ORIGINAL ARTICLE

Prevalence of Premature Ejaculation and Its Associated Factors Among Men Attending Government Health Clinics in Kuantan, Pahang

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ABSTRACT

INTRODUCTION: Premature ejaculation (PE) is a common sexual dysfunction affecting men globally, often underdiagnosed and under-treated. Its prevalence varies across different sociocultural and geographical settings. The objective of this study is to determine the prevalence of PE and its associated factors among men attending government health clinics in Kuantan, Pahang, Malaysia. **MATERIALS AND METHODS:** A six-month cross-sectional study was conducted from April 2023 to September 2023 at twelve health clinics. The respondents who were selected were sexually active men over the age of 18 years. Those with psychiatric illness or illiteracy were excluded. Data were collected using the validated Malay version of the Premature Ejaculation Diagnostic Test (PEDT) and the Depression, Anxiety, and Stress Scale (DASS-21). PE was defined as a PEDT score above 9. Descriptive analysis and simple and multiple logistic regression were performed using SPSS. **RESULTS**: Out of 300 eligible men, 287 responded (95.7% response rate). The prevalence of PE was 32.4% (n=93), with 17.8% (n=5) classified as probable PE and 14.6% (n=42) as PE. Multiple logistic regression showed PE were significantly associated with stress [AOR (95% CI): 3.83 (1.33–11.00); p-value=0.013] and anxiety [AOR (95% CI): 2.60 (1.29–5.25); p-value=0.008]. **CONCLUSION:** The study revealed a high prevalence of PE among men and potentially linked to stress and anxiety. Raising awareness among the public and healthcare providers can improve detection rates in primary care. Therefore, routine PE screening is recommended for men attending health clinics, and such measures would facilitate early diagnosis and treatment.

Keywords
Sexual Dysfunctions, Premature Ejaculation, Stress, Anxiety

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INTRODUCTION

Premature ejaculation (PE) is common male sexual dysfunctions characterised as a condition where ejaculation occurs within approximately one minute duration of vaginal penetration and before the individual desires it; and these symptoms must persist for at least six months appear on nearly all occasions of sexual activity. Additionally, the condition must cause significant distress to the individual, and the dysfunction cannot be explained by any another mental disorder, relationship issues, other stressors, or substances/medications.[1]

Globally, the prevalence of PE ranges from 4.7% to 58%, with varying prevalence in different geographical areas.[2–9] A few studies done in Malaysia showed that the prevalence of PE ranges from 21.4% to 40.6%.[10–15] Despite its high prevalence, PE remains underdiagnosed due to various factors, such as lack of widespread awareness among men, cultural beliefs, emotional embarrassment, and societal taboos.[16] These variations highlight the influence of sociocultural factors on PE prevalence.

PE is a complex condition influenced by different demographic, psychological, and clinical factors. Only few studies have shown that PE is more prevalent among older males.[5,6] Ethnicity also plays a significant role, with

studies in Malaysia indicating a higher prevalence among Indian men and varying rates across different regions globally.[4,15] Education level impacts PE, with lower education levels being associated with higher prevalence. Additionally, economic factors such as low monthly income and financial problems, further influence sexual health.[14] Psychological factors, including anxiety and depression, are significantly linked to PE.[5,10,11,13,17] Smoking is also associated with an increased risk of PE, likely due to the negative impact on vascular health.[5,13] Clinical conditions like higher body mass index, type 2 diabetes mellitus, hypertension, hyperthyroidism, stroke, traumatic brain injury, epilepsy, chronic prostatitis, and varicocele are all associated with increased in the prevalence of PE.[14,18–20] This multifaceted aetiology underscores the importance of the need of a comprehensive approach to diagnosing and managing PE in clinical practice.

Various studies have investigated the prevalence of PE across different regions and populations in Malaysia.[10–13,15] A study conducted in Kuantan measured PE associated with the quality of life.[14] However, there is a lack of studies in the assessment of the psychological factors related to PE in Kuantan. Hence, this study specifically addresses this gap by focusing on the psychological factors related to PE, different from previous studies. PE is an important issue sexual health among men that should not be ignored, as it is often underdiagnosed and undertreated. Therefore, this research aims to measure the prevalence of PE and its associated factors among males attending government health clinics in Kuantan, Pahang, Malaysia.

