adaptation; qualitative research; models, nursing.

La adaptación al dolor crónico benigno en los adultos mayores

Objetivo. Comprender y analizar la experiencia de vivir con dolor crónico benigno en el envejecimiento desde la perspectiva del modelo de adaptación de Callista Roy. **Metodología.** Estudio descriptivo exploratorio utilizando para el análisis herramientas de la teoría fundamentada con los criterios de Strauss y Corbin. Se emplea como estrategia la entrevista en profundidad a diez adultos mayores residentes en Medellín, Antioquia, y Chía, Cundinamarca (Colombia) quienes presentaron dolor crónico benigno. **Resultados.** En los adultos mayores se identificaron comportamientos que fueron secundarios a la presencia de dolor y que son consecuencia de la capacidad de adaptación a su experiencia, logrando hacer modificaciones en el ambiente a través del uso de recursos internos y externos que les permitieron controlar los estímulos generadores de dolor en los modos de

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adaptación del ser humano basados en el Modelo de Adaptación de Callista Roy. **Conclusión.** Los adultos mayores responden efectivamente a su nueva condición secundaria: la presencia de dolor benigno en todos los modos de adaptación.

Palabras clave: dolor crónico; anciano; adaptación; investigación cualitativa; modelos de enfermería.

Adaptação à dor crônica benigno nos adultos maiores

Objetivo. Compreender e analisar a experiência de viver com dor crônica benigno no envelhecimento desde a perspectiva do modelo de adaptação de Callista Roy. **Metodologia.** Estudo descritivo exploratório utilizando para a análise ferramentas da teoria fundamentada com os critérios de Strauss e Corbin. Emprega-se como estratégia a entrevista em profundidade a dez adultos maiores residentes em Medellín, Antioquia, e Chía, Cundinamarca (Colômbia) quem apresentaram dor crônica benigno. **Resultados.** Nos adultos maiores se identificaram comportamentos que foram secundários à presença de dor e do que são consequência da capacidade de adaptação a sua experiência, conseguindo fazer modificações no ambiente através do uso de recursos internos e externos que lhes permitiram controlar os estímulos geradores de dor nos modos de adaptação do ser humano baseados no Modelo de Adaptação de Callista Roy. **Conclusão.** Os adultos maiores respondem efetivamente a sua nova condição secundária: a presença de dor benigna em todos os modos de adaptação.

Palavras chave: dor crónica; idoso; adaptação; pesquisa qualitativa; modelos de enfermagem.

Introduction

Chronic pain has become a public health problem, at international and national levels, due to the multiple repercussions that affect the lives of the people who endure it; change in the population pyramid makes this problem evident. The United Nations (UN) estimates that by 2050 one in every five inhabitants in the world will be over 60 years of age.[1] This indicates that demographic aging is a reality and that health problems associated to the elderly would worsen in the next decades. Aging is associated to higher prevalence of disease, a consequential disability, and increased mortality rates.[2,3]

Aging, by being a stage of the life process, includes biological, psychological, and social changes,[4] where the individual is more vulnerable to the presence of chronic disease and with such to the increase of associated symptoms, like chronic pain. Due to this, the Joint Commission on Accreditation of Healthcare Organizations[5] defined pain as the fifth vital sign, given that it is one of the most complex human experiences, a source of psychological and physiological disorders, and one of the most common causes of consultation, which is why the need for care has been emphasized for all patients with pain because it is present in people at any age and constitutes an unpleasant sensory and emotional experience that is felt individually.[6]

According to the Kyoto Protocol of IASP Basic Pain Terminology,[7] chronic pain is considered an unpleasant sensory and emotional experience, associated to existing or potential tissue damage related to a disease process, but which persists once the disease or lesion has been cured, without responding to conventional medical treatment. Its duration is of at least one month and can be continuous or episodic, and may be present for months or years.[7] This definition considers two aspects: the psychological damage of pain and the unpleasant emotional subjective, personal, and

untransferable aspect of the painful experience, summarized as suffering.

