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The effect of oxycodone on reduction of chronic pains in cancer patients and enhancing life quality considering patient's personality type

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Cancer is one of the most factor of mortality rate and inability all over the world especially in developing countries and highly effects the family lifestyle. Base on this the goal of current research is revising the result of oxycodone effect on chronic pains and enhancing quality of life considering patients personality type. The method of research is inform of experimental with pretesting-post testing of one group. It is in pilot form. The number of patients considering the incomings and outgoings were 30. Statistical sample among cancer patients mild to severe (NRS \geq 6) chronic pain (more than 6) that admitted to cancer hospitals or clinics and had pathological file were chosen purposively. Tools used in research and include a designed form related to patient's information and personality type. Questionnaire of fried man and associates (1987) and united nations quality of life questionnaire. The outcome results from research showed the quality of patients life with personality type A. Compare to type B had been lower and the effectiveness of therapy in large extant had been depend on personality type as the effectiveness of therapy on patients B type had been higher and as result their quality of life have improved. Considering the higher effectiveness of oxycodone therapy on reducing local pain in patients, It's recommended to oncologists in patients' therapy first diagnose the type of pain in patients and then therapeutic measures should be taken.

Keywords: oxycodone, cancer's chronic pains, personality type, cancer patients.

INTRODUCTION

Cancer as one of the most important illness of current century and the third cause of mortality after cardiovascular disease and accidents is propounded (Mardani and Sharokhy 2010). In Iran 10 thousand new cases are estimated every year (Monfared et al.2016). Patients afflicted to cancer experience numerous hardship in different quality of life's dimensions including emotional and social functioning during and after treatment (Quintard

and Lakdja 2008) cancer type, Stage of cancer, The early stage of diagnose, acceptance of illness by patient, the pain caused by cancer, mental stresses and the behavior of care takers is other factor that has efficacy on quality of patient life (Smeltzer and Associates 2008).

As a result reviewing quality of life in these patients is considered important indexes of treatment and caregiving all over the world. The concept of quality of life from 1940 in medical

researches like oncology was used in order to evaluate patients' life quality. According to The united nation definition of quality of life is everyone's understanding of life, values, goals, standards and his or her interests.

In other definition quality of life is a combination of physical, mental and social welfare (happiness, satisfaction and pride, good health, economic achievements, or educational opportunities and creation) which are realized by a person or group of people (Karimi and Brazier 2016) in fact it is more than two decade that reviewing quality of life has been proposed as a important subject in health care specially in chronic illness studies (Lacy et al. 2010) in recent years reviewing quality of life in cancer sufferers have gained special important and reviewing it in order to diagnosing the existence of differences between patients predicting the consequences of illness and evaluation of therapeutic interventions have been Cancer in all cases affects the quality of patient's life in various degrees (Montezary and Milary 2004) the major problems and difficulties that normally impress the quality of patient life are emotional psychological effects caused by the disease (Mordise and associates 1999) diagnostic and therapeutic proceedings, stress, pain, Depression, illness phenomena on family relations marriage relations, and social relations, Economic problem caused by illness, nourishments difficulties are complications resulting from treatment (Wedet and associates 2010)

Cancer effects including tiredness, mental and emotional hardships, denied of disease, disorder in phantasm are due to changes in the function of the organs of the body and the length of illness (Nematollahi 1983) in some studies in patients afflicted to cancer has shown that severity of pain caused by illness and emotional strain has a significant effect on quality of patient's life.

(North house, Caffey and associated 1999) and in some others quality of the person's life has to do with the type of treatment (Smeltzer et al. 2008).

Since oxycodone is a narcotic drug all patients mentally do not have readiness to accept the drug and considering the previous history of narcotic drug use by patient and patient personality the response to treatment is different. Since the behavior of each person is under influence of his or her personality we can assume that perhaps the type of personality could be effective in treatment. Regarding to types of personality scientists have had offered different ideas and various division. Among these ideas

can point out to freedman's viewpoints.

According to his viewpoints people that have specific personality like autocracy, Supportive, Sentimental, tolerating of ambiguity, anxiety, urgent need in progressing violence, Energetic, competition seeker, ambitious, impatient quarrelsome and Considered as a type A and contrast personalities who are calm patient and moderate considered types B (freedman 1978). On the other hand in cancer etiology there are different viewpoints. Various researches have shown that cancer illness has linkage with some of the specific personality and personality may influence the formation and outbreak of cancer.

The results of researches that have been done on these two personality types shows type A have high correlation with stress and physical hazards. As a result attention to the personality traits of chronic patients particularly cancer can play an effective role in the effectiveness of treatment. Due to the increasing prevalence of cancer and the importance of the impact of this disease on all aspects of the lives of infected patients and considering the cancer patients undergo chemotherapy face various difficulties and also in our society the concept of quality of life and the factors related to it has been less addressed in cancer patients. Noticing this problem can first of all help patients and their family for more comfortable and relaxed life and secondly can help the medical society in improving and promoting the physical and mental health, as a result the lack of? the research motivated the researcher to provide the research. Base on this researcher is pursuing the answer to this question that if the level of oxycodone effectiveness on verity of cancer's Pain and the improvement of patient's life quality regarding to their personality type had been effective?

