

Quality of life and pain

Abstract

Pain involves a complex and comprehensive phenomenon with sensory, affective, cognitive and behavioral components. The control of pain has a key role in determining the quality of life in health. Pain has a detrimental effect on every aspect of the life of individuals, and produces anxiety and emotional distress, affects the general well-being negatively, inhibits the functional capacity, and inhibit the ability to perform family, social and vocational roles in daily life. Because of the broad based effects of pain, it significantly affects the physical, social and spiritual functions of the individuals and have an effect of diminishing the quality of life at all points. It has been reported that sleep quality, daily life activities, working ability and social interactions of patients who has moderate or severe pain were impaired. Pain and quality of life share several essential characteristics. Therefore, in this work the relationship between pain and quality of life is reviewed.

Keywords: quality of life; health related quality of life; pain; acute pain; chronic pain

Volume 3 Issue 3 - 2019

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Received: February 25, 2019 | **Published:** May 01, 2019

What is quality of life?

Quality of Life is a term commonly used as well-being of individuals and societies including life satisfaction and happiness. World Health Organization Quality of Life (WHOQOL) group defines quality of life as *"individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"*.^{1,2} So this term is not a quantitative measurement assessed by medical techniques or laboratory procedures, but an attribution experienced subjectively by individuals. The main objective is to determine the

extent to which people are satisfied with their physical, psychological and social functions and to what extent they are uncomfortable with the presence or absence of features related to these aspects of their lives. The definition of the WHOQOL on the quality of life includes six domains: physical domain, psychological domain, level of independence, social relationships, environment and spirituality beliefs.¹⁻³ In general, the list of domains that make up the quality of life of WHOQOL is an indication that quality of life is a broad multidimensional concept, and confirms the nature of the quality of life affected by all these domains (Table 1).

Table 1 The six broad domains of quality of life according to WHOQOL (1)

Domain I physical health	Domain IV Social relations
Energy and fatigue	Personal relationships
Pain and discomfort	Social support
Sleep and rest	Activities as provider/supporter
Sensory function	
Sexual activity	
Domain II psychological	Domain V environment
Bodily image and appearance	Financial resources
Negative feelings	Freedom, physical safety and security
Positive feelings	Health and social care: accessibility and quality
Self-esteem	Home environment
Thinking, learning, memory and concentration	Opportunities for acquiring new information and skills
	Participation in and opportunities for recreation/leisure
	Physical environment
	Transport
Domain III level of independence	Domain VI spirituality beliefs
Mobility	Religion, spirituality and personal beliefs
Activities of daily living	
Dependence on medicinal substances and medical aids	
Work capacity	

Quality of Life is divided into two categories:

- I. Quality of life that is not directly related to health
- II. Health related quality of life

Health related quality of life

Health related quality of life is a multidimensional concept that includes the satisfaction from the health status of the person, and an emotional response to a person's health. It refers to the concepts of physical, psychological, social functioning and well-being, and focuses on the impact of health on a person's ability to live a satisfying life.^{1,2}

What is the pain?

International Association for the Study of Pain (IASP) defined pain as; *"an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage"*.⁴ Pain is also defined as a protection mechanism.^{4,5} According to Joint Commission on Accreditation of Healthcare Organizations, pain is defined as a common experience with adverse physiological and psychological effects when it cannot be controlled.⁶ Therefore, pain includes cognitive, motivational, affective, behavioral, psychological and physical aspects, and quality of life also has a nature that covers all of these.^{5,7} These conditions encourage researchers to investigate the effects of adverse conditions such as age, gender, cognitive status, etc. on quality of life in painful individuals as well as the pathologies such as arthritis, stroke, heart failure, Parkinson's disease, and researches on this subject are ongoing.^{7,8} Quality of life and pain are phenomena

that share various essential characteristics. The adverse impact of pain on quality of life is universal, and this effect covers every stage of life and occurs regardless of the type or source of the pain. Pain is considered to be one of the most important determinants of the quality of life of individuals, and there is a strong relationship between pain and poor quality of life. For this reason, the control of pain has a key role in improving the quality of life in health. According to Ferrell et al.⁹ the experience of pain covers four areas as follows:

