Original paper

Iwona Repka, Jerzy Wordliczek
Department of Pain Treatment and Palliative Care, Jagiellonian University, Medical College, Krakow, Poland

Influence of chronic pain and its treatment on subjective assessment of quality of life in patients with advanced cancer disease

Abstract

Background. Appropriate clinical assessment of pain in cancer patients is a necessary requirement for establish an adequate pain management. Quality of life in the terminally ill cancer patients is used to measure as well as to show direction of operation of therapeutic group.

Material and methods. In the period from July 2006 to July 2007 in the Department of Chronic Pain Treatment, Palliative Care and Clinical Pharmacology of the Jagiellonian University Medical College a group of 34 patients in the terminal phase of cancer were analyzed. Intensity of experienced pain was measured with Numeric Rating Scale (NRS) and Verbal Rating Scale (VRS). Fear, depression and aggression occurrence was measured with HADS — M scale. By the use of Rotterdam List general evaluation of quality of life and individual dimensions of quality of life.

Results. Statistically significant relation between cancer pain intensity level measured and individual dimensions of quality of life.

Conclusions. Our results confirmed the presence of warning a relation between intensity of pain and quality of life. They have called attention on problems of pain in a multi-directional manner and take many aspects into consideration, in order to improve care and quality of life.

Key words: cancer pain, quality of life, cancer disease, palliative care

Adv. Pall. Med. 2008; 7: 149–158

Introduction

From literature reports we know that 9 millions of sick people in the world suffers because of cancer pain. In consequence of this pain many people have to endure lowering — to a great extent — the quality of their life [1].

In Poland, over 80 thousands people died that year of malignant tumors which present nearly 20% of all reasons of death [2].

According to the definition of International Association Study of Pain (IASP) pain is an unpleasant sensory and emotional experience which accompanies existing or threatening tissue damage or it is only associated with such damage [3–6].

In cancer disease pain is called total pain (all-embracing) which — according to Twycross and Lack — originates not only from somatic factors, but also from anxiety, depression, lowered spirits, and it calls for a more holistic approach to so complex symp-

Address for correspondence: prof. dr hab. med. Jerzy Wordliczek
Department of Pain Treatment and Palliative Care CMUJ
Tel: (+ 48 12) 424 88 84, fax: (+48 12) 424 88 83
e-mail: mswordli@cyf-kr.edu.pl

Advances in Palliative Medicine 2008, 7, 149–158

toms. Research indicates that frequency of occurrence of pain attacks grows with the progress of disease and that intensity, character and localization of pain depend on localization of cancer seat, and a degree of advance and progress of the disease [7, 8].

Pain occurs in 30–40% of patients subjected to oncological therapy and in 70–90% of patients with advanced cancer disease [9, 10].

In the terminal period when procedures acting directly on causes of the disease are completed, several kinds of pain of a high degree of intensity are observed, and over 80% of patients report suffering from two or more, and over 30% of patients from four or more kinds of pain [11].

Pain in cancer patients can be divided into following categories:

— pain resulting from disease progress;
— pain resulting from treatment;
— pain from cancerous cachexia;
— pain related to infirmity (coincidental) [8].

Evaluation of pain is important not only in its diagnosing, but also in evaluation of the efficiency of method of pain control, quality of patients' life and quality of palliative care. Proper recognition of etiology and kind of chronic pain allows for correction of the efficiency of therapy and for improvement of palliative procedures [12]. It is especially important in treatment of pain in the terminal period, in order to blot out suffering from memory in an effective way and to warrant conditions of dignified dying. Palliative care is directed on amelioration of quality of life of patients and their families. It brings relief by applying of proper means of reducing suffering accompanying the life-threatening disease and it ensures competent control of individual symptoms [13].

Phenomenon of pain presents an important category of human experience, consisting of somatic and psychical components which build up emotional/motivating and cognitional/valuating elements. Differentiation of individual components allows for determination of relationship between pain and quality of life.

A degree of release from pain is an individual phenomenon, but at the same time it is necessary to obtain a sufficiently comfortable level of quality of life [14].

In the subject literature one can observe growing interest in problems of quality of life of ill people, and — particularly — cancer patients [15].

However, rather seldom quality of life is described in patients with chronic pain in the terminal period when they intensely suffer from somatic complaints, reduction of physical fitness, worsening of social relations and differentiation of psychical reactions. This is why the studies should be undertaken aiming at widening and deepening of research in terminally-ill patients suffering from chronic pain, in order to improve quality of their life in this period.

Purpose of work

The aim of work was:

— evaluation of a level of quality of life and its individual components in patients with cancer pain;
— determination of a relationship between intensity of pains and individual dimensions of quality of life;
— evaluation of intensifying of pain on individual periods of research;
— evaluation of the influence of treatment on suffering of pain.