MATERIALS AND METHODS

The research method is experimental with a pre-test, post-test plan of a group and it's a pilot project. The study output criteria include patients with rheumatic physical pain and patient with chronic liver, kidneys and drug abuse.

Statistical sample among cancer patients with mild to server chronic pain ($NRS \geq 6$) (more than 6 month) who admitted to cancer clinics and hospitals and had a clinical file were chosen purposefully. At the beginning of the study a file form for each patient and all its sections (except the final dosage of oxycodone) including type of pain in patient, painkiller drugs used by patient, reported side effect, interval of pain attacks and

scale of pain level using NRS system was registered.

The total number of patients for research case considering input and output criteria were considered for 30 persons before the intervention a quality of life's questionnaire and personality type was executed for patients and then the intervention was done and after intervention the questionnaire were executed again.

For evaluation of personality type in order to increase the validity of answer not only this questionnaire was executed for patients also, it was executed for their parents' point of view or their companion who knew them completely. The linkage of patients answer and their companion was reported higher than 90% this number indicates the high validity of the patients answer. It is necessary to mention that in treatment trend after primary prescribe of dose with suitable intervals the level of pain was measured and the dose was increased until $NRS \leq 3$ was reached.

In case of need to increase or decrease the dose of drug, this increase was up to a maximum of 25% of the daily dose used to charge the dose reach time. The whole intervention process was considered 60 days and the level of dose which was used and the level of patients pain was registered in pre-designed form. Also all drugs used by patients in this study according to the place and time of production was exactly the same. In this study severity of pain and quality of life as dependent variable, oxidant codain as independent variable, personality type as modifier variable and body mass index (BMI), Cancer stage, maintenance dose and type of pain as control variable was considered.

Research instrument: in this research two questionnaire were used.

1. freedman's personality types questionnaire and associates (1987) this scale has 25 articles and a test answers to these items with a 2 degree scale of YES or NO. the average score is 13.

The ones who get more than average. Tend to be personality type A but if the ones who get less than 5 points, tend to personality type B (Ganjy 1993) the reliability of this test after reexamining has been stated 0.87 (Ganjy 1993) In Saparian et al.1994. Cronbach's coefficient of alpha calculated for males 0.464 and for females 0.72 and for the whole sample was 0.62.

2. world health organization quality of life questionnaire (WHOQOL-BREF): This is a 26 item questionnaire that measure a person's

overall and common quality of life... this scale was made by a group of world health organization exports by modifying the 100 questions form statements. This questionnaire has 4 sub-scale and one overall score this sub-scales as follows physical health, mental health. Social relations, environment health and overall score, the questionnaire grading range is 5 point Likert scale. Which the number 3 and 4 and 26 questions score inform of backward. For analyzing the validity and reliability of this research questionnaire was conducted on 1167 people in Tehran. Physical health 0.77, mental health 0.77, social relations 0.75, environment health 0.84 was achieved.

RESULTS

The findings from the description of that demographic characteristic of patients showed that patients under study have moderate to severe cancer and other variables including type of cancer and type of pain was examined and in primary description showed out of 30 patients under study 43.3% had intestines cancer 20% peptic cancer and 46.7% of them had other cancer. In addition, showed 30% of patients had severe pain and 70% mild pain. The drug which was prescribed in first day for all patients was 5 milligrams in a day but for patients who had severe pain was more than 20 milligrams and for patients who had mild pain was less than 20 milligrams.

Table 1: related to the type and severity of cancer in patients under gone study.

	Type of cancer	Cancer stage	total
	3	4	
intestines	16.7(5)%	23.3(7)%	43.3(13)%
Blood	0.0(0)%	6.7(2)%	6.7(2)%
peptic	13.3(4)%	10.0(3)%	23.3(6)%
gland	0.0(0)%	6.7(2)%	6.7(2)%
ovary	0.0(0)%	3.3(1)%	3.3(1)%
prostate	0.0(0)%	6.7(2)%	6.7(2)%
lung	0.0(0)%	6.7(2)%	6.7(2)%
breast	0.0(0)%	3.3(1)%	3.3(1)%
esophages	0.0(0)%	3.3(1)%	3.3(1)%
total	30.0(9)%	30.0(9)%	100(30)%

Results of the above table show that 43.3% of the studied patients have colorectal cancer that from this number 23.3 percent are in stage 4.

