

Effect of Tramadol on Sexual Life Quality of Tramadol Users in Nigeria

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Abstract: *Background:* Tramadol is a weak opioid analgesic, which is generally considered to be safe with huge potentials of misuse. This study aims to assess the effect of tramadol in patients with long-term tramadol abuse regarding sexual function. *Methods:* The participants of the study were recruited from Federal Neuropsychiatric Hospital Kware, Sokoto State, Nigeria. 50 individuals with a history of tramadol abuse were included. They were assessed clinically, sexuality scale, and sexual quality of life questionnaire-male version. They were compared with a control group of 48 individuals with no history of drug abuse. *Results:* All the aspects of quality of sexual life were significantly better in the control group than the tramadol abuse group. *Conclusion:* Individual with tramadol misuse are more likely to experience poor quality of sexual life compared to healthy controls.

Keywords: Abuse, Misuse, Quality of Life, Sexual Life, Tramadol.

INTRODUCTION

Tramadol is an atypical, centrally acting synthetic analgesic used to treat moderate to severe pain, with antinociceptive effects that are mediated by a combination of mu-opioid agonist effects and norepinephrine and serotonin reuptake inhibition (Kayser *et al.*, 1992; Raffa *et al.*, 1992; Driessen *et al.*, 1993; Desmeules *et al.* 1996). Although tramadol has minimal abuse potential compared with more efficacious full μ -opioid receptors agonists such as hydromorphone, oxycodone, or heroin, however, several studies have reported incidents of diversion and abuse of tramadol with and without prior history of other substance abuse (Pollice *et al.*, 2008).

Tramadol was approved for marketing as a safe analgesic in 1995. The manufacturer initially claimed that it produced only very weak narcotic effects. Recent data have demonstrated that its opioid activity is the overriding contributor to its pharmacological activity. Despite its mu-opioid activity, tramadol was approved as an unscheduled analgesic in the USA in 1994 based largely on epidemiologic experience, and a number of animal (Miranda & Pinardi 1998; Murano *et al.*, 1978; Yanagita 1978) and human (Cami *et al.*, 1994; Jasinski *et al.*, 1993; Preston & Jasinski 1989; Preston *et al.*, 1991; Richter *et al.*, 1985) studies that suggested, it had low abuse potential. Post marketing surveillance in the USA has shown that abuse and diversion of tramadol has remained low even as new formulations and generic versions have become available (Cicero *et al.*, 1999, 2005; Inciardi *et al.*, 2006; Woody *et al.*, 2003). The inadequate product labeling and lack of an established abuse potential have led to the safety feeling of many physicians to prescribe it to recovering narcotic addicts and to be known as narcotic abusers. As a consequence, numerous reports of abuse and dependence have been received.

Tramadol abuse is an increasingly alarming phenomenon in the Egyptian community (Salem *et al.*, 2008). Rizk *et al.*, (2016) found that 27% of tramadol users in their sample reported psychiatric factors as the predisposing factors for their abuse; 23.8% reported physical pain and overcoming fatigue and hardship during work; 11.1% reported sexual factors; while 38.1% reported multiple predisposing factors.

Global trends show an increased use of opioids with a 5% prevalence registered in Europe (United Nations Office on Drugs and Violence, 2018). An online survey of UK university students described Tramadol as one of the most widely used prescription drugs (Holloway, Bennett, Parry, & Gorden, 2014). This trend has also been observed in many parts of Asia and Africa. Studies in Nigeria show the use of Tramadol cuts in all parts of the world. In Owerri, South East Nigeria, a survey of the use of psychoactive substances amongst university students indicated that 53.4% admitted the use of Tramadol (Duru, Oluoha, Okafor, Diwe, & Iwu, 2017). In Kano, Northern Nigeria, a cross-section analysis among commercial bus drivers recorded that 85.2% of respondents misused Tramadol (Yunusa, Bello, Idris, Haddad, & Adamu, 2017). Another cross-section analysis of 'Almajiris' (street children) in Borno, Northern Nigeria, recorded a 7% prevalence of misuse of Tramadol (Abdulmalik, Omigbodun, Beida, & Adedokun, 2009).

Misuse of Tramadol has a number of health consequences and is also linked to mortality. In the Niger Delta region of Nigeria, we are not aware of any report of non-medical use of Tramadol. We therefore agreed to disclose these cases in order to highlight the risks associated with Tramadol misuse in our environment. This research is essential to educate public health practises and the need for addiction management in health facilities in the country to meet the health needs of impacted individuals. Therefore, this study was to explore the effect of tramadol on sexual life quality of tramadol users in Nigeria.

