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Prevalence of sexual dysfunction, factors, and psychological effects on adult males in the Buea Health District, Cameroon

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The aim of this study was to determine the prevalence of sexual dysfunction, associated factors, quality of life and health seeking habit of males in the Buea Health District (BHD). A community-based cross-sectional study was carried out on sexually active males. Sexual dysfunction and quality of life were assessed using the International Index for Erectile Function (IIEF) and the Sexual Quality of Life Scale-Male (SQOL-M) questionnaire for psychological effect, respectively. The health seeking habits of participants was also assessed. The data were analysed using IBM SPSS Statistics (Version 26). The prevalence of sexual dysfunction was 18%. Erectile dysfunction (48%) was the most reported, whereas premature ejaculation (3.1%) was the least prevalent. Poor intercourse satisfaction and orgasmic dysfunction were linked to masturbation, whereas smoking, anxiety, and age above 50 were associated to poor erectile dysfunction. There was a significant association between all types of sexual dysfunction and the quality of life. For the health seeking habits, 45.7% of the participants sought traditional medication, 40% medical care, and 11.4% roadside medication. Male sexual dysfunction is prevalent in all its forms in the BHD, and it is affected by both life style and demographic factors. The perceived SQOL of affected males is poor and they exhibit different health seeking habits.

Key words: Males, International Index for Erectile Function (IIEF), sexual dysfunction, SQOL, prevalence, health seeking habits.

INTRODUCTION

Sexual intercourse is a basic human function and is a fundamental part of life. Male sexuality is quite complex and involves physical, psychological, and emotional factors (Arrington et al., 2005). Proper sexual functioning provides a psychological, physical, and social well-being and is one of the most important elements of quality of life (Bancroft, 2008). Dissatisfaction in sexual life is often associated with anger, depression, anxiety, debilitating

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feeling of inadequacy, and consequently breakups (Prabhakaran et al., 2018). Sexual dysfunction (SD) occurs frequently in men of reproductive age and may lead to infertility in some instances (Lotti and Maggi, 2018). Studies have shown that there is a relationship between sexual dysfunction and worse quality of life in patients with a variety of sexual disorders (Mourikis et al., 2015; Watts, 1982). Due to the associated stigma of SD, men with this problem rarely seek for medical attention and turn to sort for alternative means such as auto medication and online/social media medication.

Sexual dysfunction (SD) is estimated to affect up to 52% of men globally of whom 20% experience moderate to severe erectile dysfunction. It is estimated world-wide that the prevalence of erectile dysfunction ranges from 2% in men younger than 40 years to 86% in men 80 years or older (Feldman et al., 1994). Approximately, 31% of men in the USA aged 18 to 59 years old are affected by SD (Hatzimouratidis, 2007). Premature ejaculation and erectile dysfunction being the most complained sexual disorder among males.

The prevalence of erectile dysfunction (ED) in a population-based study in Egypt was mild (17.2%), moderate (5.9%) and severe (6.9%) (Salama et al., 2020). In a study carried out in Ghana, Nigeria, and Burkinafaso, the prevalence of sexual dysfunction was 65.9, 60.5, and 46%, respectively (Kambou et al., 2005; Nyalile et al., 2020; Umuerri and Ayandele, 2021).

In Cameroon, a study carried out in a population of chronic heart failure diseases reported a prevalence of sexual dysfunction of 57.7%. The main sexual disorders observed were sexual desire disorders (21.65%), erectile disorders (17.3%), orgasmic dysfunction (7.22%), arousal disorders (4.44%), and sexual satisfaction disorders (1%) (Boombhi et al., 2019).

Despite the increasing interest in clinical practice on sexual dysfunction and the related relevance of psychological outcomes for men, little data is available on sexual dysfunction in Cameroon. This study accessed the prevalence of sexual dysfunction and associated factors as well as its effects on the quality of life of males aged 21 to 60 years in the Buea Health District.

