ONE YEAR FOLLOW-UP STUDY OF QUALITY OF LIFE AMONG OPIOID SUBSTITUTION THERAPY CLIENTS

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ABSTRACT

BACKGROUND

Opioid Substitution Therapy (OST) is a process in which opioid-dependent injecting drug users (IDUs) are provided with long-acting opioid agonist medications like buprenorphine for a long period of time under medical supervision along with psycho-social interventions. The QOL is impaired among opioid dependent IDUs. The present study was undertaken to determine the quality of life among IDUs on opioid substitution therapy.

The aim of this study is to see changes in Quality of Life of Opioid-Dependent IDUs attending OST Centre of a Tertiary Government Hospital over a year.

MATERIALS AND METHODS

A prospective observational study was conducted on 100 patients attending the OST centre of a tertiary government hospital, who were being administered buprenorphine. Identification data was obtained at baseline and QOL scores obtained using WHOQOL-BREF at baseline and at four follow-ups, i.e. after 3 months, 6 months, 9 months and 1 year. After excluding the dropouts, 68 subjects were taken into account to assess QOL. A repeated measuring design (Analysis of Variance) was applied to assess changes in the quality of life at baseline and at follow-ups.

RESULTS

Scores of WHOQOL-BREF when compared from baseline to end of the study showed statistically significant ($p < 0.01$) improvement in all the four domains of WHOQOL-BREF, i.e. physical, psychological, social and environment.

CONCLUSION

The present study indicates that buprenorphine is a useful long-term maintenance treatment for opioid dependent IDUs. So OST programmes should be expanded further for curbing injecting drug use and improving quality of life.

KEYWORDS

OST, IDU, WHOQOL-BREF, Buprenorphine.

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BACKGROUND

Substance dependence continues to be a major clinical and social problem affecting millions of people worldwide and causing substantial costs to society. In India, Department of AIDS Control defines an IDU as a person who has used any psychoactive substance through injecting route for non-medical purpose at least once in the last three months.¹ A large number of the IDUs use opioids as the drug of choice primarily. OST is a process in which opioid-dependent injecting drug users are provided with long-acting opioid agonist medications like methadone or buprenorphine for a long period of time under medical supervision. According to WHOQOL, Quality of Life is a broad concept affected in a complex way including person's physical health, psychological state, level of independence and their relationships to salient features of their environment.²

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The QOL is severely impaired among substance users and opioid dependent subjects. The rates of dissatisfaction with life are higher among opioid dependent persons as compared to the general population. It has been found that QOL among IDUs improve when they are maintained on OST.^{3,4,5,6,7,8,9,10}

Aims and Objectives

1. To study socio-demographic variables of Opioid-Dependent individuals attending Opioid Substitution Therapy (OST) Centre of a Tertiary Government Hospital.
2. To study changes in Quality of Life in Opioid-Dependent Injecting Drug Users attending the said OST centre over a year.

MATERIALS AND METHODS

After taking approval from Institutional Ethics and Thesis Committee, a prospective observation study was conducted among Injecting Drug Users at Opioid Substitution Therapy Centre of a Tertiary Government Hospital from July 2016 to June 2017. Out of the total 1603 clients registered with and attending the OST centre, every sixth individual who satisfied selection criteria was included in the study to a total of 100 subjects. OST clients of age 18 years and above who gave the written informed consent were included and those who had

not given consent to participate in the study and those with medical condition that required hospitalisation were excluded. At start of the study after obtaining informed consent, all subjects were interviewed for socio-demographic profile using semi-structured proforma and for Quality of Life using WHOQOL-BREF scale. Follow-up was done for quality of life at 3 months, 6 months, 9 months and one year. At one year of study, after excluding the dropouts, 68 subjects were finally taken into account to assess the quality of life.

Inclusion Criteria

OST clients of age 18 years and above, attending the OST centre.

Exclusion Criteria

1. Clients who had not given consent to participate in the study.
2. Clients with medical condition that required hospitalisation.

Tools and Instruments

1. A semi-structured proforma for Identification and Socio-Demographic Profile of the subject.
2. The World Health Organisation Quality of Life (WHOQOL- BREF).

The short version of the World Health Organisation Quality of Life Assessment (WHOQOL-BREF) is an instrument that conceptually fits with the WHO definition of QOL. WHOQOL-BREF is grouped into four domains of QOL (physical health, psychological health, social relationships and environment) and two items which measure overall QOL and general health. The instrument is a self-report questionnaire using a 5-point Likert scale ranging from 1 (not at all) to 5 (completely).

Statistical Analysis

The analysis of data was computed with the help of statistical 7.0 and SPSS 20. Frequencies and percentages were calculated to assess socio-demographic data. A repeated measures design (ANOVA) was applied to assess the quality of life at baseline, 3 months, 6 months, 9 months and 1 year interval.