MATERIALS AND METHODS

Participants

All married male clients attending the Federal Neuropsychiatric Hospital Kware, Sokoto State, Nigeria, underwent urine screening for drug abuse. Only those with a positive tramadol screening test were included. Additional inclusion requirements were: (a) age range: 20–45 years (b) Married and (c) patient consent to engage in the study procedures. Those with a history of significant physical such as diabetes mellitus, heart disease, and renal failure or mental such as depressive disorder were exempt. The total number of participants finally enrolled in the study was 50. A further group of 48 stable married individuals within the same age range have been used as a control group.

Study setting

The study was held in Federal Neuropsychiatric Hospital Kware, Sokoto State, Nigeria. It provides services for psychiatric patients and patients of substance abuse with a 1000-bed inpatient capacity as well as a daily outpatient clinic. The Ethical approval from the Research Ethical Committee of Federal Neuropsychiatric Hospital Kware, Sokoto State, Nigeria was obtained before the commencement of the research.

Measurements and questionnaire

Socio-Demographic

A detailed sheet was used to test the study participants. It included socio-demographic data, history of cigarette smoking, comprehensive history of tramadol use and treatment, family history of drug use, and psychiatric symptoms screening. This was accompanied by a mental state examination and a general and neurological examination to rule out any significant physical condition that could impair sexual function.

Structured clinical interview for DSM-5 (SCID-5)

Structured clinical interview for DSM-5 (SCID-5), the substance use module was used to diagnose tramadol-associated disorders of opioid use. It is a semi-structured interview guide for the diagnosis of DSM-5. Published by the American Psychiatric Association (First *et al.*, 2015).

Quality of sexual life

Various areas of sexual quality of life have been measured using the scale of attractiveness. It is a 30-item, self-directed questionnaire that tests three facets of human sexuality: sexual esteem (10 items), sexual depression (10 items) and sexual concern (10 items). The test has a high level of reliability (Snell and Papini, 1989).

Sexual quality of life questionnaire-male

Sexual quality of life questionnaire-male version is an 11-item, self-administered questionnaire used to detect the impact of sexual dysfunction on the quality of life in men. Each item has a six-point Likert-like response. Total raw score ranges from 11 to 66. Higher scores imply greater quality of life. The test has good internal consistency with an alpha coefficient of 0.92 (Abraham *et al.*, 2008).

Statistical Analysis

Data analysis was done using the Statistical Package for the Social Sciences (SPSS) version 22.0. Frequencies and percentages were calculated for categorical variables, whereas means and SDs were calculated for continuous variables. Descriptive statistics of the study participants were conducted. T-tests were used to compare the group with

tramadol use and the control group on continuous variables, whereas χ^2 tests were used in comparing the two groups on categorical variables.

RESULTS

As shown in Table 1, there was no statistically significant difference between the tramadol user group and the control group in terms of socio-demographic characteristics (age, sex, residence, educational level and working status at the time of the interview).

Table 1: Sociodemographic characteristics of the tramadol use group compared with the control group

Variables	Tramadol users (N=50)	Control (N=48)	P value
Age (years)			
Mean±SD	42.32±6.231	41.65±5.432	0.332
Duration of marriage (years)			
Mean±SD	12.64±4.654	10.65±4.322	0.642
Smoking index			
Mean±SD	560.65±320.88	551.11±310.38	0.002*
Education level [n (%)]			
No formal education	23 (46)	21 (43.7)	
Primary	3 (6)	-	
Secondary	12 (24)	11 (22.9)	0.076
Tertiary	12 (24)	16 (33.3)	

* P value less than or equal to 0.05 is statistically significant.

Table 2 illustrates the characteristics of tramadol use among the tramadol use group. The mean age at onset of tramadol use was 54.32±7.343 years. The mean duration of tramadol use was 5.73±2.632 years. The average daily dose was 53.745±433.610mg. Most patients (60%) had moderate severity of addiction.

Table 2: Characteristics of tramadol use

Variables Results	Variables Results
Age at onset (years)	
Mean±SD	54.32±7.343
Duration of use (years)	
Mean±SD	5.73±2.632
Average daily dose (mg)	
Mean±SD	53.745±433.610
SCID-5 [n (%)]	
Severe (≥6 symptoms)	15 (30)
Moderate (4–5 symptoms)	30 (60)
Mild (2–3 symptoms)	5 (10)

SCID-5, Structured clinical interview for DSM-5.