Chronic pain affects the physical, psychological, social, spiritual, and economic dimensions of a person's life, family, and society.[8] Its consequences include sleep disorders, diminished socialization, loss of appetite, impaired abilities to carry out activities of daily living (ADL), mood changes, impaired physical mobility; all which lead to exhaustion, weakness, fatigue, progressive physical impairment, depression, anxiety, frustration, anger, and personality changes, among others. Additionally, it impacts upon social security because it compromises national resources and generates higher health costs.[9] Chronic pain is not only considered a symptom, it is considered a disease and, in turn, represents a public health problema,[10] given that it affects groups and has notable repercussions on healthcare systems throughout the world. This problem has implications in terms of prevalence, costs estimated for each country or region, among others; an example of this is the United States, which invests around 150-billion dollars annually in treatments, medical attention, sick leaves, and hospitalizations[11] related to pain relief.

In Colombia, the Colombian Association for the Study of Pain has conducted seven National Surveys on Pain since 2000.[12] The data from 2012 showed that 59.3% of the population above 45 years of age had felt pain within the last 15 days, with the most frequent being headaches (35.3%), back pain (19.2%), and joint pain (16.9%); of the people who had felt some type of pain during the last two weeks, 39% consulted with a physician and 29% were self-medicated.[13] Based on the high prevalence indicated by these studies and on the lack of data about chronic pain in Colombia, it was decided to conduct a research to learn of the prevalence, the sociodemographic behavior, and clinical and sociocultural characteristics of chronic pain; this study was denominated Pain in Caldas (DOLCA, for the term in Spanish),[14] which reported a prevalence of pain in the elderly, being 43.8% in those above 65 years of age, lower than in the study by Helme[15] (50.2%), duplicating in those above 85 years of age. Likewise, the DOLCA study reported a high frequency of self-medication (3 times in consumption of nonsteroidal anti-inflammatory drugs and scarce use of opioids); besides, frequent use of complementary/alternative medicine.[14]

Another study conducted in Manizales in 2010[16] confirmed high prevalence of chronic pain in elderly adult population and its tendency to persist over the years, with negative repercussion on emotional aspects, sleep, and quality of life, highlighting the need for adequate diagnosis and individual management, appropriate health policies, and permanent research development to confront this important condition. Previous studies show the importance of focusing attention on elderly adults with chronic benign pain because of the multiple implications pain has on their lives. Against this problem, the need to investigate the phenomenon of pain in the aging is proposed to comprehend how elderly adults endure their experience and how they adapt to their condition.

According to Fawcett,[17] the best way to understand the aspects appertaining to the discipline is through conceptual models and theories of Nursing, given that they help us to describe and explain phenomena, and to predict and prescribe interventions for the different situations of the practice, which are the support of the profession and guide care with its own knowledge. Starting from this premise, the model that helped to explain the data that emerged from the investigation was the Adaptation model by Callista Roy (MAR, for the term in Spanish), which explains the adaptation process of human beings against diverse life situations.[18] This model has been broadly used in multiple contexts and populations of elderly adults with varied health problems. The objective of this research was to comprehend and analyze the experience of living with chronic benign pain during aging from the perspective of the Adaptation model by Callista Roy.

