

## Research Article



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## INTERPRETING PSYCHOSOCIAL FUNCTIONING IN INDIVIDUALS USING NON-INJECTABLE OPIOIDS

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### ABSTRACT

**Background:** Individuals diagnosed with opioid use disorder (OUD) exhibit a notable disruption in their psychosocial functioning and related areas. In India, there is a dearth of research on these issues with psychosocial functioning in opioid use disorder.

**Aim:** The purpose of the current study was to evaluate the psychosocial functioning of participants receiving standard treatment for non-injectable opioid use (buprenorphine, tapentadol, tramadol, trazodone, zolpidem, and chlordiazepoxide) before switching to methadone maintenance therapy (MMT).

**Methods:** 134 non-injecting patients with opioid use disorder who had received MMT (n = 74) or therapy as usual (n = 60) for at least one month were evaluated in this cross-sectional research.

The WHO and the Alcohol, Smoking, and Substance Involvement Screening Test 3.0 were utilised to evaluate the individuals' comorbidities and degree of disease. The WHO Quality of Life (WHOQoL BREF), the Client Satisfaction Questionnaire (CSQ 8), and the Social and Occupational Functioning Assessment Scale (SOFAS) were used to measure client satisfaction, QoL, and socio-occupational functioning, respectively.

**Results:** MMT and TaU had mean SOFAS scores of 78.93±8.03 and 73.31±6.75, respectively, which were statistically significant at p=0.003. For every parameter—physical, psychological, social, and environmental—the MMT group's WHO QoL-BREF ratings were considerably higher than those of the TaU group, with corresponding p-values of <0.0001, 0.0003, 0.003, and <0.001. With p=0.01, MMT had higher mean CSQ-8 scores, at 21.45±1.45 and 20.58±1.54, respectively. The WHO help scores for MMT and TaU were similar, at 21.66±10.76 and 26.08±9.31, respectively, with a p-value of 0.09.

**Conclusion:** Study results indicate that those on MMT for non-injectable opioid use had improved quality of life, client satisfaction, and socio-occupational functioning in comparison to those on TaU.

**Keywords:** Methadone maintenance treatment, quality of life, non-injectable opioid use

### INTRODUCTION

Opioids belong to a complex class of drugs that are available as illicit substances.

According to 2020 World Drug Reports, there were 57.8 million opioid users worldwide as of 2018, and more than half of them were using opiates. Approximately 20% of the opioid-using respondents are Asian. Global estimates

show that people using opioids had an increase in disability-adjusted life years of 28% and in deaths of roughly 71%. About 0.7% of people in India abuse opioids, which translates to 177,000 injectable opioid users, 0.5 million opioid dependents, and 2 million opioid users as of right now.<sup>1</sup>

Indians mostly choose the non-injectable technique to obtain opioids. However, the bulk of patients abusing injectable drugs are those who use injectable opioids. Injectable drug users, or PWIDs, utilise non-injectable substances in the early stages of their condition. It sometimes takes two to ten years for drug users to switch from not injecting to injecting. Typically, heroin, buprenorphine, codeine, dextropropoxyphene, and tramadol are the non-injectable types of opioids. Substitution treatment is typically required for opioids like heroin that have a significant potential for dependence.<sup>2</sup>

Previous research on individuals with opioid use disorder has revealed a lowered quality of life (QoL). In addition, OUD is linked to medical conditions, mental comorbidities, HIV status, literacy rates, gender, family dynamics, place of residence, and socioeconomic position.<sup>3</sup>

Additionally, the quality of life for opioid users improves with long-term OST (opioid substitution treatment) for six months to three years and short-term OST for less than six months. Methadone is one of the OSTs that is now accessible that has been linked to better health-related outcomes, earlier reported results, and cost-effectiveness.<sup>4</sup>

Opioid use disorder is a highly addictive kind of illness that has a significant impact on social functioning. The ability to fulfil commitments, demands, and expectations as well as manage interpersonal interactions is referred to as social functioning.<sup>5</sup>