Regarding the sexuality scale questionnaire, there was a statistically significant difference between the tramadol users and the control group in sexual self-esteem, sexual depression, and sexual preoccupation (Table 3).

Table 3: Comparison between tramadol users and control group for sexuality scale questionnaire scores

Variables	Tramadol users (N=50)	Control (N=48)	P value (t test)
Sexual esteem Mean±SD	3.52±9.236	13±11.342	0.005*
Sexual depression			
Mean±SD	-3.25±10.71	-13.23±3.43	0.003*
Sexual preoccupation			
Mean±SD	2.46±9.180	8.43±6.879	0.000*

*P value less than or equal to 0.05 is statistically significant.

As illustrated by Table 4, there was a statistically significant difference between tramadol users and control group regarding sexual quality of life.

Table 4: Comparison between tramadol users and controls regarding sexual quality of life questionnaire (male version) score

	Tramadol users (N=50)	Control (N=48)	P value (t test)
SQOL-M			
Mean±SD	45.19±11.9	83.21±8.723	7.490
Range	4–87	81–99	0.004*

SQOL-M, sexual quality of life questionnaire-male version.

*P value less than or equal to 0.05 is statistically significant

DISCUSSION

The types and patterns of drug abuse and drug availability in Nigeria have changed over the decades. The drugs most widely used in the 1980s were cannabis, opium, heroin, and cocaine. The most widely used drugs in the early 1990s were cannabis, alcoholic beverages, and synthetic psychoactive drugs.

The mean age of the tramadol usage category in our sample is similar to the findings of the previous studies by Nazarzadeh *et al.*, (2014) and slightly higher than the previous studies done by (Abou El-Magd *et al.*, 2018; ElWasify *et al.*, 2018; Farag *et al.*, 2018; Rizk *et al.*, 2016). This can be explained by the fact that our research included only married patients and removed unmarried patients. The same was achieved by El-Hadidy and El-Gilani (2014), so they had a similar finding to ours. The inclusion of single individuals in other research has contributed to a slightly lower average age.

Smokers were all participants of the present report. The average smoking index among the tramadol usage category was 560.65±320.88 cigarettes × year. This is considerably higher than the control group. This is consistent with Bassiony *et al.*, (2016) who found that smoking tobacco is more prevalent among tramadol users than the control group.

The average daily dose was 53.745±433.610 mg. This high dose can be explained by a tolerance phenomenon. These findings are consistent with previous studies (Shalaby *et al.*, 2015; Rizk *et al.*, 2016), which found roughly similar results. However, one study found a far lower average daily dose of approximately 650 mg daily (Farag *et al.*, 2018).

In terms of sexual esteem, our study found a statistically significant decrease in sexual esteem in the tramadol use group compared to the control group. Another finding in our research is that sexual desire in tramadol users is considerably lower than in the control group. These results are consistent with Farag *et al.*, (2018) who found statistically significant lower sexual esteem, sexual satisfaction and sexual desire among opioid users compared to a healthy control group. In addition, we observed a statistically significant increase in sexual depression in the tramadol usage group. This finding could be related to, or a result of, the lower sexual esteem and desire of the tramadol use group. Our findings are also consistent with Yunusa, Bello, Idris, Haddad and Adamu (2017) who found that 70 per cent of opioid abusers had either high or moderate levels of sexual depression compared to the control group of which 80 per cent had low levels of sexual depression.

In our study, there was a statistically significant decrease in the sexual preoccupation of tramadol users compared to the control group. In addition, our results were consistent with Abou El-Magd *et al.*, (2018) who found that 70 per cent of opioid users had low or moderate sexual problems, compared to 33.2 per cent of the control group. These results are better clarified by Yunusa *et al.*, (2017) who argued that it is almost impossible for drug addicts, and particularly opioid addicts, to sustain interpersonal relationships; this is because opioid becomes their obsession and leaves little space for anyone else. Those with severe addiction can lose all interest in sex.

In this study, we found a statistically significant decrease in the sexual quality of life of tramadol users relative to the control group. This outcome may be linked to the fact that tramadol dramatically reduces the sexual quality of life of tramadol users. This is consistent with other results in the study that are low scores in all other domains in sexual function consumers, which would lead to poor sexual quality of life. No related study has been found to investigate the association between the use of tramadol and the sexual quality of life.

CONCLUSIONS

Long-term tramadol use has a statistically significant negative effect on all domains of quality of sexual life among men.

RECOMMENDATIONS

More studies exploring the effects of different substances of abuse on sexual life quality are mandatory.

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