Methodology

An exploratory, descriptive study was conducted with tools from grounded theory, which permits

understanding, from the subjectivity of social players and interaction with them, the phenomenon through which we assign meanings to the world around us.[19] The study assumed the definition of elderly adult by the Pan-American Health Organization as the person who is over 70 years of age.[4] The participants were 10 elderly adults with chronic benign pain and not institutionalized. Data were gathered from August to December 2013. After signing the informed consent, the characterization form was filled out, where their sociodemographic and pain characteristics were consigned. Thereafter, in-depth interviews were conducted, starting with the guiding question: can you describe your experience of living with chronic pain? The interview of each participant was carried out within an environment of emotional, physical, and affective comfort by listening, without passing judgment, to the personal meaning of their own experiences. Numerical codes were assigned to protect the privacy of the participants, emphasizing on the need to agree on a second meeting to validate the data obtained. Each interview lasted between 30 and 40 minutes, and were recorded and transcribed textually onto a computer by the researchers, who also filled out their field notes that helped keep track of important details useful in later analysis of the data. The analysis was performed manually, coding was begun line by line, and tables were elaborated to group the codes that originated the categories that were organized into matrices that helped to consolidate the information. The analysis was performed by using tools from grounded theory under criteria by Strauss and Corbin.[20] Finally, the results were analyzed in light of the MAR by using its concepts and relationships, which supported the interpretation process, which will then be presented in descriptive manner to end with a graphic scheme that will aid in its rapid comprehension.

This study is classified as being low risk, according to Resolution 008430 of 1993 by the Colombian Ministry of Health, and was approved by the Ethics Committee in the Faculty of Nursing at Universidad de Antioquia; all participants signed an informed consent.

Results

The general characteristics of the study participants can be seen in Table 1. In this study, females prevailed, with complete primary education, married, with support from a close relative, and support from health services. Regarding pain, five participants reported prevalence of lumbar pain and the rest reported joint pain; all reported pain for six or more hours per day (four of them foe 24 hours).

Chronic pain entails a series of conditions that limit elderly adults, disable them, and make them feel at a disadvantage with respect to others. This is how “the experience of pain” becomes a “focal stimulus” and generates a series of behaviors that are reflected in their mood Responses like aggression, frustration, and anger end up being feelings experienced and expected by elderly adults with pain: *… the experience, as I told you, has been rather unpleasant because that pain sometimes disables you, and it gets you in a bad mood; […] so I get frustrated* (E2); *… yes, me I feel overwhelmed* (E3); *… I am saddened by that* (E1). Aging brings with it a series of physical, psychological, and social changes for which the elderly are not prepared, which makes the experience of pain even more intense. Due to this, it may be stated that “age” behaves as a “contextual stimulus”. Participants made frequent associations between aging and the initiation of pain: *Ah! Because with age … the body starts deteriorating and it gets worse every day and the pain increases. The body wears down* (E6); *years start creeping up and according to what you are living, thus, will be your old age: rather worn out, maltreated, and beaten* (E1).

As “residual stimulus” we can identify “customs and habits” adopted by the elderly over time, during their youth, and now recriminate themselves for their lack of self-care; likewise, “their abuse against their own bodies” product of their excessive lifestyles, factors that have led them to experience pain. Added to this, there is the lack of prevention in their work environment:

... I associate it because all my life, since I can remember, I have toiled and done my chores and many things that have to do with that arm; so the arm is already tired with so many years and so much work (E2); *... I don't know, I probably attribute this to work, heavy work all the time* (E5); *Because of our actions. I think: I did not take care of myself, I did not take care of my body, I fell down a lot, made too many incorrect moves* (E7).

Table 1. General characteristics of the participants

Variable Person	Gender*	Age	Education†	Marital status	Type of prevailing pain	Hours per day with pain	Support from health services	Support from close relative
1	M	78	PC	Married	Lumbar	6-8	Yes	Yes
2	F	65	FT	Married	Articular	7	Yes	Yes
3	F	72	FT	Single	Lumbar	9	Yes	Yes
4	M	69	PC	Married	Articular	24	Yes	Yes
5	F	60	PC	Widow	Lumbar	24	Yes	Yes
6	F	75	FU	Single	Articular	9	Yes	Yes
7	F	70	PI	Married	Lumbar	6-8	Yes	Yes
8	M	68	PC	Married	Articular	8	Yes	Yes
9	F	73	FU	Married	Articular	24	Yes	Yes
10	M	80	PI	Widower	Lumbar	24	Yes	Yes

(*) M: male, F: female; (†) PI: primary incomplete, PC: primary complete, FT: technical formation, FU: university formation.