23.3% have peptic cancer, blood cancer, prostate, lung and gland each contain 2.7 percent and esophageal cancer, ovary and breast each contain 2.33 percent. In addition, it showed 30% of patients are in stage 3 and 70% in stage 4.

Table 2: related to type of pain and personality traits in studied patients.

Type of pain	Personality type		total
	B	A	
Common diagnosable	13.3(4)%	3.3(1)%	16.7(5)%
Common undiagnosable	0.0(0)%	16.7(5)%	16.7(5)%
Positional diagnosable	10.0(3)%	40.0(12)%	50.0(15)%
Positional undiagnosable	3.3(1)%	13.3(4)%	16.7(5)%
total	26.7(8)%	73.3(22)%	100.0(30)%

According to above table 26.7% of patients have personality type B and 73.3% have personality type A among patients with personality type B, 26.6% had common and recognizable type of pain and 3.3% of patients had unrecognizable localized pain but 30.1% of patients with personality type A had unrecognizable pain 40.2% had localized and common recognizable pain.

The first hypothesis:

Effectiveness of oxycodone Treatment in reducing the type of pain in cancer patients according to personality types of patients.

For the above hypothesis test, a covariance test was used. In the corresponding assumption under the same condition of variance the results showed that the amount of $F(F=1/1485)$ at the alpha level of 5% is not significant as result it could be said that the same condition of variances is established.

The above description table is related to average and deviation of severe pain standard in patients according to pain type (common and localized) considering to personality type in cancer patients. As can be seen among 30 patients 8 patients have personality type B and 24 patients have personality type A.

The result of intera-case factor and inter-case factor shows the severity of pain depending on the personality type of patients is different and significant. In addition, the interaction between personality type and type of pain statistically is significant too and the level of etta is equal to 0.410 it means 41% of effectiveness is related to personality type and type of pain and 59% is related to other factors. The level of differences is shown by post HOC test in the table below also F rate of the baseline pair variable is statistically significant that through the adjusted mean the effect of the pretest (baseline pain) on the test

(pain after 6 days of the treatment) was eliminated and achieved results in post HOC test show genuine effect of the experimental variable, that is treatment with oxydone.

the result of Post Hoc test above shows pain severity disorder rate in A and B type patients is equal to 3.429 which this rate statistically is significant this is also done according to the modified mean after eliminating the severity of primary pain, the average pain of patients after treatment for patients with personality type B is equal to 2.747 for patients with personality A is equal to 6.176 that this result indicates the effectiveness of treatment according to the personality type of patients.

The result of post hoc test above shows significant difference between the severity of pain in patients with unrecognizable common pain and those with recognizable and unrecognizable localized pain, as the level of pain in patients with recognizable localized and unrecognizable common pain has had significant reduction, in general treatment with oxydon localized and recognizable compare to common pains had higher effect.

Second hypothesis:

The effectiveness of oxydon in improving patient's life quality in cancer patients regarding to personality types.

Above table had been related to patient's quality of life grade regarding to their personality type before and after treatment with oxydon. As can be seen in both group of patients (personality type A and B) quality of life grade after (treatment) intervention increased but in personality type B patients, this difference is more significant.

The test results of the effect of inter-test factors in the above show after adjusting the pre-test scores there was a significant effect of factor between group (personality type) tests, as the achieved result from test shows that ($F=11.60$, $P=0.001 < 0.05$, partial η^2 0.462) personality type could be 46.2% effective on treatment efficacy and in hence of patients life quality.

In table below average pain intensity in two groups of patients, with modifying pre-intervention averages (quality of life before intervention) has been shown.

Table 3: related to describing the severity of pain according to the type of pain and personality type of patients

Personality type	Type of pain	average	The standard deviation number of	Numbers
B	Common-unrecognizable	2.75	0.975	4
	Localized-recognizable	3.33	1.527	3
	Localized-unrecognizable	3.00	0	1
A	Common-unrecognizable	8.00	0	1
	Common-recognizable	5.60	1.516	5
	Localized-recognizable	5.00	1.128	12
	Localized unrecognizable	5.75	0.500	4

Table 4: related to multi variate analysis of variance analysis test.

Variations test	Sum of squares	Degrees of freedom	Mean squares	F	Significance level	ETTα
Intercept	0.639	1	0.639	0.760	0.393	0.033
Personality type	37.509	1	37.509	44.61	0.001	0.670
Pain type	1.878	3	0.626	0.744	0.537	0.092
Pain base	12.868	1	12.868	15.30	0.001	0.410
Interaction Personality type and type of pain	8.513	2	4.257	5.062	0.016	0.315
Error	18.499	22	0.841			
total	757.00	30				

Table 5: Related to effective treatment of post HOC test (reduction of pain level after 6 days of treatment)

Modified average	Variable Groups (i) (j)			Variation Of averages	Standard error	Significant level
2.747	B type	B type-	A type	3.429-	0.487	0.001
6.176	A type	A type-	B type	3.429	0.487	0.001

Table 6: relevant to effective treatment of post HOC test (reduction of pain level after 60 days of treatment?)