- I. Physical well-being including symptoms and functions
- II. Psychological well-being including anxiety, depression or happiness
- III. Social well-being involving, roles and relationships
- IV. Spiritual well-being including suffering and religiosity

Areas of health related quality of life most affected by pain (high to low) (Figure 1) & (Figure 2);

- I. Physical (especially disturbance, lack of energy and fatigue, sexual activity and sleep problems)
- II. Psychological well-being (especially decrease in positive emotions, cognitive activities and self-esteem)
- III. Independence level (especially for mobility, activities of daily living and drug dependency)
- IV. Environmental (especially physical security, availability of social services and job satisfaction).

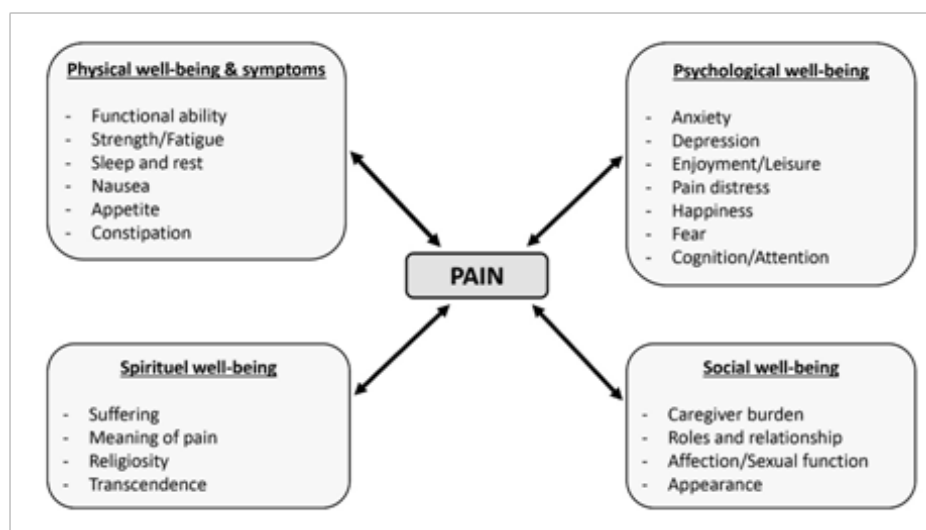


Figure 1 The effect of pain on the quality of life.⁹

The effect of pain on quality of life

The effect of pain on the quality of life depends on the type of pain, duration of the pain, severity of the pain, the condition of the disease causing the pain, as well as the demographic and psychological characteristics of the patient.

The relationship between the pain, the quality of life and the gender differences

Gender has a different effect on the quality of life of the painful individual. While physical dimensions of Quality of Life were more affected in males; psychological dimensions are more affected by women.^{11,12}