The "level of adaptation" registers the interaction of the elderly with their environment, that is, modifications they introduce to adapt to the new situation of pain. This is how they understand what pain means for them and are capable of recognizing the resources available to forge changes against the new circumstances and accommodate themselves to their chronic condition. They have internal support, like: *positive attitude, the desire for a quick recovery, and the awareness of self-care*: *I am not negative, I am very positive and know I am going to get better and improve* (E6); *... you have to help yourself and, likewise, be careful with excessive lifestyles* (E2); *... those changes in life habits help you to relax, to be more at ease, not thinking of so many things, about work and so many problems* (E8). They also have external resources, like: *the family, friends, and health services*: *... my wife helps me with things I should not be doing* (E4); *when I was operated, I had such a bad outcome [...] I have been helped a lot, I have had a lot of collaboration, they have been very watchful over me [family and friends]* (E3); *the physicians have paid a lot of attention to me, even the specialist* (E1).

Elderly adults subjected to chronic pain can show, in some aspects, an integrated, committed, or compensated level of adaptation, depending on how their adaptation resources can be used to achieve homeostasis. Recognition of these resources, as well as the magnitude of the stimuli, will determine the responses in the control subsystems: the regulator and the cognitive. The responses of the regulator subsystem are innate and have been studied by the medical sciences, which is why understanding them is not difficult. In the specific case of "the experience of chronic pain" during aging, the regulator system is comprised of all those physiological processes that trigger pain, mobilizing hormonal and physical-chemical processes that are part of the pain response and irradiate the pain to other organs, giving way "to a constant and unbearable response". Pain, caused

by the activation of the regulator subsystem, has been described as "stabbing and burning", among many others: *…Yes, there in the bones, the pain is cruel, like when you are being pricked with needles* (E2); *…burning; I feel the blisters there and it starts fading; (E1) I lean down to pick up something and feel like my back is going to fall apart* (E8); *…because I don't just have pain in my legs, it irradiates from my waist down* (E16).

Through the **coping and adaptation process**, people process information from the environment and give it meaning, upon relating it to their prior knowledge and experience. Elderly adults subjected to chronic pain manage to recognize the factors that trigger it and create their own language that helps them to describe it clearly to others:*… I strain myself and the pain is there* (E1), *I bend down to pick up something, as if I had to use strength, a little paper, anything, and there I have pain* (E3); *… Thus, abuse of weight. I cannot carry more than kilogram for more than half a block because I can get injured* (E4); *if I remain standing for too long, for example, I get desperate from pain* (E7); *… another thing is that I already realized that I cannot ride in the car because that bruises me terribly* (E11). However, certain people are incapable of generating adaptation responses, which is evidenced in the ineffective responses in the four means of adaptation. Within the *physiological* mode, stress plays an important role in the experience of chronic pain because it triggers multiple responses in the body and may cause problems in priority functions and needs of elderly adults: *… my feet burn too much* (E8); *… I also feel my feet somewhat numb and in the bottom they feel like they were burning* (E9); *… my legs start to hurt, I start getting tired and I start getting discomfort here [on the chest], on the throat, so sometimes I have to go slowly* (E12).