In the early stages, functional impairment is linked to relationship issues, unemployment, and a lowered quality of life, particularly in young mental patients. Psychosocial functioning is known to be significantly impacted by stigma and inadequate psychosocial support, both of which are prevalent in opioid use disorder.<sup>6</sup>

Client satisfaction with the opioid use disorder programmes and guidelines that are currently in place varies. Client satisfaction is an evaluation of the subject's viewpoint of the interaction between the patient and the doctor as well as the programme that can assist in assessing the needs and experiences linked to treatment. Prior research has demonstrated that client satisfaction with methadone therapy plays a major role in treatment retention. Additionally, it has been shown that the length of treatment retention and treatment completion is strongly connected with client satisfaction.<sup>7</sup>

In India, MMT (methadone maintenance treatment) is being introduced recently and is spreading gradually in different parts of the country. In India, it is less researched, though. MMT is regarded as a successful therapeutic approach for treating opioid use problems. The government, media, medical community, and Indian society all have doubts about the use of OST. During the maintenance phase and for short-term treatment, buprenorphine, methadone, and tramadol are employed. Additionally, it is difficult for the subjects to go to the hospital or other facility every day to receive their methadone dosages under the guidance of medical staff. The current study examined the relationship between various clinical variables and sociodemographic profiles in the two groups of opioid users, with the goal of evaluating the clinical picture and psychosocial functioning in terms of client satisfaction, socio-occupational functioning, and quality of life in subjects who are currently not injecting opioids and are receiving TaU (treatment as usual) or MMT.

## **MATERIALS AND METHODS**

In order to evaluate the psychosocial functioning of patients receiving non-injectable opioid medication while receiving standard care (buprenorphine, tapentadol, tramadol, trazodone, zolpidem, and chlordiazepoxide), a cross-sectional comparative clinical research was conducted. The study evaluated the psychosocial functioning and clinical picture with regard to quality of life, psycho-social functioning, and client satisfaction in currently non-injecting patients with opioid use disorder receiving Tau and methadone maintenance therapy. Treatment as usual involved administering medications in the OPD (outpatient department) to subjects with opioid use disorders, with the goal of preventing relapse and withdrawal symptoms. These medications included benzodiazepines, clonidine, tapentadol, tramadol, and buprenorphine. In order to evaluate the psychosocial functioning of patients receiving non-injectable opioid medication while receiving standard care (buprenorphine, tapentadol, tramadol, trazodone, zolpidem, and chlordiazepoxide), a cross-sectional comparative clinical research was conducted. The study evaluated the psychosocial functioning and clinical picture with regard to quality of life, psycho-social functioning, and client

satisfaction in currently non-injecting patients with opioid use disorder receiving Tau and methadone maintenance therapy.

Treatment as usual involved administering medications in the OPD (outpatient department) to subjects with opioid use disorders, with the goal of preventing relapse and withdrawal symptoms. These medications included benzodiazepines, clonidine, tapentadol, tramadol, and buprenorphine.

According to the National AIDS TAU GROUP Programme Guidelines of 2019, subjects who are now not injecting opioids were defined as those who had not used any injectable psychoactive drug for reasons other than medical in the last three months.<sup>10</sup> MMT patients made up the case group for the study, while TaU subjects belonged to the control group. Following adequate management of the withdrawal symptoms, both groups received maintenance treatment for opioid use disorder. The study's exclusion criteria included non-compliant patients, injectable substance or drug users who had used other substances within the previous year, and those with morbid problems requiring medical intervention and impaired evaluation.

While the individuals on TaU were chosen from the de-addiction centre, the case group's participants received methadone directly from the treatment staff every day. Both groups received inpatient treatment. Patients in both groups were removed from OPD, where withdrawal symptoms were managed, or patients were placed on maintenance treatment in order to preserve homogeneity.

