ORIGINAL ARTICLE

THE PREVALENCE AND ASSOCIATED FACTORS OF PREMATURE EJACULATION (PE) AND ERECTILE DYSFUNCTION (ED) AMONG PATIENTS ON ANTIDEPRESSANTS IN A TEACHING HOSPITAL (TH)

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Objective: **Sexual problems are common among patients who are on antidepressants treatment. The objective of this study is to determine the prevalence of PE and ED, and their potential risk factors that may impair their sexual function in a TH.** *Methods:* **A cross-sectional study using simple random sampling was conducted among adult male patients who are on antidepressant treatment in the TH psychiatric outpatient clinic. Respondents' socio-demographic data were obtained. Participants were interviewed using a structured self-report questionnaire with 15-item International Index of Erectile Function (IIEF-15)where the scores lesser than 25 were indicative for having an ED. A validated Malay Premature Ejaculation Diagnostic Tool (MAPET) was used to assess PE and those with a score ≥ 23 were considered to have PE.** *Results:* **Hundred respondents were participated, and the prevalence of PE and ED was 66% and 85%, respectively. Using multivariate binary logistic regression, the potential risk factors of PE were race, i.e. being non-Malay (p=0.044), lesser in the frequency of sexual activity (p=0.03) and also an ED (p=0.03), respectively. The only risk factor for ED was PE (p=0.026). No significant association was noted for the other factors, including type of the antidepressant, dose and duration of antidepressant used (p>0.05). There was a strong correlation of MAPET and IIEF-15 (r=-0.345, p < 0.01) signifying patient with more severe PE had more severe ED.** *Conclusions:* **Due to very high rate of ED and PE in this group of respondents, it is pivotal to screen for sexual problem among patients who are taking an antidepressant in a psychiatric setup.** *ASEAN Journal of Psychiatry, Vol. 18 (2): July – December 2017: XX XX.*

Keywords: Sexual Dysfunction, Sexual Disorder, Premature Ejaculation, Erectile Dysfunction, Antidepressants

Introduction

Study has reported approximately 34% to 46% of men who are taking antidepressant have sexual dysfunction [1]. In a 2017 review, drugs that enhance the serotonin concentration, such as selective serotonin reuptake inhibitor, monoamine oxidase inhibitor and clomipramine known to have greater sexual side effects compared to drugs that predominantly effects on dopamine or norepinephrine concentration[2]. According to Peuskens et al 1998, sexual problems have been described as 'the unspoken side-effect of antidepressant and antipsychotics [3].

According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition 2013

(DSM-V), ED is characterized by repetitive inability to achieve or maintain a sufficient erection during partnered sexual activities following vaginal penetration and before the individual desires it. PE is defined as a persistent or recurring pattern of ejaculation occurring during partnered sexual activity within nearly 1 minute present for at least six months and must be experienced on almost all or approximately 75%–100% occasions of sexual activity [4].

In the study conducted among the Malaysia general population, the prevalence of self-reported sexual problems for ED and PE was 41.6% and 22.3%, respectively. In those subjects with ED, 33.5% reported to have PE[5]. A study covering Asia Pacific country was completed in 2009, and the prevalence showed PE among Malaysian men was 29% [6].However, a following study in 2011 reviewed that the prevalence of PE was 40.6% among patients in the primary health care clinic [7]. The prevalence of ED ranging from mild to severe was 56.4%, which was within the range of reported ED in past studies [8,9].Furthermore, according to cross-sectional study in Europe countries done in 2006 and 2010respectively, the prevalence of antidepressant induced sexual problems in males range from 34.2% to 46.4%[1,10].

These sexual adverse effects heavily infringed on diagnostic issues, management planning and prescribing practices, patients' quality of life (QoL) and their ultimate treatment adherence. Non-adherence may lead to tenacity relapse or recurrence of depression, which may have significant consequences[11].

To our knowledge, there is lack of information on ED and PE among patients who are taking antidepressants in Malaysia. This sex-related issue and taboo nature of sexual disclosure as well as embarrassment in seeking medical attention lead to under- reported and under-treated of PE and ED, especially in Asian culture like Malaysia[12]. The aim of this study was to determine the prevalence of PE and ED and its potential risk factors among patients who taking antidepressants in teaching hospital. We hypothesize that there is significant association between ED and PE among patients who are prescribed with an antidepressant.

