
PUBLIC HEALTH RESEARCH

Premature Ejaculation and Quality of Life among Men Attending Klinik Kesihatan Jaya Gading, Kuantan

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ABSTRACT

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Introduction	Premature ejaculation (PE) is an important sexual problem among men attending health clinic. Impacts of this condition towards quality of life still require further exploration. Aims of the study is to determine the proportion and determinants for PE and its impact on Quality of Life (QOL) among men attending a public health clinic in Kuantan
Methods	A cross-sectional study involving 290 respondents was conducted at a public health clinic over the period of five months (Nov 2015-March 2016). A validated self-administrated questionnaire that consisted of socio-demographic questionnaire, clinical characteristics, premature ejaculation diagnostic tool (PEDT) and WHO quality of life (WHOQOL-BREF) were used.
Results	The proportion of PE was 33.9% with PE 18.1% (49/271) and probable PE 15.8% (43/271). Multivariate analysis showed that level of education ($p=0.002$, OR 3.281/95% CI 1.183, 9.101) and hypertension ($p=0.047$, OR 1.788/95% CI 1.008, 3.170) were the only significant predictors for PE after controlling self-reported erectile dysfunction, pulmonary and neurological disorder. PE patients had lower median scores QOL in all four domain namely physical health, psychological, social relationship, environment (all domains with $p<0.001$).
Conclusions	The proportion of men diagnosed with premature ejaculation in this study is high and possibly associated with level of education and hypertension. Men with PE had lower quality of life in domains of physical health, psychological, social relationship and environment. Hence, it is recommended for PE screening among male attendees to primary health clinic especially those with hypertension and moderate level of education.
Keywords	Premature ejaculation - Quality of life - Sexual dysfunction.

INTRODUCTION

Evidence suggests that PE is a commonest cause of sexual disorder among men.¹ A number of studies have reported a prevalence of PE was about 20 - 40% in various countries (2-5). In Malaysia, Quek et al (2008) found the prevalence of PE was 22.3%.³ This study reveals that PE is a common condition which has considerable impact on quality of life.

The issue of PE received a great concern by researchers within the field because of the uncertainty about the diseases on its etiology, pathophysiology and associated factors. The effect of PE is also poorly understood but it causes a significant distress on men as mentioned in DSM-V. According to DSM-V, PE is diagnosed in the presence of ejaculations that occur within one minute or less during vaginal penetration and persisted for at least six months. It must be experienced most of the time (more than 75%) and results in significant distress, sexual frustration, dissatisfaction or tension between partners and not accounted by non-sexual mental disorder, drug or medical condition.⁶

Factors related to PE have been identified in several studies. PE has an association with sexual disorder, chronic prostatitis, hyperthyroidism, anxiety and depression.^{4, 7-9} In the literatures on PE, there are number of studies that found different factors in relation to PE while others discovered contradictory findings.^{5, 10-13}

Many people with sexual problem such as erectile dysfunction rated their quality of life lower than people who do not have problem with premature ejaculation.^{14, 15} Quality of life (QOL) plays an important role in addressing the implication of the diseases. Some studies have shown the negative effect of PE towards quality of life, however far too little attention has been paid to assess all different domains in quality of life. Quality of life (WHOQoL) instrument was developed to measure health related quality of life. WHOQOL-BREF was used to look for effect of PE towards their quality of life. It covered four domains that are important in assessing quality of life; physical health, psychological, social relationship and environmental domain. WHOQOL-BREF is a not disease specific for PE but it is a genuinely international measure of quality of life. The aim of this study is to describe proportion of PE and its associated factors as well as to explore their quality of life. Therefore, further intervention and research can be formulated in the future.

METHODS

Study design

A cross-sectional study was conducted at outpatient department (OPD) Klinik Kesihatan Jaya Gading, Kuantan from November 2015 to March 2016. All

males above 18 years encountered at the outpatient department during data collection period were conveniently invited to participate in this study. Those who were unable to comprehend in English or Malay language or with mental illness were excluded. In total, 271 men agreed to participate and completed the questionnaire. Sample size was estimated using Kish formula based on prevalence of premature ejaculation of 22.3 %, 0.05 accuracy and 95% confidence interval.

Instrument and data collection

A set of self-administered questionnaire comprises information on socio-demographic, self-reported medical condition, smoking status, body mass index (BMI); premature ejaculation diagnostic tools (PEDT); and questionnaire on quality of life (WHOQOL-BREF) was used.

