

Religious Factors in Pain Management: A Psychological Perspective

Jessie Dezutter^{1*}, Karolina Kryszyska² and Jozef Corveleyn¹

¹Catholic University of Leuven Free University of Amsterdam, Belgium

²Catholic University of Leuven, Belgium

Recent studies have revealed that chronic pain is a devastating and widespread problem. In Europe nearly one in five adults (19%) suffers from chronic pain [1]. In a recent study of the American Institute of Medicine [2], chronic pain was found to affect at least 116 million American adults. Chronic pain can be defined as unpleasant sensory and emotional experiences associated with actual or potential tissue damage, or described in terms of such damage, that despite treatment persists for months or years beyond the expected recovery period [3]. Two-thirds of the chronic pain sufferers experience moderate pain, while one-third experience severe pain (as rated on a 1-10 scale). The most common source of pain reported by chronic pain sufferers is the back (24%), and the most common cause is arthritis/osteoarthritis (35%). Chronic pain seems to be a long-term problem with people suffering on average seven years, but 21% suffers for 20 years or more [1].

The chronic pain condition has a strong impact on people's daily lives. Twenty percent of the chronic pain sufferers have been diagnosed with depression as a result of their pain and up to half of the chronic pain patients report feelings of helplessness, or inability to think or function normally [1]. Pain control by opiates can lead to opiate misuse or abuse and needs to be closely controlled by physicians [4]. The consequences of enduring pain are not limited to the intrapersonal domain, the pain experience can also affect relationships with friends and family as well as the employment situation, and the pain condition often results in marital strain, social isolation and job loss. For example, in a Belgian study, 21% of the chronic pain sufferers stated that they were not able to work due to their pain condition and 31% mentioned they were socially isolated due to the pain [5]. In summary, chronic pain often negatively influences patient's quality of life as well as his or her environment, and it is increasingly being recognized as an international health care problem.

Religious Factors and the Chronic Pain Experience

Despite the negative influence of chronic pain on almost all aspects of the patient's life, traditional pain management strategies seem not always able to alleviate pain or improve the quality of life. For example, the Pain-in-Europe study, mentioned earlier, shows that one in four patients feels that his or her doctor does not know how to control the pain, and across Europe the management of chronic pain is perceived as inadequate [1]. In a recent multicenter survey of patients with chronic pain disorders, 52% reported using complementary and alternative therapies to assist with pain relief, although most patients also continue their traditional pain therapies. Therefore, many recent clinical and research programs have focused on the efficacy and effectiveness of complementary pain relief strategies [6]. Complementary medicine is defined as "a group of diverse medical and health care systems, practice, and products that are not presently considered to be part of conventional medicine" [7]. Different types of complementary medicine therapies can be found such as biologically based therapies (e.g., herbs, special diets), mind-body medicine (e.g., meditation, prayer), manipulative and body-based practices (e.g., chiropraxis, reflexology) and energy medicine (e.g., biofields) [7]. However, the appropriate role for complementary strategies in the care of chronic pain remains

controversial and needs additional research [6]. The use of the spiritual and religious aspects as a part of these complementary pain strategies has gained increased attention of both patients and practitioners. Patients frequently use religion and spirituality in coping with pain. Glover-Graff and colleagues [8] found that pain clinic patients report prayer as the most frequent response to pain after taking medication. Dunn and Horgas [9] showed that religious coping is often used in older adults experiencing chronic pain. In a sample of older arthritis patients, McCauley and colleagues [10] found that 80% of the patients turned directly to their religion/spirituality for comfort and strength.

The interest of patients in religion and spirituality, when confronted with enduring pain, is not surprising. One can easily understand that the chronic pain condition triggers existential questions concerning the meaning and purpose of life [11]. Although chronic pain patients today reap enormous benefits from the explanatory and therapeutic power of scientific medicine, science does not answer questions that are inevitably raised by the chronic pain. Patients wonder whether there is a meaning in their suffering or why they have become ill. Questions concerning life, death, purpose and afterlife become prominent. The medical framework often does not provide answers (or even an opportunity for discussion) for these timeless issues. Patients may, therefore, turn to other sources, such as religion and spirituality, in an attempt to find answers for their existential questions. For example, in a German study with 580 chronic pain patients, 22% of the patients stated a renewed interest in spiritual/religious issues because of their condition [12]. Moreover, spirituality and religion have a significant bearing on patients' belief about the meaning of the pain, their strategies to cope with the pain, and their approaches to pain management. Despite this, religion and spirituality are often perceived as personal and private and remain unexplored by health professionals [13].