The "self-concept mode" has to do with the individuals' beliefs and feelings about themselves, which is related "to their past experiences and to their current condition". It is the image the elderly have about themselves as physical, social, spiritual, and moral beings; as integral and unique beings. Upon comparing this affirmation with the findings from the research, we can see how the elderly adults evidence a strong association between aging and the onset of pain due to the multiple changes they undergo during their process. Because of this, when noticing a series of new sensations, befitting of their chronological stage, they are frightened by the onset or exacerbation of pain; likewise, changes experienced due to limitations and use of apparatuses make them feel dependent on others, affecting their physical self. Additionally, it is necessary to consider how the elderly are impacted by knowing their diagnosis and by being aware that there is no cure for their pain; a situation that often brings out moods like depression, which is a limiting condition that impedes recognizing their situation and brings along feelings of anguish, sadness, fear, anger, stress, and grief – all this increased by the fear of what pain will bring for them further ahead: *Sure!, for me yes, I am stressed and the pain gets worse, it gets me bedridden* (E11); *Depressed, terrible, terrible, because I was under the impression I would not walk again* (E8); *… I fear this disease will progress and I will be more disabled* (E10); *… but, anyhow, the experience has been very sad (E1); … weary with life, you get tired* (E18).

Regarding "*the role mode"*, we managed to identify in elderly adults changes in their routines because of limitations secondary to pain. Thus, patients must readapt their lifestyles by recognizing the activities they have to abandon to avoid triggering and exacerbating pain: *before I would engage in household activities: I'd wash dishes, made my bed all my life […] things I can no longer do* (E4); *…Everything: drinking, sex, everything has to be decreased through obligation, and you have to be strong, you have to learn and have to do it, if not you get sick* (E3); *… Yes, say you need to go, like before, and do chores, go to work, use a hoe, put up a fence, …sow the soil, remove weeds, things you used to do … not any more* (E9); *…I had to leave behind the desire to do this, to move this from here to there* (E5).

The "interdependence mode" is set on the isolation they experience, be it because of the condition

of their disease of because of the little support they get from those around them. Sometimes, their feelings, fear of being abandoned, or the recrimination for expressing their pain precipitate their social and family distancing: *knowing that I can't even g oto the corner because I'll be in pain at any moment, my knees weaken I suddenly I can fall [...] so, fear does not let me do things* (E10); *... no longer integrating any group, no longer going to church, not going to mass; all those things have isolated me, see?* (E2); *because I say: why should I go? When you ask me to go with you, but I say: why should I go and be in the way? I will only mortify you because I can't even go in the car!* (E6); *I can no longer go out alone, to walk around; I have to go accompanied* (E1).

They are aware of how the chronic situation has changed their lives and have had to live with pain, learning from it, and even accepting it as part of their lives: *... I am trying to live with pain* (E1); *I learned to manage it and live with a bit of pain* (E3); *... if there is no remedy, but to cope with pain* (E7); *...anyway, I already got used to being in pain* (E6); *... unfortunately there is nothing, but to try to put up with the pain* (E10). All these changes compromise the level of adaptation, supposing an alteration of the daily dynamics of the elderly adults and obligates them to develop strategies that permit them to assimilate the condition and adapt to changes: *...I applied cream and other things [on the leg], where the pain was focalized* (E1); *... I use a lot of hot water for that* (E4); *... some therapy now and then (E9); ...I would also get relief by putting them [the legs] in the pool* (E5).

In time, elderly adults who have endured the experience of living with chronic pain come to find meaning to their situation. Likewise, they take advantage of residual capacities and start "developing new skills" that allow them better integration with the environment. It is thus that they end up with attitude changes, when they create skills, like using resources available in their own home and other alternatives as precursors of pain relief: *...home remedies are very good and herb teas too* (E4); *...Yes, sure, for example, like I said, the thing with aloe has helped me much* (E2); *...or I would bury them in mud [the legs], I would go to sleep, but tied them well [...] I would sort of flagellate my legs [...] the lotion... made from the bee thing ... I would steal a little from my dada and would rub and rub ...You feel like if your blood had been moved [...] get the cream for the cows and apply it on my legs* (E5).