Following inclusion, written and verbal informed permission was obtained from each participant. Recording the individuals' sociodemographic information and clinical data came next. The Mini-International Neuropsychiatric interview 7.0.2.11 was used to evaluate patients with substance use disorders and co-occurring mental illnesses. The WHO Alcohol, Smoking, and Substance Involvement Screening Test was used to determine the severity and risk of non-injecting opioid use (WHO ASSIST 3.0).<sup>12</sup>

Psychiatric or medical comorbidities, length of TaU or MMT, length of illness since not treated, length of illness, and age of disease beginning were among the clinical characteristics evaluated.

In terms of quality of life, client satisfaction, and socio-occupational functioning, psychosocial functioning was assessed. The SOFAS (social and occupational functioning assessment scale) was used to evaluate the socio-occupational functioning. Thirteen QoL was assessed using the WHO QoL-BREF scale, and client satisfaction was assessed using the CSQ-8 (Client Satisfaction Questionnaire).<sup>14,15</sup> The study participants were provided with the questions in both Hindi and English.

The student's t-test and Chi-square test were used to statistically evaluate the obtained data, and Graph Pad (version 5) and SPSS (version 22) statistical analysis tools were used to evaluate correlation. A P value of less than 0.05 was deemed significant. The mean and standard deviation of the data were reported.

## RESULTS

In order to evaluate the psychosocial functioning of patients receiving non-injectable opioid medication while receiving standard care (buprenorphine, tapentadol, tramadol, trazodone, zolpidem, and chlorthalidone), a cross-sectional comparative clinical research was conducted. In this study, 134 non-injecting patients with opioid use disorder who had received MMT (n = 74) or therapy as usual (n = 60) for at least one month were evaluated. Table 1 provides a summary of the research participants' demographic information. The MMT and TaU groups' mean age of 34.66±12.33 and 32.21±9.55 years, respectively, were comparable with a p-value of 0.477. With p=0.353, the age range between the two groups was likewise comparable. With p=0.156, the occupational status was likewise statistically equivalent between the TaU and MMT groups.

In the two groups, the proportions of married, single, divorced, and other people were similar (p=0.724). In the MMT group, there were 74 men (100%) and in the TaU group, there were 56 males (93.3%) and 4 females (6.66%). For 18.91% (n=14) of MMT subjects and 30% (n=18) of TaU subjects, the domicile was rural; for 81.08% (n=60) of MMT subjects and 70% (n=42) of TaU subjects, the urban region was the place of residence (p=0.27). With p=0.451, the income distribution in the TaU and MMT groups was statistically comparable. With p=0.129, the educational backgrounds of the two research groups were likewise similar. Table 2 presents the findings of evaluating the clinical parameters in the two research subject groups.

The findings indicated that the MMT group's age of onset for OUD was 25.95±7.97 years, whereas the TaU group's age was 28.53±8.43 years. With a p-value of 0.22, this was statistically not significant. The MMT group's sickness

duration was  $10.57 \pm 10.53$  years, whereas the TaU group's was  $4.81 \pm 4.47$  years. The difference in illness length was statistically significant ( $p=0.005$ ) for the MMT group. The MMT group's length of untreated disease was  $9.11 \pm 9.83$  years, substantially longer than the TaU group's  $4.63 \pm 4.42$  years, which was significantly shorter ( $p=0.02$ ). The MMT group received therapy for  $2.83 \pm 1.93$  months, which was longer than the TaU group's  $2.06 \pm 1.47$  months. Nevertheless, at  $p=0.08$ , the difference was statistically not significant.

Regarding the psychosocial functioning in the two groups, SOFAS scores of 61–70 were observed in 13.51% ( $n=10$ ) MMT subjects and 43.3% ( $n=26$ ) TaU subjects, which was higher; scores of 71–80 were reported in 45.94% ( $n=34$ ) MMT subjects, which was higher than 33.3% ( $n=20$ ) TaU subjects; and scores of 81–90 were observed in a greater number of MMT subjects, with 40.54% ( $n=30$ ) subjects and 20% ( $n=12$ ) TaU subjects. With  $p=0.02$ , this difference was statistically significant. With a  $p$ -value of 0.003, the mean SOFAS scores for MMT and TaU were statistically significant at  $78.93 \pm 8.03$  and  $73.31 \pm 6.75$ , respectively. For every criterion, the MMT group's WHO QoL-BREF ratings were considerably higher than the TaU group's.

including physical health, psychological health, social relations, and the environment with respective  $p$ -values of  $<0.0001$ , 0.0003, 0.003, and  $<0.001$ .