The PEDT is a diagnostic tool for PE with Cronbach's alpha 0.77¹⁶ consists of five questions for each domains; ejaculation control; frequency of PE; ejaculation with minimal sexual stimulation; distress and interpersonal difficulty. It was developed to capture the essence of DSM IV-TR for PE. In this study, PEDT English version was translated and validated into Bahasa Malaysia. It was pretested for comprehension testing. Pilot study was conducted among 20 men to observe reliability of the tool. Cronbach's alpha for Bahasa Malaysia version of PEDT was 0.86. Total PEDT score had a minimum score of 0 to a maximum score of 20. The score interpreted as "no PE" with scores 8 or less, "probable PE" with scores 9 and 10, "PE" with score 11 and more. PE in this study was defined by summing probable PE and PE.

The WHOQOL-BREF used to assess health related quality of life. It is comprised of 26 questions which encompassed four domains; physical health (7 items); psychological (6 items); social relationship (3 items); and environmental domain (8 items). There are two items that assessing overall quality of life and general health. Each item used a Likert scale scores ranging from 1 to 5. Raw domain score for WHOQOL-BREF were converted into transformed score according to guideline. The domain score was scaled in a positive direction and higher score reflects a better quality in the domain being assessed. The WHOQOL-BREF in Bahasa Malaysia version has been validated locally and found to be comparable to other countries with validity 0.64-0.80 in 4 different domain and reliability 0.49-0.88.¹⁷

Ethical approval from UKMMC medical ethic committee was obtained prior to study with reference number FF-2015-400. Informed consent was obtained from all participants.

Data analysis

Data management and statistical analysis was performed using the Statistical program for Social

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Science (SPSS) version 19.0. Descriptive analysis was performed for socio-demographic and clinical characteristic of participant. A p value descriptive was generated for all variables with significant level was set at 0.05 in our study. Bivariate analysis was applied using chi-square analysis to look for association between categorical variable. Multivariate logistic regression was performed to look for independent associated factor of premature ejaculation. Spearman correlation coefficient was performed to test correlation between PEDT score and four domains of WHOQOL-BREF whereas the association of premature ejaculation with four domains of WHOQOL-BREF determined by a Mann-Whitney U test.

RESULTS

271 out of 290 men encountered during data collection period had consented and completed the study. The response rate was 93.4% in which 12 participants did not complete the questionnaire while the remaining 7 participants did not return the questionnaire. More than half of the participants were from middle age group (52.8%) followed by adult age group (37.4%). The mean age was 43.6 ± 10.8 years. Majority of them were Malay (97%) and others (3%). About two third of them had secondary education level and low household monthly income. Common comorbidities in this study were hypertension and

diabetes mellitus. The proportion of PE in this study was 33.9%, with median (IQR) PEDT score was 6 (7.0). PE in this study were defined as total premature ejaculation 18.1% (n=49) and probable premature ejaculation 15.8% (n=43).

Based on bivariate analysis, there were significant association between PE with hypertension ($p=0.014$) and sexual disorder ($p<0.001$). Multiple logistic regressions yielded that men with hypertension ($p=0.047$, adjusted OR= 1.788) and secondary education level ($p=0.002$, adjusted OR=3.281) were more likely to have premature ejaculation.

Table 3 provide results obtained from spearman correlation test between PEDT scores and four domains in WHOQOL-BREF. There were negative correlations in all domains with PE; physical health ($r= -0.32$); psychological ($r=-0.27$); social relationship ($r= -0.38$); environment ($r=-0.24$). However, the correlations were relatively weak.

As table 4 shows, statistically there were significant different median values in all four domains quality of life with PE. Interesting finding to emerge from the data was in social relationship domain. The median score for PE was 25.3% lower than non PE. Taken together, these results suggest that there is an association between PE and total quality of life.

Table 1 Characteristic patients with premature ejaculation

Variables	Overall (N=271)	PE (n=92) n (%)	NO PE (n=129) n(%)	χ^2	p value
Age (years) – Mean (SD)	43.68 (10.8)				
18-39 (adult)	102 (37.4)	33 (32.4)	69 (67.6)	0.935	0.625
40-59 (middle age)	143 (52.8)	48 (33.6)	95 (66.4)		
≥ 60 (elderly)	26 (9.6)	11 (42.3)	15 (57.7)		
Ethnicity					
Malay	263 (97%)	88 (33.5)	175 (66.5)	0.947	0.330
Others	8 (3%)	4 (50.0)	4 (50.0)		
Monthly household income					
< RM 2300	177 (65.3%)	57 (32.2)	120 (67.8)	0.813	0.666
RM2300- RM 5600	82 (30.3%)	30 (36.6)	52 (63.4)		
> RM5600	12 (4.4%)	5 (41.7)	7 (58.3)		
Educational level					
Non/Primary education	40 (14.8)	8 (20.0)	32 (80.0)	4.375	0.112
Secondary education	194 (71.6)	72 (37.1)	122 (62.9)		
Tertiary education	12 (4.4)	12 (32.4)	25 (67.6)		
Occupational status					
Unemployed	48 (17.7)	19 (39.6)	29 (60.4)	0.826	0.363
Employed	223 (82.3)	73 (32.7)	150 (67.3)		
Smoking status					
Never smoke	73 (26.9)	26 (35.6)	49 (64.4)	0.773	0.680