On the other hand, health care professionals increasingly agree that the pain experience is more than a physiological phenomenon and that health care, including chronic pain management, involves more than treating an ill physical body [14]. There is an agreement that the complexity of the pain experience requires attention for the biological, psychological, and social aspects of the individual and the interaction of these aspects plays an important role in the continuation of the pain [14]. This biopsychosocial model allows recognizing that individuals may continue to experience pain without a clearly identifiable

***Corresponding author:** Jessie Dezutter, Postdoctoral researcher, Catholic University of Leuven, Tiensestraat 102 postbox 3722, Leuven, 3000, Belgium, E-mail: Jessie.Dezutter@psy.kuleuven.be

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physiological cause. Sulmasy [15] presented an extended variant of the biopsychosocial model with specific attention for the spiritual/religious aspects of the patient (a so-called “biopsychosocial-spiritual model”). In this model, the patient, no longer a purely biological unit is placed in the center of psychological states, interpersonal relationships, and spiritual aspects. When illness or pain strikes, it strikes each person in his or her totality and the impact will be different according to the patient's history, personality and personal situation. If the pain experience influences all four dimensions of the patient's being (i.e., the biological, the psychological, the social, and the spiritual), we can assume that the patient also will look for coping tools in these four domains. And, especially when the biological, social, and psychological resources seem ineffective, the patient may turn to the transcendent domain: his or her spirituality or religion.

Underlying Mechanisms between Religion/Spirituality and Chronic Pain

Religion or spirituality can be viewed as a meaning system, i.e., the framework or the lens through which the individual views the world and him- or herself [16]. Based on this system, the individual interprets and evaluates his or her experiences and encounters. The meaning system consists of cognitive, motivational, and affective components and it functions as a core schema in response to the events one is confronted with. The meaning system of the individual provides a way to understand the daily events and hassles, and it becomes particularly important when something traumatic occurs. At the most challenging moments of life, when life appears out of control, the meaning system has a potential to provide meaning, order, and a sense of coherence in place of chaos and fear. We can assume that the meaning system will become particularly important when the problems are more severe, chronic, or unresponsive to usual treatments or interventions and thus, when traditional coping resources are exhausted [17]. Chronic pain, as a severe and life-changing condition, often unresponsive to medical treatment, exemplifies this description. Therefore, we can wonder whether a meaning system can provide valuable psychosocial tools or strategies in pain management.

One possible underlying mechanism might be found in cognitive strategies used by individuals trying to find meaning of insolvable or irreparable stressors, such as trauma, loss or chronic medical conditions, including chronic pain [18]. Such events often require more than problem solving and coping strategies used to cope with everyday stressors and may prompt individuals to engage in psychological processes, such as appraisal and re-appraisal, in order to transform the meaning of the stressful experience. Two types of appraisal can be distinguished, namely primary appraisal and secondary appraisal [19]. In the primary appraisal, the individual makes an evaluation of the situation (‘is this a threat, a challenge, or a harmful event?’). In the secondary appraisal, the individual takes stock of the resources he or she has to meet the demands of the stressor. The same event can be appraised very differently depending on the individual's specific views, or in other words, depending on his or her meaning system. A meaning system with specific religious beliefs can provide many options for understanding the meaning of a stressor such as chronic pain. Religious or spiritual beliefs may modify one's primary appraisal of the pain, for example, the patient may positively re-assess the meaning of the pain and see it as an ‘opportunity’ for spiritual growth or as part of the divine plan instead of a threat. Religious re-appraisals can also be negative in nature, e.g., patients can experience their illness as a punishment of God or redefine the stressor as an act of the devil [20]. These negative religious re-appraisal strategies can be harmful and research shows

associations between these strategies and increased levels of depression and anxiety [20]. In addition to the primary re-appraisal, religion can also offer additional resources reassuring the patient that he or she is able to stand up to the pain (i.e., secondary re-appraisal), for example, through relying on support from a divine being or believing that God is taking part in the suffering. It is likely that this re-appraisal of the pain situation can affect the pain experience [21].

Empirical Evidence for the link between Religion/Spirituality and Chronic Pain

The psychological framework of the individual meaning system, especially the meaning system rooted in a religion or spiritual ground (called further the “transcendent meaning system”) seems to offer a good theoretical background to study the cognitive processes involved in the experience of chronic pain. Re-appraisal of the chronic pain based upon the personal transcendent meaning system can help the patient to find meaning in his or her situation and to give support and hold in coping with the pain. In order to verify our hypothesis that the cognitive re-appraisal process will have a benevolent influence on the well-being of the patient and on his or her quality of life we have conducted two cross-sectional questionnaire studies. We also wanted to explore if prayer, a religious practice offered by the transcendent meaning system, can function as a cognitive re-appraisal technique for the chronic pain patients and we have tested this in a third questionnaire study.