The "distraction" of focusing attention on those activities that bring them pleasure becomes a care strategy to achieve adapting to their situation: ... *that is, being busy with other things helps me forget it hurts. That helps a lot* (E2); *...I start reading, watch a good program on TV, and it helps me because I concentrate on that and stop thinking it hurts me* (E4); *I love the countryside because it is so peaceful! Thus, you use up the nonsteroidal anti-inflammatory drugs* (E12); *I get involved with the dressmaking and concentrate more on my things* (E5). It is worth highlighting how "spirituality", seen from religiosity, gains special importance for the elderly, who manage to understand pain as a normal process through which they will reach salvation. Only faith and hope in a higher being maintain the elderly in this process of coping to their new condition: *... understanding that pain is part of life and then we cannot remove it* (E2); *... I love the spiritual part because I see it sooths a lot, it sustains you, you feel capable of everything* (E12); *pain purifies, pain dignifies, pain makes one strong; so, I believe it serves a lot to take advantage of it* (E2).

Figure 1 was constructed to provide a quick and complete visual image of the previously described conceptual elements of the model.[21]

Discussion

Elderly adults with pain become creative and sensitive beings; they have the capacity to detect stimuli from the environment that trigger it and, likewise, manage to relate them to prior experiences and propose solution alternatives to cope with pain. They have the ability to face

stimuli from their environment, which is reflected in their interaction, leading them to adapt, that is, the process of being and becoming an integrated and total human being. It is how the elderly were capable of recognizing their health situation, understand the meaning of what chronic pain has been for them, acknowledging concomitant limitations, but – in turn – assuming the process to create a series of strategies that permitted them to undertake positive changes within their context, thus, achieving a new adaptation to their chronic condition.

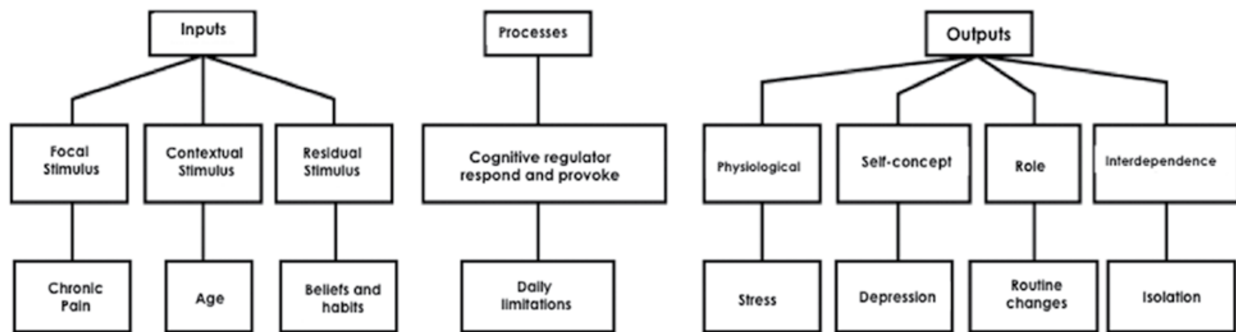

Figure 1. Approach to the MAR from the exploratory study

One of the most frequent problems during aging is chronic pain secondary to joint problems, neuropathic and not oncological pain;[22] pain alters the sense of wellbeing and self-esteem in elderly adults because it affects their independence. According to Dunn and Horgas,[23] elderly adults with pain have impairments to perform activities of daily living, increased number of associated health problems, use medications more frequently to calm the pain, have osteomuscular problems, and diagnoses of dementia. Lachman and Andreoletti[24] state that the elderly in general are stoic against pain because they consider it normal during aging; however, this is influenced by how they feel with themselves, how pain affects their daily lives, and how they perceive the meaning of coping with it. Against this, the social interaction is diminished promoting feelings of loneliness.