Material and methods

Thirty-four terminal-stage cancer patients hospitalized in the Department of Chronic Pain Treatment, Palliative Care and Clinical Pharmacology of the Jagiellonian University Medical College were included into the study which was carried-out during the period between July 2006 and July 2007. The study comprised patients of both sexes, and their age ranged from 25–75 years, average 56.3 (± 12.09), with following types of neoplastic disease: cancer, sarcoma, leukemia, lymphoma, melanoma.

The trial was conducted in accordance with the Declaration of Helsinki and informed consent was obtained from each patient. It was granted the agreement of the Commission of Bioethics of the Jagiellonian University to conduct research on patients with chronic pains (KBET/98/B/2006). In view of the fact that research was carried out on patients in terminal stage of cancer disease, consideration was also given to observing law contained in the Venetian Declaration on terminal stages, of the year 1983. The condition of qualification for research was to obtain written agreement and an indication with diagnosis of cancer disease in the stage of metastases definitely stating completion of causal treatment and beginning of symptomatic treatment in the Department of Palliative Care.

In accordance with guidelines of the International Association of Pain Research in patients with cancer pains the study did not take into consideration duration of pain in the period before hospitalization of patients [6]. Before beginning of the study, Cognitive Assessment Scale (CAS) was applied in patients. It was accepted that the study would in-

clude persons without (CAS 12–11) and with mild (CAS 10–8) cognitive disturbances who were able to evaluate self-dependently the effectiveness of palliative care.

With respect to chronic somatic disease, research study was divided into 3 periods: The first period comprised acceptance in the hospital, next two periods were as follows: one week and then two weeks of hospitalization.

Application of the above time schedule allowed to present chronic disease as a process which takes into consideration subjective evaluation of a state of health through individual dimensions. Patients in which cancer process caused considerable handicaps of cognitive functions (CAS ≤ 7) and those who underwent sudden deterioration of health have been excluded from the study.

Research material has been collected employing following instruments: Numeric scale (NRS — Numeric Rating Scale), serving for estimation of pain. This scale — consisting of numbers from 0 to 10 where 0 means lack of pain, but 10 signifies unbearable pain — allows for determination of a degree of intensity of pain. Scale is easy and simple in employment, and it is sensitive and reliable in comparison with other scales of measurements of pains [16]. Verbal scale (VRS — Verbal Rating Scale) evaluates pain in a descriptive manner with the aid of 5-graded Likert's scale).

HADS — M scale (modified HAD scale) constructed by Zigmond and Snaith [17].

It is meant to serve as a method of estimation of a level of anxiety and increase of depression in population of sick people without psychical disturbances.

Polish authors, not changing the version of original structure of the test, introduced two additional positions, applying to aggression. Modification of the questionnaire with additional scales presents a model of negative reaction demonstrated in the form of anxiety, depression and in difficult situation — aggression.

Also RSCL scale was used — constructed by de Haes (1990) for measurement of quality of life of patients with cancer disease. The method includes 4 areas:

— scale of physical symptoms;
— scale of psychical symptoms;
— scale of a level of activity;
— general evaluation of quality of life.

Majority of test positions is expressed as 4-point Likert's scale (for symptoms and level of activity). However, general evaluation of quality of life is estimated on the basis of 7-point scale of the Likerts' type [18].

Statistical analysis

Results were statistically elaborated using *t*-paired Student test and expressed as mean ± standard deviation (M ± SD). Statistical differences were considered significant at $p < 0.05$. Statistical analysis was carried out using the program SAXON v. 9.1. (Cary USA). When determining relationship among variables studied, the Pearson's method of correlation was used.

Results

Twelve out of thirty-four neoplastic patients subjected to the study were men (35.3% of total) and twenty-two were women (64.7%).Most of them were married (18 patients, 52.9%). Nine persons (26.5%) never set up family, five (14.7%) patients were widowers/widows, while 5.9% patients (2 persons) were divorced or in separation. Most of studied patients (82.3%, 28 persons) inhabited a city, and only 6 (17.6%) patients lived in village. Most of the patients included in the study lived on rent (18 person, 52.9%), while 8 patients worked or were pensioners (23.5%). Estimations of intensity of pain were carried out using(NRS) and (VRS) scales.

Measurements were made at acceptance, after a week and after 2 weeks of treatment. For better illustration of presented results the following analysis was accepted: lack of pain in numeric scale (NRS) is 0, pain of weak intensity 1–3, moderate 4–6, strong 7–9, unbearable pain: 10. Suffering from pain oscillated before treatment at the level of III; (in NRS scale — pain equal to 4, 5, 6), in 61.8% in patients subjected to the study. Gradual drop of intensity of suffered pain was observed according to NRS scale (Figure 1) and VRS descriptive scale (Table 1).