With  $p=0.01$ , MMT had higher mean CSQ-8 scores, at  $21.45 \pm 1.45$  and  $20.58 \pm 1.54$ , respectively. Table 3 illustrates that the WHO help scores for MMT and TaU were similar, at  $21.66 \pm 10.76$  and  $26.08 \pm 9.31$ , respectively, with  $p=0.09$ .

## DISCUSSION

In order to evaluate the psychosocial functioning of patients receiving non-injectable opioid medication while receiving standard care (buprenorphine, tapentadol, tramadol, trazodone, zolpidem, and chlorthalidone), a cross-sectional comparative clinical research was conducted. In this study, 134 non-injecting patients with opioid use disorder who had received MMT ( $n = 74$ ) or therapy as usual ( $n = 60$ ) for at least one month were evaluated. The MMT and TaU groups' mean age of  $34.66 \pm 12.33$  and  $32.21 \pm 9.55$  years, respectively, were comparable with a  $p$ -value of 0.477.

With  $p=0.353$ , the age range between the two groups was likewise comparable. With  $p=0.156$ , the occupational status was likewise statistically equivalent between the TaU and MMT groups. In the two groups, the proportions of married, single, divorced, and other people were similar ( $p=0.724$ ). In the MMT group, there were 74 men (100%) and in the TaU group, there were 56 males (93.3%) and 4 females (6.66%). In 18.91% ( $n=14$ ) of the MMT subjects and 30% ( $n=18$ ) of the TaU subjects, the residence was rural; in 81.08% ( $n=60$ ) of the MMT subjects and 70% ( $n=42$ ) of the TaU subjects, the urban area was the place of residence ( $p=0.27$ ). With  $p=0.451$ , the income distribution in the TaU and MMT groups was statistically comparable. With  $p=0.129$ , the educational backgrounds of the two research groups were likewise similar.

These features were similar to those of the patients evaluated in earlier research by Gupta S et al. (2016) and Jhanjee S et al. (2016), whose demographic data was similar to that of the current investigation. The age of onset for OUD was found to be  $25.95 \pm 7.97$  years in the MMT group and  $28.53 \pm 8.43$  years in the TaU group based on the evaluation of clinical parameters in the two research subject groups. With a  $p$ -value of 0.22, this was statistically not significant. The MMT group's sickness duration was  $10.57 \pm 10.53$  years, whereas the TaU group's was  $4.81 \pm 4.47$  years. The difference in illness length was statistically significant ( $p=0.005$ ) for the MMT group. The MMT group's untreated disease duration was  $9.11 \pm 9.83$  years, a significant difference from  $4.63 \pm 4.42$  years for the TaU group which was significantly lower with  $p=0.02$ . The MMT group received therapy for  $2.83 \pm 1.93$  months, which was longer than the TaU group's  $2.06 \pm 1.47$  months. Nevertheless, at  $p=0.08$ , the difference was statistically not significant. These findings aligned with earlier research by Mattick RP18 in 2009 and Solomon SS19 in 2010, wherein the authors noted longer illness durations, longer periods of untreated illness, and longer therapy durations for methadone treatment for opioid use disorder when compared to other treatments.

The study's findings demonstrated that, in terms of psychosocial functioning between the two groups, 13.51% ( $n=10$ ) MMT participants and 43.3% ( $n=26$ ) TaU respondents had SOFAS scores of 61–70. In contrast, 45.94% ( $n=34$ ) MMT individuals had SOFAS scores of 71–80 which was higher compared to Thirty-one percent ( $n=12$ ) of the individuals from TaU and forty-five percent ( $n=30$ ) of the subjects from MMT had scores between 81 and 90. With  $p=0.02$ , this difference was statistically significant. With a  $p$ -value of 0.003, the mean SOFAS scores for MMT and TaU were statistically significant at  $78.93 \pm 8.03$  and  $73.31 \pm 6.75$ , respectively. For every parameter—physical,