MATERIALS AND METHODS

Study design and population

A six-month cross-sectional study was conducted in all the 12 government health clinics situated in Kuantan from April to September 2023. The sample size of male subjects was calculated based on the prevalence of PE in Kelantan and added with a 10% non-response rate. The final estimated sample size was 300 men.[12] Male clinic attendees of age above 18 years, who were able to comprehend the Malay language, married, and sexually active for the last six months were included. Those who were illiterate, diagnosed with any psychiatric illness or mentally retarded were excluded. All male patients who attended the respective clinic on the day of data collection were selected through simple random sampling. Patients who met the inclusion criteria were recruited at the registration counter, while those who declined to participate were considered part of the non-response rate. Respondents were requested to sign an informed consent form upon consenting to participate. Assurance of confidentiality was provided to all participants.

Data collection

A self-administered questionnaire consisting of three sections: section A: sociodemographic and medical illness consist of age, race, working status, education level, occupation, monthly income, frequency of sexual intercourse, family member with similar symptoms, smoking status, diabetes mellitus and hypertension; section B assessed the psychological status by using the Depression Anxiety Stress Scale (DASS-21); section C is to screen for PE by using the Premature Ejaculate Diagnostic Test (PEDT).

Malay version Premature Ejaculation Diagnostic Tools (PEDT)

The PEDT questionnaire had a Cronbach's alpha coefficient of 0.86 for Malay, demonstrating good test-retest reliability, high sensitivity, and specificity.[14,21] This instrument comprises five items across five domains. The total PEDT score ranges from 0 to 20. A score of ≤8 indicates no PE; scores of 9 to 10 probable PE and ≥11 indicate confirmed PE.

Malay version 21-item Depression Anxiety Stress Scale (DASS-21)

The DASS-21 Malay Version demonstrated satisfactory internal reliability with Cronbach's alpha coefficients of 0.75, 0.74, and 0.79 for depression, anxiety, and stress, respectively.[22] Responses were recorded on a 4-point scale, ranging from 0 (indicating the statement did not apply at all) to 3 (indicating the statement applied to the participant very much or most of the time). Subscale scores varied from 0 to 21 and were classified into

normal, mild, moderate, severe, and extremely severe.

Data analysis

SPSS 29.0 software was used to analyse the data. The continuous data were normally distributed; hence, mean and standard deviation were used. Furthermore, descriptive statistics for categorical data employ frequency and percentage. The prevalence and severity of PE were calculated in percentages with a 95% confidence interval (CI). The relationship between PE and other variables, such as sociodemographic profile, medical illness, behavioural, and psychological factors, was analysed using simple logistic regression. A multiple logistic regression model using the Enter method was used to determine the factors associated with PE. All significant variables of known clinical relevance ($p<0.25$) were included in the multivariate logistic regression.[23] The final model showed a significant value ($P<0.05$), considered a statistically significant associated factor for PE.

RESULTS

Sociodemographic data

A total of 287 men responded, with a response rate of 95.7%. Table I shows the sociodemographic data of the subjects. The mean age was 40.4 (±10.5), ranging from 18 to 70 years. The vast majority were Malays, accounting for 93.0% of the total, with non-Malays making up the remaining 7%. More than half of the respondents had secondary education (53.0%), and 41.5% had university or college education. Most were employed (92.7%), and about two-thirds were in the low-income category (B40) (73.5%). Non-smokers and smokers were nearly equal in numbers, at 41.3% and 40.1%, respectively. Around 63.4% reported having sexual intercourse 2-4 times per week, and 95.1% did not have a family member with similar symptoms. The mean BMI was 27.21 (±6.21). A substantial proportion of respondents had DM (78.0%) and hypertension (73.9%). Surprisingly, more than half of the people who participated in the survey did not experience any symptoms of stress (90.2%), anxiety (76.3%), or depression (86.8%).

