



Original Article

Premature ejaculation and its associated factors among men attending a primary healthcare clinic in Kelantan, Malaysia

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المخلص

أهداف البحث: تهدف هذه الدراسة إلى تحديد نسبة الذين يعانون من سرعة القذف والعوامل المرتبطة بها بين الرجال الذين يراجعون عيادة الرعاية الصحية الأولية في "كوتا بهارو" بمقاطعة كيلانتان في ماليزيا.

طرق البحث: أجريت دراسة مقطعية على الرجال النشطاء جنسيا بين سني 18 و60، خلال الأشهر الستة الماضية على الأقل. استُبعدت من الدراسة حالات الأمراض النفسية غير المستقرة والمتخلفين عقليا والأميين. وتم توزيع استبيانات حول العوامل الاجتماعية الديموغرافية، والنسخة الماليزية لأداة تشخيص سرعة القذف، والنسخة الماليزية للمؤشر الدولي لوظيفة الانتصاب رقم 5. وقد تم تحديد سرعة القذف بنتيجة مقدارها 9 وما فوق حسب تعريف أداة تشخيص سرعة القذف. وتم التحليل الوصفي وتحليلات الانحدار اللوجستية البسيطة والمتعددة باستخدام الإصدار 22 من البرنامج الإحصائي للعلوم الاجتماعية.

النتائج: استجاب ما مجموعه 294 من 313 من الرجال المؤهلين بمعدل استجابة 93.9%. وكانت نسبة سرعة القذف 21.4% (n = 63). أظهر الانحدار اللوجستي المتعدد، أن اختلالات الانتصاب البسيطة [نسبة الاحتمالات المعدلة (95% فاصل ثقة): 0.6 (1.89, 16.91)] والبسيطة - المتوسطة [نسبة الاحتمالات المعدلة (95% فاصل ثقة): 8.2 (2.72, 24.46)] والمتوسطة - الشديدة [نسبة الاحتمالات المعدلة (95% فاصل ثقة): 6.0 (1.15, 31.23)] كانت مرتبطة ارتباطا ذا قيمة مع سرعة القذف.

الاستنتاجات: سيتسبب تعزيز الوعي بسرعة القذف في المجتمع وبين مقدمي الرعاية الصحية، في زيادة معدل الكشف عن هذا الاضطراب. كما ستساعد هذه

البيانات أيضا على تقديم خدمات صحية جنسية أفضل. ويوصى بإجراء البحوث على الأمراض المصاحبة لدى الرجال الذين يعانون من سرعة القذف بسبب تأثيرها السلبي على الصحة النفسية والاجتماعية وجودة الحياة.

الكلمات المفتاحية: اضطرابات الانتصاب؛ سرعة القذف؛ أداة تشخيص سرعة القذف

Abstract

Objectives: This study aimed to determine the prevalence of premature ejaculation and its associated factors among men attending a primary healthcare clinic in Kota Bharu, Kelantan, Malaysia.

Methods: A cross-sectional study was conducted on 18- to 60-year-old sexually active men during at least the past 6 months. Patients with unstable psychiatric illnesses, mental retardation, and illiteracy were excluded. A questionnaire on sociodemographic factors, Malay version Premature Ejaculation Diagnostic Tool, and Malay version International Index Erectile Function-5 were distributed. Premature ejaculation was defined as a Premature Ejaculation Diagnostic Tool score of 9 and above. Descriptive analysis and simple and multiple logistic regression analyses were performed using SPSS version 22.

Results: A total of 294 of 313 eligible men responded, with a response rate of 93.9%. The prevalence of premature ejaculation was 21.4% (n = 63). The multiple logistic regression analysis showed that mild [adj. OR (95% CI): 5.6 (1.89, 16.91); P = 0.002], mild-moderate [adj. OR (95% CI): 8.2 (2.72, 24.46); P < 0.001], and moderate-severe [adj. OR (95% CI): 6.0 (1.15, 31.23);

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$P = 0.03$] erectile dysfunctions were significantly associated with premature ejaculation.

Conclusion: Promoting awareness on premature ejaculation among the society and healthcare providers would increase the detection rate of this disorder. Such data will also help provide better sexual health services. Research on the underlying comorbidities among men with premature ejaculation is recommended owing to its negative impact on psychosocial aspects and quality of life.