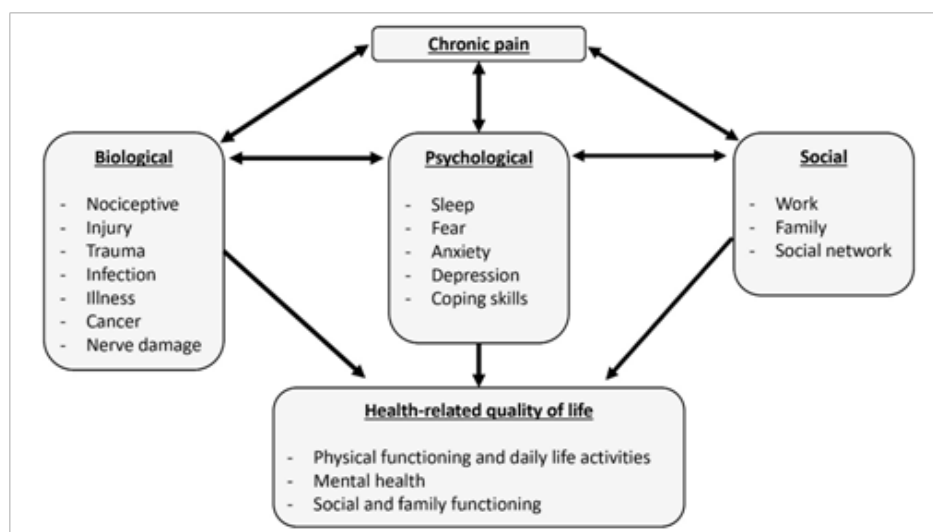


Figure 2 Biopsychosocial models of pain and consequences on the quality of life.¹⁰

The relationship between the type of pain and the quality of life

Negative effects on the quality of life of almost all types of pain with or without (such as arthritis, neuropathic, somatic, psychogenic or visceral) malignancy have been demonstrated.^{13,14}

The relationship between duration of the pain and the quality of life

When the quality of life of patients with acute pain and chronic pain was compared, patients with chronic pain had lower scores in all dimensions of quality of life compared to those who suffered from acute pain or had no pain.^{15,16}

The relationship between severity of the pain and the quality of life

There is a dose-response relationship between pain and quality of life; one increases, the other decreases proportionally. As the severity and intensity of the pain increases, the quality of life of the individuals decreases.^{17,18}

The effects of pain on physical function and daily life activities of quality of life

The severity, duration, or location of pain has a decisive effect on the patient's physical performance. Pain decreases the physical activity of individuals and even causes incompetence and this affects their daily lives. It has been reported that most people with chronic pain experience different limitations in maintaining an independent lifestyle such as intensive exercise, walking, doing housework, and difficulty in participating in social activities. Similar results have been showed in other researches on specific patient groups that cause pain such as fibromyalgia. In such cases, it was found that the difficulties experienced in physical functions were more severe, and the patients experienced significant difficulties even in activities such as reaching

or sitting.^{19–21} While 31.7 % of people with chronic low back pain had a limited ability to perform daily activities,²² 50 % of patients with non-oncological pain had a prominent physical influence.²³ Pain has a more detrimental effect on daily activities in patients with chronic pain compared to patients with acute pain.²³ When these results are considered, it is concluded that even moderate severity pain can cause many harmful effects to patients and can seriously impair overall quality of life. However, patients with frequently and severe pain have poor quality of life compared to patients with moderate to less painful conditions, and pain has a greater impact on the physical dimensions of quality of life than on psychological.^{19–21}

The effects of pain on the psychological state of quality of life

According to the World Health Organization, individuals suffering from persistent pains are four times more likely to suffer from depression or anxiety than those without pain, and twice as much as the difficulty of working (24). Chronic pain patients reported that pain has a detrimental effect on mental health, employment status, sleep and personal relationships. Patients with chronic pain are 2-5 times more likely to develop depressive symptoms than the general population.²⁵ Depressive symptoms interfere with routine by causing insufficient sleep. In addition, chronic pain is often associated with disturbed sleep patterns. All of these affect the social lives of patients and generally deteriorate their quality of life. People with moderate to severe pain reported that their pain interfered in the quality and duration of sleep, and this had a negative effect on their ability to carry out daily activities. Individuals with pain reported increased feelings of anxiety adversely affected personal relationships. Pain has a more detrimental effect on personal relationships, including sexual interactions, in patients with chronic pain compared to patients with acute pain. Pain has a detrimental effect on every aspect of the life of individuals, and produces anxiety and emotional distress, affects the general well-being negatively, inhibits the functional capacity, and inhibit the ability to perform family, social and vocational roles in

daily life. Because of the broad based effects of pain, it significantly affects the physical, social and spiritual functions of the individuals and have an effect of diminishing the quality of life at all points. Chronic pain is a common complication in patients with spinal cord injury. The prevalence of pain after spinal cord injury was reported as 11-94 % of the patients. Chronic pain and psychological disorders in patients with spinal cord injury are closely related to physical and psychosocial functioning, and quality of life is ultimately decreasing. In patients with spinal cord injury, chronic pain has a higher negative effect on the social functionality and emotion subgroup of quality of life.^{26,27} There was a bidirectional relationship between chronic pain and sleep and an increase in the severity of pain the following day after a sleepless night. Similarly, a greater pain intensity is followed by a night with a sleep disorder. These findings indicate that the correct diagnosis and appropriate therapeutic measures of sleep disturbance are important in the treatment of individuals suffering from chronic pain. his may also be useful for improving the patient's quality of life.^{28,29}