Table I: Sociodemographic and Clinical Characteristics of Respondents

Variables	Characteristics	n	(%)	Mean (SD)
Age (years)		-	-	40.4 (10.5)
Ethnicity	Malay	267	93.0	
	Non-Malay	20	7.0	
Education Level	Primary School	16	5.5	
	Secondary School	152	53.0	
	College/ University	119	41.5	
Working Status	Unemployed	21	7.3	
	Employed	266	92.7	
Monthly Household Income	B40: < RM 4850	211	73.5	
	M40: RM 4850 - 10959	70	24.4	
	T20: ≥ RM 10960	6	2.1	
Frequency of Sexual Intercourse	≤ 1 time/ week	81	28.2	
	2 - 4 times/ week	182	63.4	
	≥ 5 times/ week	24	8.4	
Family Member has similar symptoms	No	273	95.1	
	Yes	14	4.9	
Smoking Status	Non-smoker	127	44.3	
	Ex-smoker	45	15.7	
	Smoker	115	40.0	
Body Mass Index		-	-	27.41 (6.21)
Diabetes Mellitus	No	224	78	
	Yes	63	22	
Hypertension	No	212	73.9	
	Yes	75	26.1	
Stress	No	259	90.2	
	Yes	28	9.8	
Anxiety	No	219	76.3	
	Yes	68	23.7	
Depression	No	249	86.8	
	Yes	38	13.2	

Prevalence of premature ejaculation and severity

Figure 1 shows that 32.4% of male respondents had PE, in which the total value was derived by summating PE and probable PE. Looking into the severity domain, the results showed that 17.8% of men reported having probable PE, and 14.6% had PE, as shown in Table II.

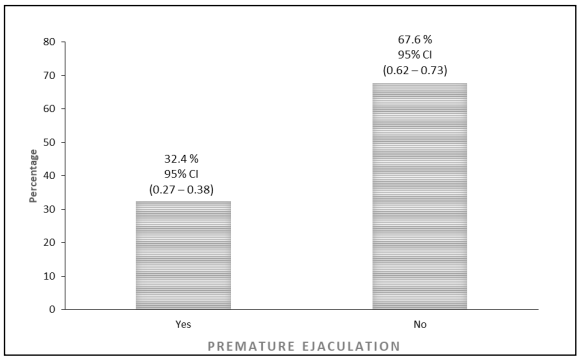

Figure 1: Prevalence of Premature Ejaculation

Table II: Severity of Premature Ejaculation

Severity	n (%)	95% CI
Normal	194 (67.6)	0.62 – 0.73
Probable Premature Ejaculation	51 (17.8)	0.14 – 0.23
Premature Ejaculation	42 (14.6)	0.11 – 0.19

Associated factors

Table III displays the results of simple and multiple logistic regression. From simple logistic regression, the associations with PE include higher body mass index (OR=1.07, 95% CI 1.02–1.11), diabetes mellitus (OR=2.53, 95% CI 1.43–4.49), hypertension (OR=1.71, 95% CI 0.99–2.94), stress (OR=9.71, 95% CI 3.78–24.93), anxiety (OR=5.32, 95% CI 2.98–9.51), and depression (OR=5.12, 95% CI 2.48–10.58). However, no significant correlation was found between PE and factors such as age, ethnicity, education level, employment status, household income, family history of PE, and smoking status.

According to Table III, two factors significantly increased the likelihood of PE which is stress and anxiety. Individuals who were stressed were nearly four times more likely to report PE (OR=3.83, 95% CI 1.33–11.00) than those without PE. Additionally, individuals with anxiety were twice as likely to develop PE (OR=2.6, 95% CI 1.29–5.24). Although other factors were linked to an increased risk of PE, these associations were not statistically significant in this study.