Distinct relationship among individual (statistic significance at the level $p < 0.001$, average NRS = 3.2 ± 1.8 — I period of research, average NRS = 2.0 ± 1.6 — II period of research) stages of research and a level of suffered pain (according to NRS), shown in Figure 2.

Complex full estimation according to HADS — M scale presents three categories comprising: anxiety, depression and aggression. Results signal that depression is a leading complaint (9.3 ± 5.36), which predominates at respondents before the beginning of treatment in the palliative care department. Anxiety is the next one (8.3 ± 4.98). However, we observe symptoms of aggression in an insignificantly small group of respondents which decrease by a half after 2 weeks of treatment (1^{st} period of research 2.1 ± 1.87, 921; 3^{rd} period of research 0.9 ± 1.11).

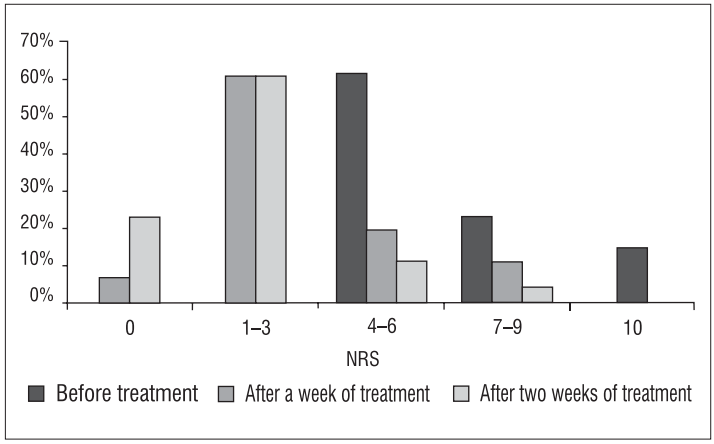

Figure 1. Self-estimation of intensity of pain according to numeric scale (NRS) of estimation of pain

Table 1. Self-estimation of intensity of pain according to verbal scale (VRS) of estimation of pain

Intensity of pain	Before treatment (n = 34)	After a week of treatment (n = 34)	After two weeks of treatment (n = 34)
Very low	0	8 (23.5%)	19 (55.9%)
Moderately low	0	17 (50%)	12 (35.3%)
Unbearable	21 (61.8%)	6 (17.6%)	2 (5.9%)
Strong	9 (26.5 %)	3 (8.8%)	1 (2.9%)
High	4 (11.8 %)	0	0

The whole group showed a small, statistically significant trend towards improvement in intensity of symptoms of depression and anxiety ($p < 0.05$) before and after treatment.

However, important improvement was observed ($p < 0.001$) in the study of symptoms of aggression after a week and tended to persist during following 2 weeks of hospitalization.

The present work accepts standards for HADS — M scale proposed by the authors [17] and presented in Tables 2, 3 and in Figure 3.

Intensity was analyzed in the group of patients of individual psychical symptoms contained in the HADS — M scale.

In the first study in a half of persons no symptoms of anxiety were observed. Estimation of symptoms of depression oscillated between patients showing no disturbances (41.2%), and group of persons with pathological changes (38.2%).

First of all, subsequent stages of research mean a slight decrease of pathological symptoms, in favor of patients with symptoms demonstrating a boundary state (Figure 2 and 3).

Estimation of symptoms of aggression was performed using following division points: I (high), II (average), III (low), IV (lack of aggression) (Figure 3).

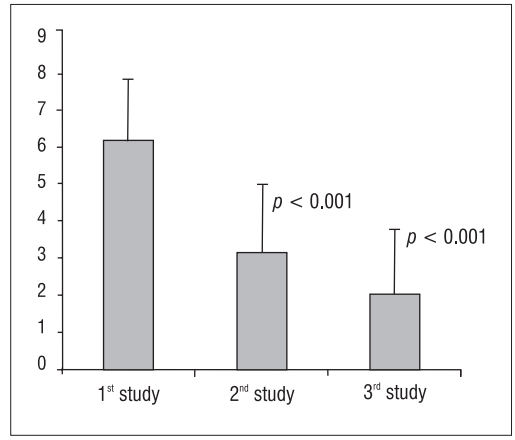

Figure 2. Estimation of pain with the use of NRS scale (n = 34)

Level of aggression fluctuated before treatment between the group with low intensity (35.3%) and patients without such disturbances (32.3%). Only 8.8% of respondents declared a high level of aggression which has been completely eliminated during the whole period of observation. Low levels of aggression were maintained in subsequent stages of the research study at 44.1% (II study) and 41.2%