Keywords: Erectile dysfunction; Premature ejaculation; Premature Ejaculation Diagnostic Tool

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Introduction

Premature ejaculation (PE) has been considered as the most common sexual disorder among men.^{1–3} However, its prevalence is highly variable depending on the location and operational definition. Its definition has been widely debated on; in the past decades, several definitions were introduced. PE has been defined as a male sexual dysfunction characterised by (i) ejaculation that always or nearly always occurs prior to or within approximately 1 min of vaginal penetration (lifelong PE) or a clinically significant and bothersome reduction in latency time, often to approximately 3 min or less (acquired PE); (ii) inability to delay ejaculation on all or nearly all vaginal penetrations; and (iii) negative personal consequences, such as distress, bother, frustration, and/or avoidance of sexual intimacy.⁴

The Diagnostic and Statistical Manual of Mental Disorders (DSM-V) by the American Psychiatric Association includes an objective ejaculatory latency criterion and defines PE using four major criteria: (i) a persistent or recurrent pattern of ejaculation occurring during partnered sexual activity within approximately 1 min following vaginal penetration and before the individual wishes it; (ii) the symptom must be present for at least 6 months and must be experienced on almost all or all occasions of sexual activity; (iii) the symptom causes clinically significant distress in the individual; and (iv) the sexual dysfunction is not better explained by a non-sexual mental disorder or as a consequence of severe relationship distress or other significant stressors and is not attributable to the effects of a substance/medication or another medical disorder.⁵

PE is classified into four groups, namely, lifelong PE, acquired PE, natural variable PE, and premature-like ejaculatory dysfunction.⁶ Natural variable PE and premature-like ejaculatory dysfunction were not a symptom or manifestation of an actual biological pathology, but rather a normal variation on sexual performance⁷; hence, prescribed medication is only indicated for men with lifelong PE and in certain cases of acquired PE.^{8,9} With the varying

definitions of PE, the prevalence of PE differs. The prevalence of PE varies from 4.7% in Hong Kong¹⁰ to 83.7% in Middle East.¹¹ On average, most studies reported a prevalence ranging from 20.0% to 31.6%.^{2,12–18}

Recent evidence has suggested that the pathophysiology of lifelong PE may be influenced by neurobiological and genetic variations in some men. Meanwhile, acquired PE is understood to be influenced by either psychological (sexual performance anxiety and psychological or relationship problem) or organic factors, which are commonly associated with other comorbidities, such as erectile dysfunction, hyperthyroidism, and occasionally prostatitis and cardiovascular disease.¹⁹ Mixed findings were reported with regard to sociodemographic factors, such as age,^{2,12,19–24} educational and economic status,^{21,25} duration of marriages or relationships,^{19,24} physical activities, and smoking.¹ PE has also been postulated to cause a negative psychological impact on men and spouses.²⁶

Much effort and focus have been allocated by governing bodies in the research of PE. Observational studies and clinical trials have gained momentum in the past decades in search for new evidence for a better understanding of PE. This study aimed to determine the prevalence of PE, describe depression, anxiety, and stress among men with PE, and identify the associated factors for PE among men attending a primary healthcare clinic in Kota Bharu, Kelantan. In this study, the PE cases included confirmed and probable cases of PE based on a Premature Ejaculation Diagnostic Tool (PEDT) score of ≥ 9 .²⁷

Materials and Methods

Population and sample

A cross-sectional study was conducted among men attending a primary healthcare clinic in Kota Bharu, Kelantan. Those aged 18–60 years who were sexually active for at least 6 months prior to the study were included. Those with unstable psychiatric illness, mental retardation, and illiteracy were excluded. All men fulfilling the eligibility criteria were invited to participate in the study.

The sample size was calculated using a single proportion formula to determine the prevalence of PE.²⁸ Considering the prevalence of men with confirmed PE of 20.3%²⁹ and precision of 0.05 with 95% confidence interval, the minimum required sample size was 267. After considering a non-response rate of 10%, a total sample size of 294 men was needed.

Research tools

The case report form consisted of 2 sets of questionnaire. The first set required responses on sociodemographic data, PEDT, and International Index Erectile Function-5 (IIEF-5). The sociodemographic data included age, race, duration of marriage, level of education, occupational status, smoking status, underlying chronic illnesses, and frequency of sexual intercourse within the past 1 month. The second set of questionnaire included the Depression Anxiety Stress Scale-21 (DASS-21) and estimation of the intravaginal ejaculatory latency time, i.e., duration of time from the start of vaginal