Table III: Associated factors for premature ejaculation

Variables	Simple Logistic Regression			Multiple Logistic Regression		
	Wald[a]	p-value[b]	Crude OR[c] (95% CI)[d]	Wald[a]	p-value[e]	Adjusted OR[f] (95% CI)[e]
Age	0.62	0.43	0.99 (0.98 – 1.01)	-	-	-
Ethnicity						
Non-Malay (ref.)						
Malay	0.06	0.81	1.13 (0.42 – 3.04)	-	-	-
Education Level						
Primary School (ref.)				-	-	-
Secondary School	0.04	0.83	0.89 (0.31 – 2.59)			
College/ University	0.53	0.47	0.67 (0.23 – 1.98)	-	-	-
Working Status						
Unemployed (ref.)				-	-	-
Employed	0.01	0.93	0.96 (0.37 – 2.45)			
Monthly Household Income				-	-	-
B40 (ref.)				-	-	-
M40	0.02	0.90	0.96 (0.54 – 1.72)			
T20	0.80	0.37	2.10 (0.41– 10.69)			
Frequency of Sexual Intercourse						
≤ 1 time/ week (ref.)						
2 - 4 times/ week	0.53	0.47	0.82 (0.47–1.41)	0.33	0.57	1.21 (0.64–2.29)
≥ 5 times/ week	3.30	0.06	0.34 (0.11–1.09)	0.19	0.66	0.76 (0.21–2.66)
Family Member						
No (ref.)				-	-	-
Yes	0.10	0.75	0.83 (0.25 – 2.71)			
Smoking Status						
Non-smoker (ref.)				-	-	-
Ex-smoker	0.02	0.88	1.06 (0.51– 2.21)	-	-	-
Smoker	0.90	0.34	1.30 (0.76– 2.22)			
Body Mass Index	9.29	0.002*	1.07 (1.02–1.11)	1.64	0.20	1.03 (0.98–1.08)
Diabetes Mellitus						
No (ref.)						
Yes	10.05	0.002*	2.53 (1.43– 4.49)	1.97	0.16	1.63 (0.82–3.24)
Hypertension						
No (ref.)						
Yes	3.66	0.056*	1.71 (0.99– 2.94)	0.16	0.69	1.14 (0.59–2.22)
Stress						
No (ref.)						
Yes	22.32	<0.001*	9.71 (3.78– 24.93)	6.21	0.013*	3.83 (1.33 – 11.00)
Anxiety						
No (ref.)						
Yes	31.82	<0.001*	5.32 (2.98– 9.51)	7.11	0.008*	2.6 (1.29–5.24)
Depression						
No (ref.)						
Yes	19.44	<0.001*	5.12 (2.48–10.58)	2.47	0.12	2.04 (0.84–4.98)

[a]Wald statistic; [b]p-value of Simple Logistic Regression; [c] Crude odd ratio; [d] Confidence Interval; e p-value of Multiple Logistic Regression; [f] Adjusted odd ratio; *significant at p-value less than 0.05. The model of Nagelkerkr R square for this study was 0.236. This implies that only 24% of the variation in this study was explained in this model.

DISCUSSION AND CONCLUSION

Prevalence of premature ejaculation and severity

The study's results found that 32.4% of the respondents reported ranging from 21.4 to 33.9% experiencing PE, which closely matches the previous prevalence of PE in Malaysia,.[10–12,14] Our result closely matches a study conducted at Jaya Gading Health Clinic with 15.8% and 18.1%, respectively, for probable PE and PE.[14] However, a study done at the University Malaya Medical Centre (UMMC) with 207 respondents revealed the highest prevalence reported in Malaysia at 40.6%, which may be attributed to better awareness and reporting in the West coast region of peninsular Malaysia compared to the East Coast, where cultural factors such as embarrassment and taboos are more common.[15]

From a global perspective, PE prevalence varies across countries, but the widespread use of the PEDT allows for

more reliable comparisons across studies. Our findings are consistent with prevalence rates reported in Asia, with 37.7%, 32.5%, and 26.67% in China, South Korea, and Egypt, respectively.[6,7,19] Global research reveals that the PE prevalence in our study is similar with a study conducted in Somalia, which reported 12% for probable PE and 25% for PE.[2] In contrast to our findings, a Vietnamese study on male partners in infertile couples revealed a lower prevalence of probable PE and PE with rates of 7.1% and 4.7%, respectively.[3] These variations emphasise diverse factors such as ethnicity, sociocultural and distinct geographical regions that may influence the prevalence of PE in different countries and areas.

Significant discrepancies in PE prevalence are observed in studies using different diagnostic tools. For instance, in Malaysia, two studies reported PE prevalence rates of 22.3% and 25% using the Intravaginal Ejaculatory Latency Time (IELT) and the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), respectively.[10,11] A recent study in Germany utilising the Sexual Complaints Screener for Men (SCS-M) found a much lower PE prevalence of 5.2%.[9] A literature review has highlighted that PE is predominantly identified as a major sexual dysfunction among young adult males. This finding could potentially account for the observed lower prevalence as this study focused on men aged 50 years and above.[4] Additionally, two studies in China using the IELT reported a substantial increase in PE prevalence in the same province, rising from 10% to 60% over five years.[5,8] This higher rate may be linked to the recent COVID-19 pandemic, which affected psychological, social, and physical health, potentially influencing sexual health and behaviours. Despite these observations, research on the COVID-19-PE link is limited. Using varying diagnostic tools, such as IELT, DSM-5, and SCS-M, contributes to inconsistent results, hindering direct comparisons.