Table 2. Estimation of symptoms of anxiety in studied group using HADS — M scale

Symptoms of anxiety	Before treatment (n = 34)	After a week of treatment (n = 34)	After two weeks of treatment (n = 34)
Norm (lack of disturbances)	17 (50%)	19 (55.9%)	18 (52.9%)
Borderline (boundary states)	6 (17.7%)	7 (20.6%)	9 (26.5%)
Pathology (symptoms of disturbances)	11 (32.3%)	8 (23.5%)	7 (20.6%)

Table 3. Estimation of symptoms of depression in studied group using HADS — M scale

Symptoms of depression	Before treatment (n = 34)	After a week of treatment (n = 34)	After two weeks of treatment (n = 34)
Norm (lack of disturbances)	14 (41.2%)	12 (35.3%)	12 (35.3%)
Borderline (boundary states)	7 (20.6%)	10 (29.4%)	11 (32.3%)
Pathology (symptoms of disturbances)	13 (38.2%)	12 (35.3%)	11 (32.3%)

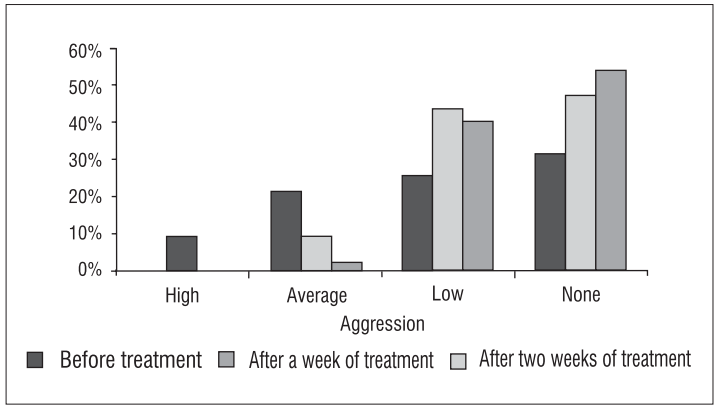

Figure 3. Estimation of symptoms of aggression in studied group using HADS — M scale

(III study). The analysis presented below supplies important data on considerable decrease of an average level of aggression and increase of a number of persons without aggression (after 1 week of study 47.1%, but after 2 weeks up to 55.9%).

The present work concentrates on the evaluation of quality of life, using for this purpose the Rotterdam scale of symptoms adapted for patients in the terminal phase of their disease.

General estimation of quality of life (QOL) did not change in 91.2% of patients in subsequent stages of research study. Only in three cases (8.8%) it changed and it differed before and after 2 weeks of hospitalization in the department of palliative care. In subsequent stages of research study most of patients estimated their QOL as moderate (38.2%) and rather bad (29.4%). Merely 4 persons (11.8%) estimated their QOL as very good and 1 person (2.9%) as good in each stage of research study. No patient estimated quality of life as very bad. 8.8% of patients estimated their QOL as bad before hospitalization; it improved during the treatment and estimation of quality of life as bad was reduced to 5.9% (Figure 4).

In the first research study general self-estimation of quality of life was at the level of average. In following research studies slight improvement was observed and kept at the same level till the end of hospitalization (Figure 4).

Subsequently, dynamics was compared of changes of individual dimensions of quality of life according to RSCL scale using parametric paired Student's *t*-test.

Analysis of somatic symptoms quality of life presents important improvement ($p < 0.001$) with-

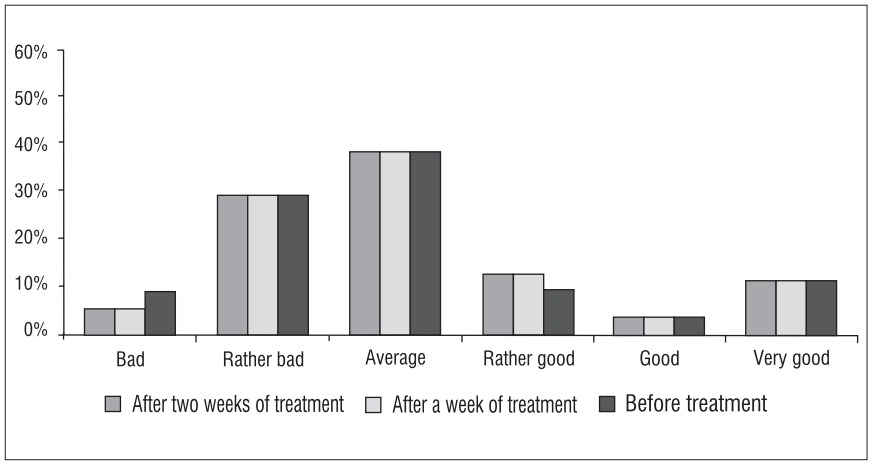

Figure 4. General estimation of quality of life (QOL) in RSCL scale before and in the course of treatment