Material and methods

This was a cross sectional study conducted among male out-patient who take antidepressant in psychiatric clinic at University Kebangsaan Malaysia Medical Centre(UKMMC), a teaching hospital (TH) in Kuala Lumpur, Malaysia. The study was conducted from 19 June 2017 to 12 September 2017. Ethical clearance was obtained from Health Research Ethics Committee of UKMMC with a code of FF 242-2017.

All male psychiatric out patients who are taking antidepressant and sexually active regardless of their marital status, aged between 18 to 70 years old, who could read and understand either Malay or English and able to give consents were eligible for the study. However, the patients who were taking antipsychotics, physically disabled and not sexually active were excluded from the study. After initial screening, a systemic random sampling method was used to recruit the respondent.

The sample size was calculated based on study conducted by Kish, L 1965 [13]. The calculated sample size was 96. Written informed consent was obtained from the participants prior to the study. Patients' socio-demographic data which include age, race, educational level, occupation, monthly income, marital status and duration, tobacco use, alcohol consumption and medical status, were obtained via self- administered questionnaire. The Malay version of International Index of Erectile Function (Malay-IIEF) and validated Malay Premature Ejaculation Diagnostic Tools (MAPET) were two assessment tools used in this study to obtain the data on ED and PE [14,15]. In Malay-IIEF, erectile function domain was used to evaluate patient's level of severity of ED. Those with a score of ≥25 were classified as individuals without ED and those with a score <25 were considered to have ED. Scoring on the domain of erectile function was further interpreted as severe (0-6), moderate (7-12) , mild to moderate (13- 18), and mild ED (19-24), respectively. The values of 25-30

for Malay-IIEF's score indicate no ED. For the sexual desire domain, it was concluded that the higher the score, the lesser the sexual dysfunction[14]. In MAPET, those with a score of < 23 were classified as individuals without PE and those with a score ≥ 23 were considered to have PE[15].

For data analysis, all analyses were performed using IBM SPSS version 20.0. A p-value less than 0.05 are taken as statistically significant with 95% confident intervals (95% CI). An appropriate statistical test was conducted and the correlation between the studies parameters were analysed accordingly. Descriptive analysis was conducted for the baseline characteristics of clinical features. Bivariate analysis was done using a Chi-square analysis. Significant independent variables will be included into the multivariate binary logistic regression analysis. The patients who were found to have sexual problems, i.e. PE and ED will be referred to seek the professional help.

Results

A total of 100 subjects who fulfilled the inclusion criteria and completed the questionnaire were included in this study. Most of the participants were within the age of 41 to 50-year age category(28%), followed by 61 to 70-year age category(26%), respectively. The sample was not normally distributed with a median age of 49 years and 48.5 years, for ED and PE, respectively. The majority of participants were Malay (58%), Chinese (39%) and Indians (3%).

The prevalence of ED among patients taking antidepressants, as diagnosed from the IIEF 15 was 85%. The distribution of ED was categorized based on mild dysfunction, 47%; mild to moderate,31%; moderate dysfunction, 2%; %; and severe dysfunction,5%. The demographic and clinical characteristics of ED were outlined in Table 1 wherebymissionary position and PE has significant association with ED (p = 0.04, and p<0.001, respectively). The other factorswhereby study, i.e. age, medical co-morbidities, smoking, consumption of alcohol werefound to be not significant.

Table 1. Demographic and clinical variables of patients on antidepressant treatment with or without erectile dysfunction

Variables	ED presence, n (%)	No ED presence, n (%)	p-value (Mann-Whitney-U Test, Pearson Chi-Square)
Total (n=100)	85	15	
Age, median (IQR)	49 (21)	45 (18)	0.242
Malay	47	11	0.192
Unemployed	21	3	0.694
Household Income < RM4500	45	7	0.654
Marriage Period, median (IQR)	20 (22)	17 (25)	0.992
With Perceived Partner Support	79	14	0.956
Family Planning	27	8	0.106
Co-morbidities			
Hypertension	22	3	0.628
Diabetes Mellitus	10	3	0.382
Dyslipidemia	10	4	0.125
Co-morbidities Medication			
Antihypertension	23	3	0.566
Oral Hypoglycaemic Agent	9	3	0.301
Cholesterol Lowering Agent	11	4	0.170
Smoking	28	4	0.631
Alcohol Intake	9	2	0.754
Missionary Position	**62**	**15**	**0.040***
Frequency of Sexual Intercourse >3 times per month	28	6	0.595
Duration of Psychiatry Illness, median (IQR)	6 (9)	7 (10)	0.288

With SSRI	76	13	0.754
Duration of Antidepressant, median (IQR)	6 (9)	7 (8)	0.467
Premature Ejaculation	**62**	**4**	**<0.001***
Sexual Desire	5	3	0.063
*=p<0.05; IQR = interquartile range; ED = erectile dysfunction			

On the other hand, the prevalence of PE among patients taking antidepressant was 66% and the demographic and clinical characteristics were outlined in Table 2. The prevalence of having both ED and PE were 62%. PE was found to be significantly associated with non-Malay race, having more than 3 times sexual activity per month, and co-morbidity with ED, i.e. p = 0.044, 0.004 and <0.001, respectively (Table 2).