Associated factors

Two variables, anxiety and stress, were shown to have a significant association with PE. Our study shows that stressed individuals are nearly four times more likely to experience PE. One study conducted in Vietnam explored the relationship between stress and PE among infertility couples, revealing a positive correlation between stress and PE. This suggests a link between higher levels of stress and PE. Nevertheless, their findings may have been influenced by their sample population, which consisted of males from infertile couples.[17]

Various instruments of study were employed from local and global studies, but none specifically assessed stress as a psychological factor. The inconsistent findings on the link between stress and PE in various studies are due to the lack of standardised tools to assess stress in men. Earlier Malaysian studies used the Hospital Anxiety and Depression Scale (HADs) to evaluate the psychological aspects linked to PE. However, these studies did not measure the stress factor.[10,11] Whereby, worldwide studies primarily focus on anxiety and depression with different tools such as the Patient Health Questionnaire (PHQ-2 & PHQ-9), Generalised Anxiety Disorder (GAD-2 and GAD-7), and HADs, failing to capture the full spectrum of stress experiences.[5,8,9]

Our study reveals a significant association between anxiety and PE, showing that individuals with anxiety are more than twice as likely to experience PE compared to those without anxiety. Our finding is consistent with a previous Malaysian study, which reported a 2.83-fold likelihood of developing anxiety in men with PE.[10] Similar associations have been observed in global studies from Vietnam and China, which identified strong correlations between anxiety and PE using PEDT with DASS-21 and PEDT with GAD-7.[8,17] These findings indicate strong correlations between anxiety and PE even when different tools are used to measure anxiety. A study in China differentiated between lifelong PE (LPE) and acquired PE (APE), finding a weaker link between LPE and our findings closely align with APE, demonstrating that men with PE are nearly three times more likely to develop anxiety.[5] This indicates that anxiety is often linked to APE, explaining why APE has a higher likelihood than LPE.

Determining whether PE precedes stress and anxiety or *vice versa* is complex, as the relationship is likely bidirectional. This may explain why anti-anxiety medications (SSRIs) that regulate serotonin are effective in treating PE.[24] A study in China suggests that men with PE often develop anxiety due to the distress and embarrassment associated with their condition. (5) However, it is plausible that anxiety often precedes PE, but once PE occurs, it can further increase anxiety, leading to a vicious cycle.[17]

STRENGTHS AND LIMITATIONS

The strength of this study lies in its comprehensive representation of men attending government health clinics in Kuantan. By adopting an improvised method from a study at Jaya Gading Health Clinic, it used simple random sampling across all twelve clinics to represent the male population. Furthermore, this study examined PE with psychological factors, underscoring the necessity for primary care providers to implement proactive screening strategies for PE, even in the absence of symptoms, to ensure early detection and treatment.

The study, however, has several limitations. The reliance on self-reported data may introduce recall bias, and the cross-sectional design limits the ability to establish causality for PE. Future research should perhaps include populations from diverse ethnicity and conducting comprehensive assessments for potential confounding variables and relationship satisfaction. Furthermore, the questionnaire we employed is a screening tool for PE, which may limit its ability to distinguish between LPE and APE effectively.

CONCLUSION

This study found a high prevalence of PE among men attending government health clinics in Kuantan, Pahang, with significant associations between stress and anxiety. Raising awareness among the public and healthcare providers is crucial for improving detection rates in primary care. Utilising screening tools like PEDT and DASS-21 can effectively identify men with undisclosed sexual health problems, facilitating early diagnosis and treatment.

CONFLICT OF INTEREST

The author discloses that they do not have any conflicts of interest.

INSTITUTIONAL REVIEW BOARD (ETHICS COMMITTEE)

This study obtained approval from the Department of Family Medicine and Kulliyyah Research Committee (KRC) of Kulliyyah of Medicine, International Islamic University Malaysia (IIUM) on 20th June 2022 with Research ID: 880. Furthermore, this study was registered with the National Medical Research Register (NMRR) and obtained approval from the Medical Research and Ethics Committee (MREC) with ID: NMRR ID-23-00266-YMV (IIR).

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