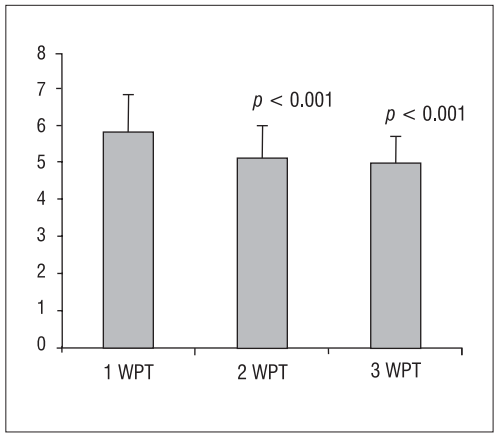

Figure 5. Estimation of physical fitness according to Rotterdam scale of symptoms (RSCL) before and in the course of treatment. Summerized estimation (n = 34)

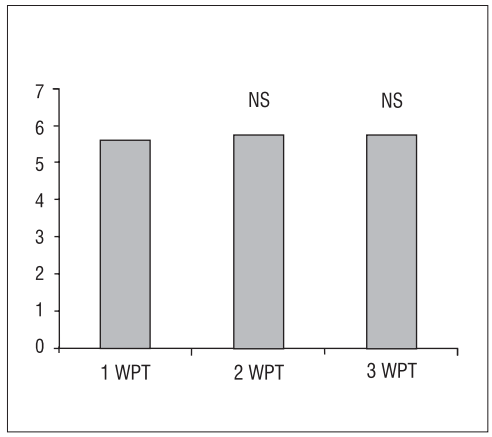

Figure 6. Estimation of activity in Rotterdam scale od symptoms (RSCL) scale before and in the course of treatment. Summerized estimation (n = 34)

in this dimension in the course of treatment (Figure 5).

Hospitalization in the department of palliative care was of no significant influence on estimation of activity in patients in terminal stage of the disease (Figure 6).

The above figure presents changes occurring in psychical dimension in the course of treatment (II stage of research study 46 ± 7.56; III stage of research study 45.0 ± 6.93; $p < 0.001$) (Figure 7). The results obtained in II stage of research study may indicate effective application of antidepressive drugs in nearly 15 patients (44.1%), of whom in 10 (29.4%) tricyclic antidepressive drugs were administered, and in 5 (14.7%) — tetracyclic antidepressive drugs.

Additionally, in 5 (14.7%) of these patients anxiolytics, mainly benzodiazepines, were adminis-

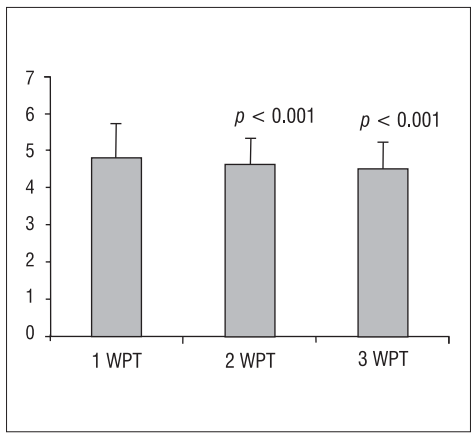

Figure 7. Estimation of psychical state in Rotterdam scale of symptoms (RSCL) before and in the course of treatment. Summerized estimation (n = 34)

Table 4. General estimation of quality of life (QOL) in studied group

	Before treatment (X ± SD)	After a week of treatment (X ± SD)	After two weeks of treatment (X ± SD)
General QL	3.97 ± 1.38	3.88 ± 1.34	3.88 ± 1.34

X — mean; SD — standard deviation

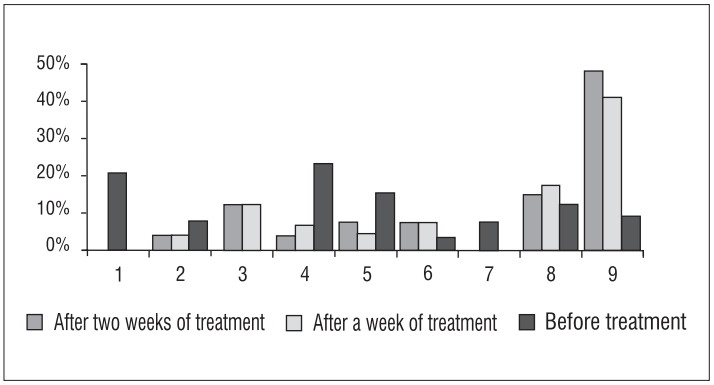

Figure 8. Chosen groups of drugs used in treatment of cancer pain. 1 — lack of analgesic drugs; 2 — NSAIDs; 3 — NSAIDs + adjuvants; 4 — weak opioids; 5 — strong opioids; 6 — weak opioids + NSAIDs; 7 — atrong opioids + NSAIDs; 8 — strong opioids + NSAIDs +adjuvants; 9 — strong opioids + adjuvants

tered. After 2 weeks of treatment a number of patients was increased to whom antidepressants (73.5%) and anxiolytics (29.4%) were administered, with simultaneous modifying of a dose. The dynamics was analyzed of changes occurring as a result of analgesic therapy (Figure 8). In 3 (8.8%) respondents with pain of strong intensity VRS < = > NRS (7–9) invasive procedures were applied, of whom in 2 (5.9%) with unbearable pain VRS < = > NRS (10).