Table 2. Demographic and clinical variables of patients on antidepressant treatment with or without premature ejaculation

Variables	PE presence, n (%)	PE not presence, n (%)	p-value (Mann-Whitney U Test, Pearson Chi-Square)
Total (n=100)	66	34	
Age, median (IQR)	48.5 (20)	48.5 (22)	0.954
Malay	**43**	**15**	**0.044***
Unemployed	18	6	0.286
Household Income < RM4500	34	18	0.892
Marriage Period, median (IQR)	20 (21)	22 (25)	0.503
With Perceived Partner Support	62	31	0.608
Family Planning	22	13	0.626
Co-morbidities			
Hypertension	17	8	0.807
Diabetes Mellitus	9	4	0.792
Dyslipidemia	10	4	0.644
Co-morbidities Medication			
Antihypertension	18	8	0.686
Oral Hypoglycaemic Agent	8	4	0.959
Cholesterol Lowering Agent	11	4	0.515
Smoking	24	8	0.192
Alcohol Intake	9	2	0.240
Missionary Position	50	27	0.681
Frequency of Sexual Intercourse >3 times per month	**16**	**18**	**0.004***
Duration of Psychiatry Illness, median (IQR)	5 (11)	8.5 (7)	0.323
With SSRI	59	30	0.861
Duration of Antidepressant, median (IQR)	5 (9)	8 (9)	0.406
Erectile Dysfunction	**62**	**23**	**<0.001***
Sexual Desire	5	3	0.828
*=p<0.05; IQR = interquartile range; ED = erectile dysfunction; SSRI = selective serotonin reuptake inhibitor			

The score of MAPET was negatively correlated with the score of IIEF-15 with spearmen rho (r = -0.345, p<0.001). Further analysis with multivariate binary logistic regression was conducted using Enter mode. For PE, the significant predictive factors include: Malay race, having more than 3 times of sexual activity per month, and co-morbid ED (Table 3) while other factors were not significant.

Table 3. Effect of associated factor and premature ejaculation by multivariate binary logistic regression

Variables	OR	SE	95% CI		p-value	Wald df=1
			Lower	Upper		
Race(Malay)	**4.278**	**0.525**	**1.529**	**11.972**	**0.006***	**7.663**
Frequency of Sexual Activity (≥3 Times Per Month)	**0.220**	**0.513**	**0.081**	**0.602**	**0.003***	**8.701**
Erectile Dysfunction	**11.907**	**0.708**	**2.973**	**47.685**	**<0.001***	**12.245**
constant	**0.206**	**0.740**			**0.033**	**4.554**
*=p<0.05; CI=confidence interval; OR=odds ratio; SE=standard error; df=degree of freedom						

The multivariate binary logistic regression for ED shows that the PE is the only predictive factor (Table 4).

Table 4. Effect of associated factor and erectile dysfunction by multivariate binary logistic regression

Variables	OR	SE	95% CI		p-value	Wald df=1
			Lower	Upper		
Premature Ejaculation	**7.906**	**0.652**	**2.203**	**28.378**	**0.002***	**10.056**
Missionary position	<0.001	7873.084	<0.001		0.998	<0.001
Constant	559339075.4	7873.0.84			0.998	<0.001
*=p<0.05; CI=confidence interval; OR=odds ratio; SE=standard error; df=degree of freedom						

Discussion

Patients who were on an antidepressant are commonly associated with sexual problems[2,16]. It is not uncommon to have a scenario where patients who have issues pertaining to sexual problems were going unnoticed by the treating physician. Most of the times, it is neglected in the management for patient with a mental-health problem. This situationmay cause further distressto patients and their partner. For some patients, they may suffer in silence.