intromission or penetration to the start of intravaginal ejaculation.³⁰

The PEDT was developed to capture the multidimensional nature of PE according to the DSM-IV. The PEDT has a high level of agreement with the clinical diagnosis and good test-retest reliability with an interclass correlation coefficient of 0.88.^{8, 29} It consists of 5 items with 5 domains (ejaculatory control, frequency, minimal stimulation, distress, and interpersonal difficulty) with 5-Likert scale (0–4), and the scores range from 0 to 20. A score of ≤ 8 indicates no PE; 9 and 10 indicates probable PE; and ≥ 11 indicates confirmed PE.²⁷ Prior to the commencement of this study, the English version of the PEDT was translated to Malay and was subjected to forward and backward translations by 4 experts. Face validity was tested among 5 men, and the sentences were rephrased. The final version was tested among 61 men (based on 20% of the total sample size of this study) in an outpatient clinic in a tertiary teaching hospital, with an internal consistency reliability of 0.86.

The IIEF-5 is the 5-item version of the 15-item IIEF. It was developed to diagnose the presence and severity of erectile dysfunction. The simplified version was designed for an office setting for diagnosis and screening purposes and may serve as a complement to history and physical examinations.³¹ The IIEF-5 is used in men who reported having attempted sexual intercourse in the past 1 month. The IIEF-5 classifies the condition of patients into no (score 25–22), mild (score 21–17), mild-moderate (score 16–12), moderate (score 11–8), and severe (score 7–1) erectile dysfunctions. A cut-off score of ≤ 21 indicates erectile dysfunction with a sensitivity of 98% and specificity of 88%.³¹ The Malay version of the IIEF-5 showed good reliability and discriminant validity with sensitivity and specificity of 85% and 75%, respectively.³²

The DASS-21 is used to assess the prevalence of depression, anxiety, and stress. It has 3 domains, i.e., depression, anxiety, and stress, with 7 items in each domain. The Malay version of the DASS-21 has a good factor loading ranging from 0.39 to 0.73 and a good Cronbach's alpha of 0.84, 0.74, and 0.79, for depression, anxiety, and stress, respectively.³³ The experience on each symptom over the past week was rated on a 4-Likert scale ranging from 0 (does not apply to me) to 3 (applies to me most or all of the time). The scores for each scale were summed. Depression was defined as a score of 10–28 plus; anxiety was defined as a score of 8–20 plus; and stress was defined as a score of 15–34 plus.³⁴

Data collection

Male patients attending a primary healthcare clinic in Kota Bharu, Kelantan, between January 2014 and January 2015 were recruited. One of the researchers briefed the patients regarding the study and distributed the written informed consent form and questionnaire. The questionnaire was reviewed for its completeness and provided with identification numbers. The PEDT scores were immediately calculated, and those with scores of ≥ 9 were provided with a second set of questionnaire. For ethical purposes, those who had a positive finding for PE and erectile dysfunction were

provided with an appointment to the men's health clinic for further assessment and treatment, if indicated.

Data entry and analyses

Data entry and analyses were performed using SPSS version 22. Descriptive analyses were conducted. Simple and multiple logistic regression analyses were performed to explore the associated factors for PE. The dependant variable was PE. The independent numerical variables were age and duration of marriage. The independent categorical variables were race, educational level, occupational, smoking status, underlying chronic medical illness, frequency of sexual intercourse within the past 1 month, and erectile dysfunction.

Ethical consideration

Ethical approval for the study was obtained from the Human Ethics Committee, Universiti Sains Malaysia (USM/KK/PPP/JEPeM [264.3(15)]). The patients were provided with information related to the study along with an Information and Consent Form. Confidentiality was ensured, and written informed consent was obtained.

Table 1: Sociodemographic and clinical characteristic of the respondents (n = 294).

Variables	Mean (SD) ^a	Without PE (n = 231) n (%)	With PE (n = 63) n (%)
Sociodemographic			
Age (years)	46.3 (10.12)		
Duration of marriage (years)	19.5 (9.88)		
Race			
Malay		221 (78.7)	60 (21.3)
Non-Malay		10 (76.9)	3 (23.1)
Education			
Primary and secondary		137 (76.9)	41 (23)
Tertiary		94 (81)	22 (19)
Occupation			
Employed		195 (78)	55 (22)
Unemployed		36 (81.8)	8 (18.2)
Smoking status			
Non-smoker		162 (79)	43 (21)
Active smoker		69 (77.5)	20 (22.4)
Sexual intercourse (month)			
>5 times		128 (78.5)	35 (21.4)
≤ 5 times		103 (78.6)	28 (21.4)
Clinical			
Comorbidities			
Present		129 (77.2)	38 (22.8)
Absent		102 (80.3)	25 (19.7)
Erectile dysfunction			
Absent		72 (94.7)	4 (5.3)
Mild		86 (76.1)	27 (23.9)
Mild-moderate		64 (68.8)	29 (31.2)
Moderate-severe		9 (75)	3 (25)

PE = premature ejaculation.