These were patients in whom pain was not reduced during the whole period of treatment, despite application of combination of pharmacological drugs from the analgesic ladder. Invasive procedures lowered intensity of pain for about 2–4 degree in NRS scale that shows essential effect of analgesic treatment [16].

In patients who before treatment in the department of palliative care were given drugs from the group of weak opioids (23.5%) high intensity of pain (VRS) was observed in 5 (14.7%) of studied persons and moderate intensity (VRS) of pain in 3 (8.8%) persons. Such results may indicate application in these patients of drugs from a wrong step of the analgesic ladder or lack of combination with adjuvants. Administration of drugs from the group of NSAIDs was continued in only one person (2.9%) in whom pain had was of low intensity (VRS). The above-mentioned group of drugs in connection with adjuvants was applied in 11.8% of patients, with pain (NRS — 1–3).

Among patients hospitalized in the department of palliative care mainly strong opioids and adjuvants were administered (I stage of research study — 41.2%, II stage of research study — 47.1%) that resulted in quite a considerable decrease of suffered pain (NRS 1 — 4). Almost as frequently the above group of drugs was administered together with NSAIDs (I stage of research study 17.6%, II stage of research — 14.7% (Figure 8). Then, the analysis was carried-out of relationship between intensity of pain and individual components of quality of life.

Correlations between estimation of intensity of pain according to NRS scale and dimensions in RSCL scale, and components expressed in HADS — M scale before treatment and in the course of hospitalization in the department of palliative care are presented in the Table 5. Correlation was confirmed of psychical dimension and pain after a week and after 2 weeks of the treatment. Estimation of intensity of pain did not correlate with other dimensions in RSCL scale and with negative emotions showed in HADS — M scale in none stage of research study.

Additionally, correlations were analyzed among individual dimensions of quality of life, according to RSCL scale, and negative emotions specified by HADS — M scale (Figure 6).

The Table 6 shows that the statistical analysis did not confirm significance of correlation of the level of

Table 5. Correlations between intensity of pain and individual dimensions of quality of life in chosen periods of time

	Intensity of pain estimated according to NRS scale					
	Research study 1 (before treatment)		Research study 2 (after a week of treatment)		Research study 3 (after two weeks of treatment)	
Aggression (HADS — M)	r = –0.05	p =0.74	r = 0.19	p = 0.26	r = –0.07	p = 0.66
Depression (HADS — M)	r = –0.06	p = 0.70	r = 0.03	p = 0.82	r = 0.15	p = 0.37
Anxiety (HADS — M)	r = 0.01	p = 0.95	r = 0.19	p = 0.26	r = 0.27	p = 0.11
Activity (RSCL)	r = 0.05	p = 0.76	r = 0.21	p = 0.21	r = –0.03	p = 0.82
Somatic dimension (RSCL)	r = 0.23	p = 0.17	r = 0.16	p = 0.36	r = 0.30	p = 0.08
Psychical dimension (RSCL)	r = 0.06	p = 0.69	r = 0.35	p = 0.03*	r = 0.33	p = 0.04*

* — value statistically significant ($p < 0.05$); r — Pearson's correlation ratio; p — level of significance

Table 6. Correlations between individual components in HADS — M scale and RSCL scale before, after a week and after two weeks of treatment

	RSCL (activity)			RSCL (somatic)			RSCL (psychical)			HADS — M (anxiety)			HADS — M (depression)			HADS — M (aggression)		
Stages of research of study	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
RSCL (activity)	X	X	X	**	**	**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
RSCL (somatic)	**	**	**	X	X	X	NS	NS	NS	NS	NS	NS	**	*	*	NS	NS	NS
RSCL (psychical)	NS	NS	NS	NS	NS	NS	X	X	X	**	**	*	**	*	NS	NS	NS	NS
HADS — M (anxiety)	NS	NS	NS	NS	NS	NS	**	**	*	X	X	X	*	*	*	NS	NS	NS
HADS — M (depression)	NS	NS	NS	**	*	*	**	*	NS	*	*	*	X	X	X	NS	NS	NS
HADS — M (aggression)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	X	X	X

* — $p < 0.001$; ** — $p < 0.0001$

activity defined according to RSCL scale with the level of anxiety, depression and psychical dimension. Also the level of aggression according to scale HADS — M did not correlate with any of RSCL dimensions and other symptoms shown in HADS — M scale.