RESULTS

Table no. 1 shows distribution of data according to various socio-demographic variables. All (100%) subjects studied were male. 65 (65.0%) subjects in this study were in the age group of 21 - 30 years followed by 25 (25.0%) in the age group of 31 - 40 years. Besides this 5 (5.0%) were in the age group of 41 - 50 years and 5 (5.0%) were more than 50 years of age. Mean age of subjects was 30.88 years. 42 (42.0%) subjects were educated up to middle school, 20 (20.0%) up to primary school, 19 (19.0%) up to senior secondary and 10 (10%) were graduates and above. Only 9 (9.0%) subjects were illiterate. More than three-fourth of subjects (78.0%) were employed. 49 (49.0%) subjects were married, 46 (46.0%) subjects were unmarried and 5 (5.0%) subjects were divorced. 86 (86.0%) subjects lived in a joint family and 14 (14.0%) lived in nuclear type of family. 40 (40.0%) of the

subjects started illicit use of drug between the age of 20 - 24 years and 34 (34.0%) between the age of 15 - 19 years, 19 (19.0%) subjects used opioid for the first time between age of 25 - 29 years and 7 (7.0%) subjects started to use at or after age of 30 years. Mean age of onset of illicit use by subjects was 22.12 ± 4.72 years. 41 (41.0%) subjects reported using opioid for 5 - 7 years before OST treatment followed by 37 (37.0%) who used for 2 - 4 years and 22 (22.0%) subjects has used opioids for 8 or more years before start of OST treatment. Mean total duration of opioid use was 6.37 ± 4.32 years. More than two-third of subjects (68.0%) remained in the study till its completion. Table no. 2 and Graph no. 1 reveals changes in all four domains of WHOQOL-BREF. All the Quality of life indicators (physical, psychological, social and environmental) were low among subjects. At baseline, greater impairment in social relationships domain (mean score 40.33) and environmental domain (mean score 48.66) were observed. The maximum improvement was observed in social relationships domain (40.33 Vs 57.88, $p < 0.01$) followed by physical (59.87 Vs 75.24, $p < 0.01$) and psychological domain (58.58 Vs 72.81, $p < 0.01$). Least improvement was observed in environment domain (48.66 Vs 57.26, $p < 0.01$).

Socio-Demographic Variable	No. of Subjects	Percentage (%)
Gender		
Male	100	100
Female	0	0
Age Group		
Up to 20 years	0	0
21-30 years	65	65
31-40 years	25	25
41-50 years	5	5
Above 50 years	5	5
Education		
Illiterate	9	9
Upto Primary	20	20
Upto Middle	42	42
Upto Senior Secondary	19	19
Graduate and Above	10	10
Employment Status		
Employed	78	78
Unemployed	22	22
Marital Status		
Married	49	49
Unmarried	46	46
Divorced	5	5
Family Type		
Joint	86	86
Nuclear	14	14
Duration of Opioids Use		
2-4 years	37	37
5-7 years	41	41
8 years and above	22	22

Table 1. Showing Distribution of Data according to Socio-Demographic Variables

WHOQOL-BREF Domain	Mean Score Baseline N=100	Mean Score 3 Months N=88	Mean Score 6 Months N=79	Mean Score 9 Months N=73	Mean Score 1 Year N=68	F-ratio (ANOVA) N=68	P value
Physical	59.87	68.31	71.97	73.95	75.24	14.236	P<0.01
Psychological	58.58	66.58	69.48	70.99	72.81	15.035	P<0.01
Social Relationships	40.33	52.89	52.55	55.70	57.88	17.621	P<0.01
Environment	48.66	54.58	55.23	56.52	57.26	18.185	P<0.01

Table 2. Showing Changes in Mean Score of all Domains of WHOQOL-BREF at Baseline and at various Follow-Ups and ANOVA

Author	Follow-Up Months	OST Type	No. of Clients	WHOQOL-BREF Scores							
				Physical Domain		Psychological Domain		Social Domain		Environment Domain	
				Baseline	Follow-Up	Baseline	Follow-Up	Baseline	Follow-Up	Baseline	Follow-Up
Lua and Talib, 2012	12	Methadone	75	12.69	14.58	11.97	14.30	12.74	13.79	11.96	13.93
Musa et al, 2012	24	Methadone	107	17.58	19.86	15.42	17.73	9.68	10.64	19.47	22.02
Baharom et al, 2012	6	Methadone	122	12.25	14.40	12.03	14.52	12.49	13.67	12.93	14.46
Dvoriak 2008	6	BPN	76	11.17	15.68	11.05	15.15	11.26	12.38	12.05	13.60
Tran 2012	9	Methadone	370	12.70	14.58	11.44	14.11	12.24	13.65	14.51	15.00
Wang 2012	18	Methadone	368	21.91	24.79	17.33	20.08	12.28	13.73	27.96	31.49
Chen 2012	3	Methadone	127	12.37	13.63	11.21	12.52	12.01	12.03	12.41	13.19
Dhawan and Chopra 2013	9	BPN	231	50.3	61.3	43.6	57.9	45.8	56.2	42.3	54.3
Present Study	12	BPN	100	59.87	75.24	58.58	72.81	40.33	57.88	48.66	57.26