^a Standard deviation.

Table 2: Associated factors for premature ejaculation.

Variables	Crude OR ^a (95% CI ^b)	Wald stat ^c	<i>P</i> value ^d	Adj OR ^e (95% CI ^b)	Wald stat ^c	<i>P</i> value ^f
Age	0.9 (0.96, 1.01)	1.36	0.244			
Duration of marriage	0.9 (0.96, 1.01)	1.38	0.240			
Race						
Malay	1					
Non-Malay	1.1 (0.295, 4.14)	0.02	0.882			
Education						
Primary and secondary	1					
Tertiary	0.8 (0.44, 1.39)	0.69	0.407			
Occupation						
Employed	1					
Unemployed	0.8 (0.35, 1.79)	0.32	0.570			
Smoking status						
Non-smoker	1					
Active smoker	1.1 (0.60, 1.99)	0.08	0.774			
Sexual intercourse (month)						
>5 times	1					
≤5 times	1.0 (0.57, 1.74)	0.00	0.984			
Erectile dysfunction						
Absent	1			1		
Mild	5.7 (1.89, 16.91)	9.60	0.002	5.65 (1.89, 16.91)	9.60	0.002
Mild-moderate	8.2 (2.72, 24.46)	14.03	<0.001	8.16 (2.72, 24.46)	14.03	<0.001
Moderate-severe	6.0 (1.15, 31.23)	4.53	0.033	6.00 (1.15, 31.23)	4.53	0.030
Comorbidities						
Present	1					
Absent	1.20 (0.68, 2.12)	0.40	0.525			

^a Crude odds ratio.

^b Confidence interval.

^c Wald statistic.

^d Simple logistic regression.

^e Adjusted odds ratio.

^f Multiple logistic regression.

Results

A total of 294 of 313 eligible men responded with a response rate of 93.9%. The prevalence of PE among the men attending the primary healthcare clinic was 21.4% ($n = 63$) with a mean (SD) PEDT score of 11.8 (2.56) and a range of 9–20. The prevalence of the PE subtypes, namely, lifelong PE, acquired PE, natural variable PE, and premature-like ejaculatory dysfunction, was 7.9% ($n = 5$), 15.9% ($n = 10$), 58.7% ($n = 37$), and 17.5% ($n = 11$), respectively.

Among the men with PE, the prevalence of depression, anxiety, and stress was 20.6%, 33.3%, and 14.3%, respectively. The estimated ejaculation time in 73.0% of the patients was more than 2 minutes. The sociodemographic characteristics of the respondents are shown in Table 1.

The findings of the simple and multiple logistic regression analyses are shown in Table 2. Erectile dysfunction status was the only significant associated factor for PE. The high overall correctly classified percentage of 78.6%, area under the receiver operating characteristics of 65.0%, and insignificance of the Hosmer and Lemeshow test findings ($P = 1.000$) showed that the model was fit.

Discussion

The Global Study of Sexual Attitudes and Behaviours on various sexual problems involving 29 countries has shown

that the prevalence of PE among populations ranged from 12.4% to 30.5%, and the highest prevalence was reported in South East Asia. There was no clear explanation on the reason for the high prevalence of PE in South East Asia. However, a large-scale observational study conducted in urban areas has applied a door-to-door interview that has provided more comfortable and private interactive sessions.¹ Variations in sociocultural aspects and religion may contribute to the difference in the awareness of sexual dysfunction. The cultural perception on the importance of sex, views on the appropriate engagement in sexual activity, and intimate relationship dynamics between men and women might vary greatly.^{20,29,35} In Malaysia, studies have reported prevalences of PE of 29.0%² and 49.1%.²⁹ The latter study, which applied a similar methodology, a PEDT questionnaire, an operational definition, and was conducted in a clinical setting, showed a much higher prevalence. It involved diverse ethnic groups, including Malay, Chinese, and Indian groups, unlike the current study, which involved mainly a Malay population.