According to Williams *et al.*,[25] elderly adults with pain have poor social interaction, which makes feelings of hopelessness and abandonment become a normal pattern of their experience. In this regard, Gaston *et al.,*[26] state that the family is the most important reference nucleus for the elderly. Family and social support provide a sense of satisfaction and adaptation and reduce levels of anxiety and depression in elderly adults. Also, elderly adults can develop a series of cognitive skills through their interaction with the environment, which allows them to adapt to their situation. Elderly adults with chronic pain develop and use various strategies to cope with, manage, or minimize the effects of pain. These may include behaviors like resting, changes of posture, exercise, or using apparatuses like splints and walking canes, among others; likewise, they seek to change the way of thinking through tactics like concentrating on something to get distracted, calm down, practice positive attitudes, and praying; aspects contemplated by Barragán and Almanza.[27]

Comprehending the cognitive subsystem is fundamental for nurses because, in a certain way, it explains the behaviors of elderly adults upon the situation of chronic pain. The ability to cope with adverse situations is quite broad with human beings. Each individual interprets and reacts to given situations in different ways and, according to

this, responds to environmental stimuli. Whetsell *et al.,*[28] hold that what determines an individual's quality of life are not the circumstances that cause them stress, but they react against these and their ability to adapt to changes.

Final considerations

Analysis of the results emerging from the exploratory study showed how chronic pain entails a series of effective and ineffective behaviors that affect the means of adaptation of elderly adults in relationship to MAR. Responses in means of adaptation reveal the experience of living with chronic benign pain during aging, given that it describes the process through which elderly adults use their internal and external resources to take over environmental demands and, thus, control the stimuli that trigger pain to achieve adapting to their condition. Comprehending the experience of chronic benign pain during aging from the perspective of the Adaptation model by Callista Roy provides theoretical support to the data of the exploratory study and show the need to use nursing theories in order to enhance and understand disciplinary phenomena.

Through this exploratory study, support is granted to the MAR conceptual elements, evidenced through the analysis of some proposals inherent to the model, to corroborate their compliance. We were able to verify the pertinence and validity of one of the MAR proposals: "human beings, as adaptive systems, have the capacity to adapt to and create changes in the environment"[9] and this will test the coherence of the results obtained and, likewise, that the conceptual model used was appropriate for the analysis.

References

1. United Nations, Department of Economic and Social Affairs, Population Division. Population ageing 2006 [Internet]. [cited: March 26, 2009]. Available from: http://www.un.org/esa/socdev/ageing/documents/ageing2006chart.pdf
2. Inouye SK, Studenski S, Tinetti MD, Kuche G. Geriatric syndromes: clinical, research, and policy implications of a core geriatric concept. J Am Geriatr Soc. 2007; 55(5):780-91.
3. Federal Interagency Forum on Aging - Related Statistics. Older Americans 2008: key indicators of well-being. Federal Interagency Forum on Aging-Related Statistics. Washington, DC: US Government Printing Office; 2008 [Internet]. [cited April 10, 2012 30]. Available from: http://www.agingstats.gov/Main_Site/Data/2008_Documents/OA_2008.pdf
4. Organización Mundial de la Salud (OMS). Informe sobre la salud en el mundo, 2002. Ginebra: OMS [Internet]; 2002 [cited: April 30, 2013]. Available from: http://whqlibdoc.who.int/hq/2002/WHO_WHR_02.1_spa.pdf
5. Phillips DM. JCAHO pain management standards are unveiled. Joint Commission on Accreditation of Healthcare Organizations. JAMA. 2000; 284(4):428-9.
6. Olaya P. Biopsychosocial analyses of acute and chronic pain, especially in the spine. The effect of distress on pain intensity and disability [Internet]. Göteborg: University of Gothenburg; 2011[cited September 25, 2014]. Available from: https://gupea.ub.gu.se/bitstream/2077/24625/2/gupea_2077_24625_2.pdf
7. Loeser JT, Treede RD. The Kyoto protocol of IASP Basic Pain Terminology. Pain. 2008;137(3):473-7.
8. Dewar A. Assessment and management of chronic pain in the older person living in the community. Aust J Adv Nurs. 2006; 24(2):33-8.
9. Gibson SJ. IASP global year against pain in older persons: highlighting the current status and future perspectives in geriatric pain. Expert Rev Neurother. 2007; 7(6):627-35.
10. Bistre S. El dolor crónico en América Latina. Rev Iberoam Dolor . 2007; 2(2):7-9.
11. Reyes D, González JC, Mohar A, Meneses A. Epidemiología del dolor por cáncer. Rev Soc Esp Dolor. 2011;18(2):118-34.
12. Asociación Colombiana para el Estudio del Dolor [Web site]. Bogotá: dolor.org.co; 2014 [cited September 25, 2014]. Available from: http://www.dolor.org.co
13. Asociación Colombiana para el Estudio del Dolor. Septima Encuesta Nacional del Dolor [Internet]. 2008 [cited: september 16, 2014]. Available