Table 3. Comparing Present Study with Previous Studies on WHOQOL-BREF

Graph 1. Showing Changes in Mean Score of all Four Domains of WHOQOL-BREF

DISCUSSION

All (100%) subjects studied were male, indicating more prevalence of opioid use among males than females and also social stigma of opioid dependence treatment for females in society leading to underutilisation of OST services.

The mean age of the subjects was 30.88 years and mean age of onset of illicit use by subjects was 22.12 ± 4.72 years. More than half (65.0%) of cases were in the age group of 21 - 30 years indicating early age of onset of opioid use. In a study, it was found that of all subjects 30 (36.1%) were in the age group of 20 - 25 years.¹¹ In another study, it was observed that out of 231 subjects most subjects 87 (37.7%) were in age

group of 31 - 40 years and mean age of subjects was 35.3 years.³ Another study found that the mean age of subjects was 38.4 years.⁴ Literacy level does not seem to be a protective factor in prevention of opioid dependence and injecting drug use. In a study done in India, it was found that 73 (31.6%) subjects were educated up to high school.³ In a study done in Malaysia, it was found that 65 (53.3%) subjects studied up to senior secondary level.⁴ More than three-fourth subjects were employed. This may be due to beneficial impact of OST on employability of subjects. In a study, an observation was that majority of subjects 96 (78.7%) were full-time employed.⁴ An Indian study found that 91 (39.4%) subjects were unemployed and 140 (60.6%) were employed.³ Nearly, equal number of subjects were either married or single. This may be indicating deleterious effects of social stigma of opioid use on matrimonial alliance of subjects. Similarly, a study done in India found that 124 (53.7%) subjects were married.³ Majority of subjects lived in a joint family. This may be due to 65 percent subjects of being in the age group of 21 - 30 years, 46 percent subjects being unmarried and cultural and family support factors in India. Mean total duration of Opioid use was 6.37 ± 4.32 years. An Indian study concluded that mean duration of substance dependence was 11.13 ± 8.03 years.¹² This was in contradiction to two earlier studies conducted in India, which showed the duration of dependence with findings of mean duration 8.78 ± 7.79 years and 5.82 ± 4.39 years.^{13,14} Drop-

out rate was nearly one-third at one year. More dropouts occurred during first 3 months. Similarly, it was found in an earlier Indian study that 64.1% subjects could be retained at nine months, most drop-outs occurred during the first three months.³ In a survey conducted in Punjab 99% subjects were male, 89% were literate, 54% were married, 83% were employed, 53% were Heroin dependent and 33% were IDUs.¹⁵ In a study conducted by NACO during 2014 - 15, 84.2% IDUs were literate, 48.3% never married and median age of initiation of drug use was 19 years and of IDU was 22 years.¹⁶

Table no. 2 and Graph no. 1 shows that there is improvement in all the four domains i.e. physical, psychological, environment and social relationships from baseline till the end of the study, i.e. one year. Statistically significant ($p < 0.01$) improvement in all four domains viz. physical, psychological, social relationships and environment was found when baseline scores were compared to scores at one year of follow-up, indicating positive impact of OST on quality of life of IDU opioid dependents. This is consistent with earlier studies done on quality of life among OST subjects. Table no. 3 compares the findings of present study with similar previous studies on all four domains of WHOQOL-BREF.

CONCLUSION

In summary, the present data indicates that buprenorphine is a useful long-term maintenance treatment for opioid dependent patients. So OST programmes should be expanded further. The results may be useful for scaling up of maintenance programme for curbing injecting drug use and improving quality of life.

Limitations of the Study

There are few limitations pertaining to this study. The results should be interpreted in the light of these shortcomings. Sample size of the study was limited. Thus, there is a need for larger sample size to assess quality of life among injecting drug users. No control group was taken in the study for comparison. The subjects who dropped out from study were not followed-up. Since no data were collected after disenrollment, their fate is unknown. It is imperative to study the reasons for dropout in these subjects. It will also be worthwhile to know the overall outcome of quality of life in these subjects.

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