Anxiety was considered the most prevalent psychological problem compared with depression and stress among men with PE. Another study conducted among 430 men with PE in the west coast Malaysia using the Hospital Anxiety and Depression Scale reported a prevalence of anxiety and depression of 25% and 14.6%, respectively.¹³ This finding was in line with that of a systematic review that reported consistently high levels of personal distress among men with

PE and their spouses, and one-third of them associated the anxiety with sexual situations.³⁶ A similar trend was observed in other studies.^{12,13,37,38} It was postulated that anxiety activates the sympathetic nervous system and reduces the ejaculatory threshold, leading to an earlier emission.

Men with PE have a shorter ejaculation time. One study reported a median ejaculation time of 1.8 min among men with PE and 7.3 min among men without PE.³⁹ A study in Europe investigated the time of ejaculation of 201 men with PE according to the DSM-IV-TR criteria and 1115 men without PE and reported that 20% of men with PE ejaculated within 1 min; 35% ejaculated between 1 and 2 min; and 12.1% in the non-PE group ejaculated within less than 2 min after penetration.⁴⁰ These findings were similar to those of the current study.

Erectile dysfunction was the only significant factor for PE reported in this study, with mild-moderate erectile dysfunction showing an eight-fold, moderate-severe erectile dysfunction showing a six-fold, and mild erectile dysfunction showing a five-fold increase in PE incidence. The association between erectile dysfunction and PE is evident worldwide. In a meta-analysis of 474 articles involving 57229 patients, PE was found to be associated with an almost four-fold increased risk of erectile dysfunction.⁴¹ Older individuals are at a greater risk of erectile dysfunction and PE, and they fit into the classification of acquired PE, in whom ejaculatory disorders develop later in life. Other morbidities, such as diabetes mellitus, hypertension, hyperlipidaemia, anxiety, and depressive symptoms, co-exist in men with erectile dysfunction and PE.⁴¹ However, in this study, the other underlying chronic medical illness was not associated with PE, and this was possibly attributed to the small number of acquired PE cases. The non-association between chronic medical illness and PE was supported by the findings of two other local studies.^{13,29}

Factors, namely, age, duration of marriage, race, education, occupation, smoking habits, and frequency of sexual intercourse, were not significantly associated with PE in this study. The Global Study of Sexual Attitudes and Behaviours has shown that age was an important correlate of several sexual problems, including lack of sexual interest, inability to reach orgasm, and erectile difficulties but not PE.¹ One study in the Asia Pacific region involving a similar age range of participants showed a non-significant association.² Local studies have reported that although PE was prevalent among men below the age of 40 years, it is not a risk factor for PE.^{13,29} Genetic variations, neurobiological and somatic conditions, including disturbance in serotonergic neurotransmission, and representation of the pudendal nerve or gland of penis hypersensitivity are integral aetiological factors for an individual to ejaculate prematurely, particularly in the case of lifelong PE.⁸ Advancing age was often associated with multiple chronic medical illnesses, and this strongly relates to erectile dysfunction and increases the prevalence of acquired PE.¹⁹

Duration of marriage and frequency of sexual intercourse were not found to be associated with PE in this study. This is explained on the basis of anxiety-related sexual performance observed among newly-weds and those with infrequent sexual intercourse. However, anxiety-related sexual performance should be present in a sufficient degree for it to be a predictor for PE.²⁰

This study reports that education and occupation are not associated with PE. It is postulated that men with a higher education and social status will sustain better health, thus preventing them from developing any sexual disorder.²⁰ It is also believed that they live in a healthy environment, including stable emotional and optimal health conditions, which prevents them from developing sexual disorders attributed to secondary organic causes.

Limitations and further research studies

The majority of the population was Malay, and the sample included was from one primary healthcare clinic; therefore, the generalisability of the findings is limited. The underlying medical illnesses were based on self-reporting and might not reflect their actual proportion. Promoting awareness on PE among the society and healthcare providers would increase the detection rate and allow for a better provision of sexual health services. New evidence has emerged that PE is prevalent among men with underlying comorbidities; however, its pathophysiology is yet to be understood.^{19,24} Investigating on this area is justified because of the negative impact on psychosocial aspects and quality of life among patients with PE. This study provides a brief report on the area of sexual health and serves as a basis for further analytical epidemiological studies.

Conclusion

The prevalence of PE among the men attending a primary healthcare clinic in Kota Bharu, Kelantan was 21.4%. Erectile dysfunction was significantly associated with PE.

Authors' contributions

AZMR conceived and designed the study, conducted the research, and collected and organised the data. SBI and FMZ conceived and designed the study. AZMR and NMN analysed and interpreted the data. AZMR wrote the initial and final draft of the manuscript. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Conflict of interest

The authors have no conflict of interest to declare.

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