from: http://www.dolor.org.co/encuesta/7ma%20Encuesta%20Nacional%20de%20Dolor.pdf

14. Díaz R, Marulanda F, Sáenz X. Estudio epidemiológico del dolor crónico en Caldas, Colombia (Estudio Dolca). Acta Méd Colomb. 2009; 34(3):96-102.
15. Helme RD, Gibson SJ. The epidemiology of pain in elderly people. Clin Geriatr Med. 2001; 17(3):417-31.
16. Díaz R, Marulanda F. Dolor crónico nociceptivo y neuropático en población adulta de Manizales (Colombia). Acta Méd Colomb. 2011; 36(1):10-7.
17. Fawcett J. Contemporary nursing knowledge: analysis and evaluation of nursing models and theories. 2nd ed. Philadelphia: F. A. Davis; 2005.
18. Roy C. Research Based on the Roy adaptation Model: Last 25 years. Nurs Sci Q. 2010; 24(4);312-20.
19. Dantas CC, Leite JL, Lima SBS, Stipp MAC. Teoría fundamentada en los datos - aspectos conceptuales y operacionales: metodología posible de ser aplicada en la investigación en enfermería. Rev Latino-am Enfermagem. 2009; 17(4):573-9.
20. Strauss A, Corbin J. Técnicas y procedimientos para desarrollar la teoría fundamentada. Medellín: Universidad de Antioquia; 2002.
21. Alvarado A. Hacia el desarrollo de una teoría de Mediano Rango. Adaptación al dolor crónico en el envejecimiento [Doctoral dissertation].Medellín: Universidad de Antioquia; 2014.
22. Duggleby W. Enduring Suffering: A Grounded Theory Analysis of the Pain Experience of Elderly Hospice Patients With Cancer. Oncol Nurs Forum. 2000; 27(5):825-31
23. Dunn K, Horgas A. Religious and non religious coping in older adults experiencing chronic pain. Pain Manag Nurs. 2004; 5(1):19-28.
24. Lachman M, Andreoletti C. Strategy Use Mediates the Relationship Between Control Beliefs and Memory Performance for Middle-Aged and Older Adults. J Gerontol. 2006; 61B(2):88-94.
25. Williams K, Kemper S, Hummert M. Enhancing communication with older adults: Overcoming elderspeak. J Psychosoc Nurs Ment Health Serv. 2005; 43(5):12-6.
26. Gaston-Johansson F, Haisfield-Wolfe ME, Reddick B, Goldstein N, Lawal TA. The Relationships Among Coping Strategies, Religious Coping, and Spirituality in African American Women With Breast Cancer Receiving Chemotherapy. Oncol Nurs Forum. 2013; 40(2):120-31.
27. Barragán JA, Almanza G. Valoración de estrategias de afrontamiento, a nivel ambulatorio, del dolor crónico en personas con cáncer. Aquichan. 2013; 13(3):322-35.
28. Whetsell M, Aguilera P, Maya JL. Niveles de bienestar espiritual y de fortaleza relacionados con la salud en adultos mayores. Aquichan. 2005; 5(1):74-81.