Patients pain type		Variation of averages	Standard error	Significant level
(i)	(j)			
Common-recognizable	Common-unrecognizable	-0.864	0.676	0.215
	Localized-recognizable	0.891	0.597	0.150
	Localized-unrecognizable	0.60	0.730	0.376
Common-unrecognizable	recognizable	0.864	0.676	0.215
	Localized-recognizable	1.75	0.512	0.002
	Localized-recognizable	1.52	0.661	0.031
localized-recognizable	Common-recognizable	0.891	0.597	0.150
	common-unrecognizable	-1.75	0.512	0.002
	Localized-unrecognizable	-0.231	0.592	0.700
localized-unrecognizable	Common-recognizable	-0.660	0.730	0.376
	common-unrecognizable	-1.52	0.661	0.031
	Localized-recognizable	0.231	0.592	0.700

Table 7: relating to average quality of life before and after the intervention.

Personality type	time	average	Standard error
B type	Before intervention	62.16	22.19
	After intervention	9.33	16.31
A type	Before intervention	75.79	14.12
	After intervention	87.50	15.76

Table 8: summary of analytical test

Variations source	Sum squares	df	Mean squares	F	Significance level	ETT _a coefficient
intercept	2270.5	1	2270.5	16.08	0.000	0.373
Interaction Effect (life Quality type)	3274.9	2	1637.5	11.60	0.000	0.462
Error	3810.9	27	141.15			
total	23975.0	29				

Table 9: related to modified average of covariance related to quality of life after the intervention.

Personality type	Average	Standard error
B type	98.35	5.45
A type	85.95	2.40

Table 10: summary of the results of bigeminal tests after modifying the effects pf pre-test

Personality type (i)	Personality type (j)	The difference in averages	Significance level	result
Type B	Type A	12.392	0.0049	confirmation
Type A	Type B	-12.392	0.0049	confirmation

According to above table cancer patients with personality type B after interference the average quality of life for patients was equal to 98.35 and for personality type A, the average was estimated equal to 85.95.

Above table had been related to comparison test of patients average quality of life who had A and B personality type. Considering the above table, the difference in averages is significant and cancer patients, quality of life with A type personality had increased significantly.

DISCUSSION

The research had been done in order to find out the effect of oxydon in decreasing the type of pain (localized or common, recognizable or unrecognizable) and enhance of cancer patients quality of life regarding to patients personality type. In describing patients personality type it had shown 26.7% of patients have B type personality and 73.3% have A type personality, and more

patients with A type personality have unrecognizable pain while the kind of pain in B type personality patients is unrecognizable form.

The result could show that personality factors cause more pains with neural roots like (neuropathic pain, phantom pain or imaginary pain and visceral pain) and because these kind of pains have neural base and oxydone medicine is a narcotic medicine in relief of those hadn't have high efficiency.

Also in out coming results from medicine effectiveness on two kind of pain showed pain level in patients with recognizable localized pain and unrecognizable compare to unrecognizable common pain had significant relief. Overall treatment with oxydone on recognizable and localize compare to common pains had a higher impact. Also in B type personality the therapeutic effect has been more effective.

In the outcome of results from the effectiveness of the treatment on cancer patients quality of life showed the treatment has been effective and significantly the average quality of

life in cancer patients with A type personality have increased in fact controlling pain cause to improve patients quality of life in different stage of their life.

Of course methods of controlling cancer patients pain, are flexible methods, It means for each patient regarding to type and severity of cancer, degree of reaction they show to pain and treatment and individual desire and characteristics is necessary to consider different treatment also for controlling these pains in addition to the use of medicine is necessary the patient's family collaborate effectively with patient and physician.

In here oncology specialists are recommended in order to reduce the patient's pain. First, diagnose the type of pain patients have and depending on the type of severity of pain this use treatment medicine.

CONCLUSION

In accordance with the law of treatments the first stage of treatment compare to others which is easier, less expensive and less suffering, diagnosing the severity and type of disease and then diagnosing the type of treatment. According to released result and effectiveness of treatment on quality of life enhancement in B personality type patients is recommended to oncology specialist beside treatment with medicine get help from experienced consultant that have comprehensive knowledge about cancer patients, although cancer may not be completely cured, the patient can be less psychologically infected during his or her lifetime and considering the linkage between mental and physical being, calm mind results in increase longevity in patient. Also patient's family must know that the aim of cancer pains treatment is to control and alleviate the pain to a point that the pain be bearable and doesn't cause problem in patients daily life as a result in this regard, co-operation with medical practitioner is needed to help the patient.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

AUTHOR CONTRIBUTIONS

All authors have the equal role. The authors read the final version and confirm for publication.

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