Former smoker	88 (32.5)	32 (36.4)	56 (63.6)		
Current smoker	110 (40.6)	34 (30.9)	76 (69.1)		
Medical illness					
Hypertension	94 (34.7)	41 (43.6)	53 (56.4)	6.000	0.014
Diabetes mellitus	59 (21.8)	19 (32.2)	40 (67.8)	0.102	0.749
Renal insufficiency	4 (1.5)	2 (50.0)	2 (50.0)	0.467	0.495
Heart diseases	7 (2.6)	3 (42.9)	4 (57.1)	0.254	0.614
Pulmonary diseases	6 (2.2)	0 (0.0)	6 (100.0)	3.154	0.076
Neurological disorder	8 (3.0)	1 (12.5)	7 (87.5)	1.691	0.193
Prostate disorder	2 (0.7)	1 (50.0)	1 (50.0)	0.232	0.630
Erectile dysfunction	14 (5.2)	13 (92.9)	1 (7.1)	22.847	< 0.001*
BMI- Median (IQR)	26.3 (6.4)				
Non obese	61 (22.5)	24 (39.3)	37 (60.7)	1.022	0.312
Obese	210 (77.5)	68 (32.4)	142(67.6)		

*significant p<0.05 / chi square test

Table 2 Independent associated factors of PE using multiple logistic regressions

	B	p value	OR/Exp (95% CI)
Education level		0.074	
Secondary education ¹	1.188	0.002*	3.281 (1.183-9.101)
Tertiary education ¹	1.113	0.073	3.043 (0.900-10.291)
Hypertension	-0.581	0.047*	1.788 (1.008-3.170)
Pulmonary disorder	20.196	0.999	<0.001
Neurological disorder	20.558	0.9998	<0.001
Sexual disorder	-21.964	0.998	<0.001

*significant p<0.05

Table 3 Correlation coefficient between PEDT score and domain WHOQOL-BREF

	PEDT	
	r value	p value
Physical health	-0.317	< 0.001
Psychological	-0.256	< 0.001
Social relationship	-0.376	< 0.001
Environment	-0.240	< 0.001

Table 4 Association between PE and QOL (Mann Whitney U test)

	Median (IQR)		Z statistic	p value
	PE	NO PE		
Physical health	63 (17.5)	69 (18.0)	-3.779	< 0.001
Psychological	63 (19.0)	69 (18.0)	-3.63	< 0.001
Social relationship	56 (25.0)	75 (25.0)	-5.26	< 0.001
Environment	63 (19.0)	69 (12.0)	-2.52	< 0.001

DISCUSSION

This study is set out with the aim of identifying the proportion and determinant for premature ejaculation (PE) and quality of life of the sufferers. These results are consistent with other studies which found high prevalence of PE ranging from 20-40%^{2,5,18} as they have almost similar population characteristics and using identical assessment tool

to diagnose PE. This finding may suggest that PE is a common male sexual problem in primary care. Associated factors for PE discovered in this study was self-reported erectile dysfunction which has been observed in earlier studies too.^{7, 13, 19} Shamini et. al confirms the association between PE and erectile dysfunction (ED). Almost 50% of patients with ED will experience PE. Patients with ED require a constant penile stimulation to maintain

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adequate erection for sexual intercourse in which may lead to premature ejaculation.

Another determinant for PE is hypertension. The reason for significant association of hypertension with PE in this study is not clear but maybe indirectly related to psychological disorder.^{8, 20} Stein et. al found that depression and anxiety were significantly associated with the subsequent diagnosis of hypertension.²⁰ It is possible therefore that patient with PE and hypertension might have undiagnosed psychological disorder. Interesting to note that, psychological disorder especially anxiety and depression had significant association with PE in most of the studies.^{13, 14, 21, 22} Surprisingly, level of education is one of the independent factors associated with PE. Level of education may influence knowledge and understanding on PE.²³ Therefore, they will have a higher awareness on PE and ultimately increase detection of PE. Further studies, which take these variables into account, will need to be undertaken.