The significance was confirmed of correlation ($p < 0.001$) of the level of depression with the level of anxiety in all three stages of research study.

At the same level correlation was observed between depression and physical dimension during treatment, and psychical dimension in II stage of research study (after a week of hospitalization). Inside RSCL scale, relationship was observed ($p < 0.0001$) between the level of activity and somatic component. No correlation was found between activity and psychical component. Analyzing relationship between aggression and other symptoms in HADS — M scale no statistically significant correlations were found.

Discussion

In the carried-out research study the influence was analyzed of chronic disease on quality of life.

In chronic patients an important measure became a subjective evaluation of perceived wellness

which turned out hard to evaluate, a factor which presents a considerable lowering of quality of life.

Research confirmed improvement of quality of life during the whole period of hospitalization, related most probably with correction of physical fitness and psychical condition. Also the influence of psychological variables turned out to be an important element of illustration of quality of life [8, 19].

The analysis of literature indicates that conscience of pain is a specific kind of stimulation which cannot be defined with a single term. It is rather a personal experience which depends on individual psychological factors [1:12, 20:35] and causes of pain origin. Pain presents a complex psychosomatic process [20:35].

Differentiation between a kind and an intensity of pain is extremely difficult and requires application of methods which will precisely illustrate a form of described phenomenon [20:51].

Research confirms also that a degree of intensity of pain complaints depends on psychical condition of a patient [5].

Anxiety, fear, sadness as well, lower a threshold of pain [21, 22]. Results of our own research obtained using HADS — M scale prove that depression took a stand in 38.2% of studied patients (before treatment) and in 32.2% (after beginning of treatment). Anxiety was experienced by 32.3% of studied patients (before treatment) and 20.6% (after treatment), while aggression also accompanied above-mentioned emotions a and it prevailed.

Before beginning of treatment, 67.6% of studied patients felt aggression, however, after 2 weeks of hospitalization this factor was reduced to 44.1% of them.

Proper administration of pharmacological treatment in connection with analgesic treatment contributed to improvement of quality of life of patients [23].

Literature describes dependences between chronic pain and depression which indicate mutual correlation. Research confirms a great importance of estimation of intensity of pain for control of depression in the course of chronic pain [24, 17].

Depression causes increase of perceiving of somatic complaints, especially of pain. As the authors state [6], prolonged pain can cause difficulties in ability to adapt in a new situation which may itself cause depression [24: 223]. Lack of sense of control as well unfavorably influences evaluation of intensity of pain which in consequence is perceived as strong [26].

Level of anxiety was lowered what may indicate a good control of chronic pain and two-way dependence between perception of pain and anxiety.

As the author confirms anxiety accompanying a somatic disease is mainly an anxiety of pain, mutilation and death. Anxiety combined with pain in cancer patients lowers to a great extent quality of life in each stage of disease.

Both depression and anxiety quite often take a stand together and they susally attack patients with uncontrolled physical symptoms and biological predispositions. After treatment a decrease of negative emotions was observed. Aggression still prevailed (52.9% — II research study, 44.1% — III research study) in patients with cancer pains.

Life-threatening disease and its concomitant somatic symptoms (resulting from advanced stage of the disease) may also cause anger, until real facts are accepted [25]. Carried-out research confirmed relationship among emotional state (anger) and pain. High level of anger in patients with advanced cancer disease generates a high intensity of chronic pain [27, 28].

Persistence — despite treatment — of abovementioned feelings in a patient may indicate ineffective engagement of the patient in the process of therapy and lack of control of patients' present life situation [28, 29].

In the course of research study in the whole population of studied patients, improvement of indexes of intensity of pain were observed. Changes were associated with gradual improvement of quality of life.

It is possible that a worse general evaluation of quality of life in terminal patients is influenced by other factors, not associated with factors analyzed in the discussed research study.

It is important that therapeutic procedures of care over terminal patients with chronic pain were based on recommendations of International Association For the Study of Pain which approach the problems of pain in a multi-directional manner and take many aspects into consideration (according to holistic attitude Melzack and Wall's [1: 4]), in order to improve care and quality of life [30].

Conclusions

1. There exists a relationship between intensity of pain according to NRS scale with psychical dimension during treatment in the department of palliative care.
2. Significant lowering of pain complaints in the course of treatment proves correctness of analgesic procedure.
3. Obtained results show complexity of interrelation between cancer pain and individual dimensions of quality of life.