In the first study [22], we investigated the association between the centrality of the transcendent meaning system (i.e., the importance of the meaning system in one's life) and the life satisfaction of the pain patients. Two hundred and seven chronic pain patients filled out several instruments measuring the centrality/importance of a transcendent meaning system, pain duration and pain severity, and satisfaction in life. Results of the study indicated that there was a strong positive correlation between the level of centrality (low versus high importance) of the transcendent meaning system and life satisfaction in this group of pain patients. Pain patients for whom religion/spirituality was very important reported higher levels of life satisfaction in comparison with pain patients for whom religion/spirituality was not important. We also examined whether the degree of centrality of a transcendent meaning system was a buffer against the detrimental influence of pain severity on life satisfaction. Earlier studies showed that the increase in the pain intensity or severity is linked with a decrease in the life satisfaction of pain patients [23]. If the meaning system offers tools to cope in a more positive way with the pain experience, it might also buffer against the decrease in life satisfaction.

Interaction analyses showed that the pain severity did impact the life satisfaction of the pain patients but only under the low centrality condition, i.e., the pain severity compromised life satisfaction ratings when the transcendent meaning system was reported as being not central to one's life. Conversely, the life satisfaction ratings of patients reporting a very central transcendent meaning system were not negatively influenced by higher levels of pain which indicated that the central transcendent meaning system might have buffering capacities in confrontation with the chronic pain. To summarize, the central transcendent meaning system appears to function as a resource for the pain patients by promoting adjustment to pain and facilitating the maintenance of life satisfaction ratings. Although the study seemed to indicate that the transcendent meaning system can play a role for the pain patient, especially when religion/spirituality are central in the life of the patient, no clarity was obtained in regards to the underlying

dynamics of this phenomenon. Therefore, two new studies were set up in order to focus on the cognitive mechanisms which might explain the association between religion/spirituality and the pain experience.

In the second study [24], we focused on a specific aspect of the transcendent meaning system, namely the God image which reflects how the individual emotionally experiences God [25]. We explored the associations between positive and negative God images and the happiness of the chronic pain patients, and we investigated whether cognitive re-appraisal was a mediating mechanism in these associations. We hypothesized that a positive God image can stimulate a positive re-appraisal of the pain experience resulting in more feelings of happiness. The contrary was expected for more negative God images such as an angry God image. One hundred and thirty-six chronic pain patients completed questionnaires measuring demographics, pain condition, God images, disease interpretation (as operationalization of cognitive re-appraisal), and happiness.

Results

Showed meaningful associations among God images, disease interpretation, and happiness. First, happiness was positively related with positive God images (consisting of feelings of kindness, love, and warmth) and negatively related with angry God images. Second, we focused on the possible mediating role of disease interpretation (as an operationalization of cognitive re-appraisal) in the relationship between God images and happiness. We have thus investigated whether the associations between God image and happiness could be (partially) explained by a positive interpretation of the pain condition. The underlying theorizing is that the God image might influence the re-interpretation or re-appraisal of the chronic pain condition, influencing the feelings of happiness. A God image characterized by feelings of warmth and love might stimulate a positive interpretation of disease or a positive re-appraisal of the pain experience resulting in increased feelings of happiness. A God image characterized by anger or fear might result in the opposite. Correlational analyses indeed confirmed that disease interpretation was related with both God images and happiness. Path analyses showed that, in the context of enduring pain, disease interpretation had a mediating function between God images and happiness. A positive God image was linked with higher levels of positive disease interpretation resulting in higher levels of happiness. An angry God image was linked with lower levels of positive disease interpretation resulting in lower levels of happiness. However, because the pain severity had a significant influence on both the interpretation of disease and on happiness, we controlled for pain severity in an ancillary set of analyses. The resulting model showed that especially positive God images were important in the prediction of happiness. Positive God images had both a direct effect as well as an indirect effect (through the path of interpretation of disease) on happiness, irrespective of the level of pain severity. These results seem to indicate that patients with a positive God image are more able to re-appraise their pain and illness experience in positive terms. They probably focus more on the growth- and learning possibilities in this situation and less on its threatening or harmful character.

In the third study [26], we investigated a behavioral aspect of the transcendent meaning system. We explored the role of prayer as a possible individual factor in pain management and tested whether cognitive positive re-appraisal was a mediating mechanism in the association between prayer and pain. We expected that prayer would be related to pain tolerance in reducing the impact of the pain on patient's daily life, but not necessarily to pain severity. Although both

concepts (pain tolerance and pain severity) are based on the patient's pain perception, the patient may report that he or she experiences the same pain severity but displays better coping with pain (i.e., higher pain tolerance). Confronted with the same symptoms (i.e., similar levels of pain), some pain patients might show lower levels of disability than others and might have less difficulties in accomplishing daily life tasks. Re-appraisal of the pain experience in more positive terms might partially explain this difference between patients. The prayer activity might offer a demarcated place, both in space as in time, to perform this re-appraisal act, stimulating a more healthy adaptation to the pain.