In reviewing the literatures, facts related to PE and quality of life (QOL) is still scarce. It is evaluated either separately or through qualitative study.^{15, 24, 25} It is interesting to note that all domains in WHO quality of life-BREF (WHOQOL-BREF) namely physical health, psychological, social relationship and environment among respondent with PE are affected. In this study, PEDT score is found to have a negative linear correlation with all four domains in WHOQOL-BREF. These results seem to be consistent with a qualitative study done by Dennis et. al in 2007. It has been highlighted that PE resulted in emotional distress, sexual distress and poor relationship.²⁶ However, there was no evidence of PE which has an impact towards physical and environment on previous study.

The observed median score in social relationship domain of patients with PE is 25.3 % lower than those without PE might be explained in this way: social relationship affects a range of health outcome including physical health, mental health and also health seeking behaviour. There are three facets incorporated within the social relationship domain in WHOQOL-BREF namely personal relationship, social support and sexual activity. These results are in agreement with Rowland et al. finding which showed a lower score on sexual activity and personal relationship.¹⁴ However these studies used different tools of assessment for quality of life and PE. Self-esteem and relationship (SEAR) questionnaire and premature ejaculation profile (PEP) was used in previous study. Rosen and Althof further support this study with an evidenced based review showed a negative impact of PE in relationship and their quality of life.¹⁵

Smith and Christakus 2008 stated that health is interconnected as well as social relationship on health.²⁷ A majority of them have a decreased sexual confidence and avoid social relationship. Hence, it could conceivably be hypothesised that men with PE had experience less sexual satisfaction therefore feel incomplete in their relationship, loss of interest in sex and avoiding relationship altogether. It can therefore be assumed that patient with PE had a poor quality of life in line with poor social relationship. An implication of this is the possibility that prevent men from forming a good personal relationship. A further qualitative study with more focus on future relationship is therefore suggested.

The other three domains in quality of life namely psychological, physical health and environment shows an 8.7% lower median value compared with those without PE. PE is recognized as a significant cause of psychological distress for men in many studies.^{3, 8, 22, 28} According to this evidence, we can infer that PE may have psychological impact. However, this result must be interpreted with caution because psychological aspect can either be a reason for PE or consequence of PE. A part from biological causes, it is possible to hypothesise that PE maybe related to worry on sexual performance or unpleasant early sexual experience. It is hard to determine the causal-effect relationship between PE and psychological. However, study done by Zhang et al. found that longer duration of PE will elevate the risk of getting depression.²⁹ Therefore, it can be assumed that PE could cause psychological impact to a man's life. Further research should be undertaken to investigate on this.

Very little was found in the literature to explain the relationship between physical health and environment with PE. This outcome is contrary to that of Rowland et al. 2006 who found PE had a non-significant association with physical health based on SF-36 questionnaire.¹⁴ However, this result maybe can support a previous research which showed an association between men's sexual dysfunction and physical health. The study found an association between physical health with erectile dysfunction and testosterone deficiency.²⁸ In reviewing the literature, no information on effect of PE toward environmental factor found. In the other hand, a study on Finnish twin to explore the genetic and environmental effect on PE reported no association of genetic and environmental with PE.³⁰ Since the relation has not been found elsewhere it is probably can be explained through a study by Smith and Christakis: Social relationship and environment factors will hand an influence on health either physical or psychological, and vice versa.²⁷ There are still many unanswered question about PE requiring a further research.

This study has a number of limitations. Majority respondents were Malay in ethnicity. It might be improved by involving more primary health clinics with multiracial background. Erectile dysfunction was only based on self-reported in this study; it might be improved by including IIEF-5 score in questionnaire in future. This study is also limited by its cross-sectional study with convenient sampling. Therefore, finding in this study cannot be generalized. A randomized sampling with a correlational research can be done to look for causal-effect relationship on PE with all domains in quality of life. Furthermore, self-administrated questionnaire might lead to wrong interpretation by the respondents but left with no choice since researchers find that face-to-face interview may not be suitable when discussing with respondents about sensitive issue such as sexual behaviours in the Eastern community that perceived sex as taboo.

CONCLUSION

The study revealed a high proportion of PE in a primary care clinic and might become the commonest sexual dysfunction among men. PE might be associated with hypertension, erectile dysfunction and level of education. This study has also found that generally patients with PE had lower quality of life on all four domains in WHOQOL-BREF especially in social relationship domain. Hence, this study may highlight the importance of PE screening among male attendees to primary health clinic especially those with hypertension, sexual disorder and moderate level of education. Further studies on how men coping with PE can be evaluated in the future.

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