References

1. Donovan MI, Watt-Watson JH. Current of pain management. In: Watt-Watson JH. Pain management: nursing perspective. Mosky Year Book, St. Louis 1992: 3–12.
2. Kordek R, Jesionek-Krupnicka D. Podstawy patologii onkologicznej. In: Kordek R, Jassem J, Krzakowski M, Jeziorski A. Onkologia. Via Medica, Gdańsk 2006: 81–82.
3. IASP Subcommittee on Taxonomy. Pain terms: a list with definitions and notes of usage. Pain 1980; 8: 249–253.
4. Casey KL, Bushnell MC (ed) Pain imaging. IASP Press, Seattle 2000; 18: 1–30.
5. Loeser DJ, Melzack R. Pain: an overview. Lancet 1999; 353: 1607–1609.
6. Merskey H. Pain and psychological medicine. In: Wall P.D., Melzack R, Textbook of Pain. Churchill Livingstone, Edinburgh 1989: 656–666.
7. Saunders C. Pain and impending death. In: Wall PD, Melzack R, Textbook of Pain. Churchill Livingstone, Edinburgh 1989: 624–631.
8. Jordhoy MS, Fayers P, Loge JH, Saltnes T, Ahlner Elmqvist M, Kaasa S. Quality of life in advanced cancer patients: The impact of sociodemographic and medical characteristics. Br J Cancer 2001; 85: 1478.
9. Portenoy RK. Cancer pain: epidemiology and syndromes. Cancer 1989; 63: 2266–2274.
10. Shannon MM, Ryan MA, D'Agostino N, Brescia FJ. Assessment of pain in advanced cancer patients. Journal of Pain and Symptom Management 1995; 10: 274–278.
11. Twycross R. The extent of the problem. In: Twycross R (ed) Pain relief in advanced cancer. Churchill Livingstone, Edinburgh 1994:1–15.
12. Ashburn MA, Staats PS. Management of chronic pain. Lancet 1999; 353: 1865–1869.
13. Davies E, Higginson IJ (ed) Palliative care: the solid factors. World Health Organization Europe 2004: 14–15.
14. Mueller-Schwefe G. Meeting patient expectations. 10th Congress EAPC, Budapest 2007 (oral prezentation).
15. Schipper H, Clinch J, Mc Murray A, Levitt M. Measuring the quality of life of cancer patients: The Functional Living Index. Cancer: Development and validation. J Clin Oncol 1984; 2: 472.
16. Farrar JT, Young Jr JP, La Moreaux L, Werth J, Poole RM. Clinical importance of changes in chronic pain intensity measured on an 11-point numerical pain rating scale. Pain 2001; 94: 149–158.
17. Zigmond A, Snaith R. The Hospital Anxiety and depression Scale. Acta Psychiatr Scand 1983; 67: 361–370.
18. Portenoy RK, Lesage P. Management of cancer pain. Lancet 1999; 353: 1695–1700.
19. Bottomley. The cancer patient and quality of life. The Oncologist 2002; 7: 120–125.
20. Murken AH. Pain as man's constant companion, from birth to death. Its cultural, medical and historical dimensions. Pain Associates International Network, Volume 1, Germany, 2004; 1: 35–51.
21. Mc Cracken LM, Carson JW, Eccleston C et al. Acceptance and change in the context of chronic pain. Pain 2004;109: 4–7.
22. Lung FW, Huang YL, Shu BC, Lee FY. Parental rearing style, premorbid personality, mental health and quality of life in chronic regional pain: a causal analysis. Comprehensive Psychiatry 2004; 45: 206–212.
23. Turk DC, Okifuji A. Assessment of patients reporting of pain: an integrated perspective. Lancet 1999; 353: 1784–1788.
24. Mount BM. Psychological and social aspects of cancer pain. In: Wall PD, Melzack R. Textbook of Pain. Churchill Livingstone, Edinburgh 1989: 610–623.
25. Craig KD. Emotional aspects of pain. In: Wall PD, Melzack R. Textbook of Pain. Churchill Livingstone, Edinburgh 1989: 220–230.
26. Pellino TA, Ward SE. Perceived control mediates the relationship between pain severity and patient satisfaction. J Pain Sympt Manag 1998; 15: 110–116.
27. Sela R, Bauera E, Conner-Spady B, Cumming C, Walker C. Sensory and affective dimensions of advanced cancer pain. Psychooncology 2002; 11: 23–34.
28. Glover J, Dibble SL, Dodol MJ, Miaskowski C. Mood states of oncology outpatients: does pain make a difference? J Pain Symptom Manage 1995; 10: 120–128.
29. Ebrahim S. Clinical and public health perspectives and applications of health-related quality of life measurement. Soc Sci Med 1995; 41: 1383–1394.
30. Cherny N. The management of cancer pain. Cancer J Clin 2000; 50: 70–116.