Two hundred and two chronic pain patients completed a number of instruments measuring demographics (incl. religiosity), prayer, pain outcomes (i.e., pain severity and pain tolerance), and cognitive positive re-appraisal. Our findings seemed to support our hypotheses. First, correlational analyses showed that prayer was indeed positively related to pain tolerance, but not to pain severity. However, additional analyses showed that the relationship between prayer and pain severity as well as between prayer and pain tolerance depends on the religiosity of the pain patient (i.e., believer or nonbeliever). Results indicated that for believers high levels of prayer were related with lower levels of pain severity whereas this was not the case for nonbelievers. Furthermore, for the group of believers high levels of prayer were also related to more pain tolerance. It seems that prayer can only function as a re-appraisal activity for pain patients who are religious. We assume that prayer, as a religious act, has to be embedded in a meaning system in order to be able to function as a useful re-appraisal activity. Only when prayer is incorporated in the transcendent meaning system of the patient, it can function as a tool in pain management. This parallels our earlier findings on centrality and life satisfaction which showed that the meaning system was only a buffer for pain patients with a central meaning system. Furthermore, mediation analysis revealed that cognitive positive re-appraisal was indeed an underlying mechanism in the relationship between prayer and pain tolerance. The full mediational effect indicated that prayer was not related to pain tolerance directly, but that cognitive re-appraisal was the underlying factor explaining the relation between prayer and pain tolerance. This seems to indicate that prayer alters the impact of pain on daily life activities by means of the psychological/cognitive process of re-appraisal. We assume that the pain patient, by praying, reframes his or her pain condition in more positive and meaningful terms and thus, that prayer functions as a positive re-appraisal technique. In sum, prayer offers the chronic pain patient the opportunity to re-interpret his or her pain condition within the transcendent meaning system, re-establishing a sense of meaningfulness and purpose in life despite the pain.

Clinical Implications

Religion and spirituality are sensitive and complex topics, especially in Western secularized countries and it is not surprising that health care providers tend to shy away from discussing religion and spirituality with their patients. The reasons physicians give for not addressing spiritual issues, such as a lack of time and training, fear of projecting one's own beliefs, and feeling overburdened with other demands, seem understandable [13]. However, as patients often mention the importance of religion and spirituality in coping with chronic pain and research indicates possible benevolent effects of religion and spirituality in pain management, it seems important that health care providers at least reflect on this topic and try to incorporate it into their everyday clinical practice.

Two points warrant attention. Firstly, the personal religious or spiritual history should be included in the general anamnesis or intake of the chronic pain patient. The physician can assess the importance of religion/spirituality in the patient's life, his or her participation in the faith community, and the role of religion/spirituality in the process of coping with chronic pain. Examples of questions that the physician can use include: "Is religion or spirituality important for you?", "Are you part or member of a faith community?" or "Do you sometimes rely on your religion or spirituality in coping with the pain?" [13,21]. Standardized instruments supporting such an assessment are also available [21]. The information obtained through a religious history is a valuable addition to the other intake information, as it might clarify the worldview of the patient, and his or her opinion on critical issues, such as suicidal ideas or care at the end of life. Furthermore, it can help to uncover strengths and resources that may be useful to the patient in understanding the pain condition and in managing the pain. In addition, it might uncover more negative religious coping strategies influencing the well-being of the patient. By asking these questions, the physician also communicates to the patient that he or she is open to addressing religious or spiritual concerns and acknowledges the importance of these topics in the patient's overall health care. Wachholtz and Pearce [13] stress that inquiring about the role of religion and spirituality in the pain management does not necessitate a theological discussion or participation in religious rituals.

Secondly, if the physician feels uncomfortable when addressing religious issues or spiritual topics or is unprepared to do so, or when the patient experiences spiritual struggles or exhibits clear negative religious coping, a referral to a chaplain, a clergy member or another religious professional is recommended [21]. Referral may be necessary in such situations and clergy and chaplains are trained in this domain. It is important for the physician to know his or her own limitations and to be prepared to let religious professionals step in when necessary.

Conclusion

This article focused on religious factors in pain management from a psychological perspective. We discussed how religious or spiritual factors can be placed within the meaning making framework and we highlighted the cognitive aspect of the meaning making process as well as its role in the personal pain management of the patient. Our studies indicated that certain aspects of religion and spirituality, such as the God image and prayer, may have an impact on the experience of chronic pain and may provide valuable psycho-social coping mechanisms. However, to-date much remains to be learned about how different aspects of the transcendent meaning system can influence the pain experience. Still, we hope that research findings presented in this text can further help to develop effective chronic pain treatment strategies incorporating religious and spiritual issues and to stimulate further research in the field of chronic pain clarifying the possible role of religion and spirituality in the pain management of the patients.

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