The consequences of pain related to the work of quality of life

Pain is an important issue to consider in the workplace, especially in patients with chronic pain. Patients who are affected by pain report their concerns about difficulties in job performance, a decrease in their working days due to pain, or lack of attendance.^{30,31} Patients not only have to change their professions frequently, but also have to lose their jobs as a result of pain symptoms. It was determined that 24.4 % of patients with chronic pain used sick leave and 12 % of them had lost their jobs.^{30,31} Moreover, chronic painful individuals have a greater decrease in their productivity and an increase in the severity of pain when they are not separated from work despite pain. Chronic pain has no harmful effects only on functionality, sleep and mental health, but can also adversely affect employment and work productivity. While the rate of work efficiency was found to be 26 % in patients with moderate pain and 42.9 % in severe pain, it was shown that work efficiency decreased by 21.5 % in individuals with mild pain.^{32,33} When different pain types are examined, the causes of pain that cause most of the sick leave are back pain, low back pain, rheumatic pain and neuropathic pain, respectively.³¹⁻³³ Low back pain has been reported as one of the most common medical reasons for job loss in patients with low back pain, especially in the 45-65 age group.^{31,32} Similarly, 43 -78 % of patients with fibromyalgia were using sick leave and total disability was between 6.7 % and 30 %. Almost half of the patients with fibromyalgia had lost their capacity to work, 23 % had retired due to disability, and only 30 % were workable. The experience of pain negatively affects the patient's daily activities, physical and mental health, family and social relations and interactions in the workplace, as well as the health care system and the economic well-being. The strong burden of chronic pain on economics is not only due to health care costs, but also because of the loss of productivity and the compensation paid to patients as a result of the disability of pain.

The consequences of pain related to the family and social conditions of quality of life

In addition to the above mentioned results, chronic pain can limit the social interactions, leisure and social relations of the individual. It has been reported that half of the painful patients are prevented from participating in family or social events, and that almost half of

people with pain symptoms have less contact with their families.^{36,37} Research in patients with osteoarthritis and fibromyalgia has shown that physical and emotional problems as well as pain have a significant impact on social functioning. Similarly, the effect of pain on physical capacity and mental health in patients with neuropathic pain had a great impact on the deterioration of social integration. In addition, negative emotion, irritability and anger conditions affecting painful patients have a negative impact on interpersonal relationships and stress levels in families. Chronic pain has important implications for both patients and their families, and negatively affected social and professional environments, leading to deterioration in quality of life.^{37,38}

The effect of pain control on quality of life

In the presence of chronic pain, it has been shown that analgesics can improve the quality of life by reducing pain. However, it is emphasized that the side effects of pharmacological approaches used to relieve pain may have negative effects on quality of life. In addition, behavioral and psychosocial protocols have been developed that can significantly improve the quality of life of individuals by constantly adapting to pain. The improvement of pain control is particularly in the areas of quality of life such as physical functioning, liveliness and mental health.^{39,40} In conclusion, a multidisciplinary approach should be provided by a team of professionals who focus on the physio-psychological phenomenon of pain to reduce the negative impact of pain on the quality of life. Therefore, there is a need for a comprehensive and multidisciplinary approach to improve the patient's condition by improving both the patient's pharmacological treatments and non-pharmacological treatments such as physiotherapy or psychological treatment to improve the patient's quality of life.

Acknowledgments

None.

Conflicts of interest

The author declares there is no conflict of interest.

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