Prevalence of ED and PE among male patients who are on antidepressant in our study population was very high, i.e. 85% and 66%, respectively. This result was much greater (85% vs. 56.4% in ED, 64% vs. to 29% in PE) than another local study in Malaysia. However, the population in the previous study consisted of the Malaysian general population [6,7]. In this study, there wasan association between a race i.e. being Malay,having lesser sexual activity, and ED, with the PE. However, it is contradicted with other study, Tang et al, 2011 found that Non-Malay, especially Indian has higher risk of getting PE [7]. This may due the distribution of the race where non-Malay is fewer than the Malays. This contributing factor needs to be explored more in the future research. There is significance found between the frequencies of sexual activity in a month with PE during our study. Patients who have fewer frequent sexual activities(less three times in a month) have more risk to get PE, which was consistent with the previous study[17]. This is because less frequency of sexual activity may cause men fewer opportunities to learn to control ejaculation.

PE is the only significant risk factor for ED. In this study, there is significant association between ED and PE. Similarly in a previous study by Malavige et al 2013 shows that PE is common in ED[18].Corona G et al in 2004 found that one-third of men with ED also suffer with PE[19]. Both study, explained that the association between PE and ED could be due to men suffered with ED forming a pattern of rushing to ejaculate before they are losing erection [18,19]. Previous study reported that there is a co-occurrence of ED and PE with the

prevalence of 50%. In that study, it explains that unidirectional relationship between the ED and PE, in which ED results in PE[20]. In our study, we found a strong relationship between ED and PE.

However, most of the socio-demographic factors such as age, education level, and duration of marriage, smoking, alcohol intakeshave no significant association with the prevalence of PE and ED. Similarly, for clinical factors such as sexual desire, medical co-morbidities, co-morbidities medication, antidepressant and its duration, duration of psychiatric illness has not shown to have significant association with PE and ED, even though factors such as co-morbidities medication, i.e. antihypertensive, oral hypoglycaemic agent, and lipid lowering agent have found to treat ED by restore the function and re-establish the smooth muscle tone through an increase arterial blood flow[21-23].

Quek et al 2008 found age was an important association with sexual problems, particularly ED. This may reflect its association with medical symptoms such as diabetes and hypertension, which rises in prevalence of age. However, the age of the men was not correlated with the PE [5]. Smoking risk factors was found to be associated with sexual problem which was consistent with numerous other studies that highlight the link between these two variables, even in former smokers [24,25]. Nevertheless, this was contradicted with our study, which shows no association between smoking and sexual problems. For the sexual desire, marital dissatisfaction such as a lack or loss of sexual desire also accounted for the increased prevalence of ED [5,26]. In contrast, the sexual desire was not correlated with the PE [26].Based on the previous study, there was a correlation between PE and poor overall health such as diabetes mellitus, and mental status. In patients with diabetes mellitus (DM) for 10 years and above, there is three times risk higher developing PE compared to patients with DM for less than five years. Besides, patients with poor metabolic control also have 10 times more risk to develop PE than patients with good or fair metabolic control [27]. Next, the potential associated factor is the patients'

mental state condition. Patients with poor mental status were reportedly to be diagnosed with PE. The common cause for patients with poor mental status to develop PE is emotional stress such as anxiety. There is close association between anxiety and PE [27]. However, in our study, we did not find any significant relationship between medical co-morbidity and PE. This may due to small sample size in our study.

This study has some limitations. Firstly, the small sample size that may lead to potential error. Secondly, composition of the ethnic group is a limitation to this study as majority of the patients are Malay. We did not measure the state of the depression among the depression that may be attributed to the symptoms of PE or ED.. Furthermore, we also aware the other medication use may have attributed to ED or PE. This condition may occur if patient use other medication concurrently with the antidepressant. We recommend including these variables in future Malaysia's study. Thus, we have to interpret the results of this study cautiously within the context of its limitations.

This research has number of some strength. The results of this study reveal that despite of high prevalence of PE and ED among the patients who are taking antidepressant, both were under-reported and under-diagnosed. This result is useful in our practice because sexual side effect secondary to psychotropic medication may attributed to the non - compliance to medication and probability of relapse among the patient. The possible solutions can be offered to those having this problem can be modification of medication regime, additional medication, e.g. PD5-inhibitors, as well as individual psychotherapy and psychoeducation [28, 29].

Conclusion

The high prevalence of both PE and ED in this study suggests that it is pivotal to screen patients who are on antidepressant treatment, especially on the sexual history taking. Successful in managing their sexual difficulties, if sexual problem existed,should begin with the systemic approach to determine the type of sexual adverse effect. Management

strategy should be tailored to the need of the individual patient. Such plan can help the patient to continue with the ongoing treatment and at the same time achieve satisfactory of life, i.e. using a less adverse effect treatment medication like bupropion and agomelatine and supportive therapy like counseling.

Acknowledgement

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