psychological, social, and environmental—the MMT group's WHO QoL-BREF ratings were considerably higher than those of the TaU group, with corresponding p-values of <0.0001, 0.0003, 0.003, and <0.001. With  $p=0.01$ , MMT had higher mean CSQ-8 scores, at  $21.45\pm 1.45$  and  $20.58\pm 1.54$ , respectively. MMT and TaU had similar WHO assist ratings ( $21.66\pm 10.76$  and  $26.08\pm 9.31$ , respectively;  $p=0.09$ ).

These outcomes were consistent with earlier research by Yen CY20 in 2011 and Maremmani I21 in 2007, which found that patients with opioid use disorders receiving methadone treatment had a noticeably higher quality of life.

## CONCLUSION

The current study, taking its limitations into account, finds that people on MMT had considerably higher quality of life, customer satisfaction, and socio-occupational functioning than those on TaU. To fully comprehend the replication of the results from the current study, additional investigations and research with a bigger sample size and from several institutions are necessary. extensive execution and adherence to prevent any related prejudice.

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**TABLES**

Characteristics	MMT		TaU		p-value
	%	n=74	%	n=60	
<b>Mean age (years)</b>	34.66±12.33		32.21±9.55		0.477
<b>Age range (years)</b>					
18-30	21.62	16	23.3	14	0.353
31-40	35.13	26	33.3	20	
41-50	18.91	14	33.3	20	
51-60	13.51	10	6.66	4	
>60	10.81	8	3.33	2	
<b>Occupation</b>					
Unemployed	2.70	2	13.3	8	0.156
Employed	102.85	72	86.6	52	
<b>Marital status</b>					
Married	59.45	44	63.3	38	0.724
Others	40.54	30	36.6	22	
<b>Gender</b>					
Males	100	74	93.3	56	-
Females	0	0	6.66	4	
<b>Residence</b>					
Rural	18.91	14	30	18	0.27
Urban	81.08	60	70	42	
<b>Income</b>					
<10,000	45.94	34	46.6	28	0.451
10,000-20,000	37.83	28	26.6	16	
>20,000	16.21	12	26.6	16	
<b>Educational status</b>					
Primary	24.32	18	6.66	4	0.129
Intermediate	43.24	32	46.6	28	
Graduate or higher	32.43	24	46.6	28	

**Table 1: Demographic data of the two groups of study subjects**

Clinical parameters	MMT (Mean ± S. D)	TaU (Mean ± S. D)	p-value
<b>Onset age (years)</b>	25.95±7.97	28.53±8.43	0.22
<b>Illness duration (years)</b>	10.57±10.53	4.81±4.47	<b>0.005</b>
<b>Untreated illness duration (years)</b>	9.11±9.83	4.63±4.42	<b>0.02</b>
<b>Therapy duration for MMT/TaU (months)</b>	2.83±1.93	2.06±1.47	0.08

**Table 2: Comparison of the clinical parameters in the two study groups**

Psychosocial functioning	MMT		TaU		p-value
	%	n=74	%	n=60	
<b>SOFAS score</b>					
61-70	13.51	10	43.3	26	<b>0.02</b>
71-80	45.94	34	33.3	20	
81-90	40.54	30	20	12	
Mean ± S. D	78.93±8.03		73.31±6.75		<b>0.003</b>
<b>WHO QoL-BREF</b>					
Physical health	70.06±12.05		49.99±20.06		<b>&lt;0.0001</b>
Psychological health	72.66±12.67		56.72±20.76		<b>0.0003</b>
Social relations	65.17±20.19		48.09±23.58		<b>0.003</b>
Environment	74.36±12.87		58.39±14.65		<b>&lt;0.001</b>
<b>CSQ-8 score</b>	21.45±1.45		20.58±1.54		<b>0.01</b>
<b>WHO assist score</b>	21.66±10.76		26.08±9.31		0.09

**Table 3: Psychosocial functioning in the two groups of study subjects**