Operational definition of terms

Sexual dysfunction

Sexual dysfunction was defined as any problems that prevent a person or couple from experiencing satisfaction from sexual activity.

Sexual satisfaction

Sexual satisfaction is the physical and/or psychological satisfaction and enjoyment derived from sexual intercourse.

Erectile dysfunction

Erectile dysfunction was defined as the consistent or recurrent inability of a man to attain and/or maintain penile erection sufficient for sexual activity.

Premature ejaculation

Premature ejaculation was defined as achieving ejaculation within approximately 1 min following vaginal penetration or during penetration.

Delayed ejaculation

Delayed ejaculation is a condition in which it takes an extended period (more than 30 min) of sexual stimulation for men to reach sexual climax and ejaculate.

Orgasmic dysfunction

It is the inability to achieve an orgasm during a sexual intercourse.

Sexual desire dysfunction

Sexual desire dysfunctions are diminished or absence of feelings of sexual interest or desire.

Sexual quality of life

It is the standard of sexual health, comfort, and happiness experienced by an individual with regards to their sexual life.

Health seeking habits

Actions taken by people suffering from sexual dysfunction to remedy the problem.

MATERIALS AND METHODS

Study site

The study was carried out in the Buea Health District (BHD), which is one of the 19 health districts of the South West Region of Cameroon. The BHD consists of 7 health areas (Bokwango, Bova, Buea Road, Buea Town, Molyko, Muea, and Tole) and 77 communities. The population estimate by the health population denominators revealed 300,000 inhabitants (UPEC, 2009). This population is mainly made up of students, farmers, and civil servants who are highly concentrated in Molyko health area. The population is made up of a mixture of several ethnic groups. The health district has over 40 health facilities with the Buea regional

Table 1. Scoring of different types of sexual dysfunction.

Sexual dysfunction	Total score	Categories
Sexual desire	10	1-5 = Poor 6-10 = Good
Erectile dysfunction	30	6-25 = Poor 26-30 = Good
Orgasmic dysfunction	10	1-5 = Poor 6-10 = Good
Satisfaction with intercourse	15	1-8 = Poor 9-15 = Good

hospital serving as the region referral hospital. English and French are the official languages, but “Pidgin English” is the most spoken. The data for this study was collected from Molyko, Muea, Tole and Buea town health areas.

Study design and participants

This study followed a community-based cross-sectional study design in which a semi-structured questionnaire was used to collect data on sexual dysfunction from 400 sexually active males aged 21 to 60 years in the Buea Health District from March 2023 to April 2023. A multi-stage sampling technique was used to select participants for this study. In the first stage, four health areas were randomly selected from the 7 health areas of the BHD. Five communities were selected from each health area using a simple random sampling and, in each community, participants were recruited from households and hotspots. All males aged 21 to 60 years, who were sexually active for at least six months and who gave their consent were included in the study.

Data collection

For this study, data were collected using a modified International Index for Erectile Function (IIEF) (Rosen et al., 2002) and the Sexual Quality of Life Scale-Male (SQOL-M) questionnaire to assess psychological effects (Abraham et al., 2008). The study included only sexually active males who provided consent. The questionnaire was self-administered by literate participants and administered face-to-face for those who could not read or write in English. Some participants unable to complete the questionnaire in person were provided with an online link for convenient completion.

Data analysis

The data were analysed using IBM SPSS Statistics (Version 26). The different types of sexual dysfunction were scored using the IIEF scoring. Using the IIEF, several questions were used to assess different types of sexual dysfunction. Each sexual dysfunction was categorised into good and poor. Table 1 summarizes the cut-off points used in the scoring of sexual dysfunctions. The SQOL-M scores were categorized into severe (11 to 22), average (23 to 33), and no effects (34 to 66).

Descriptive statistics was used to summarize the demographic characteristics of the participants. The proportion of participants with each indicator of sexual dysfunction was determined and a logistic regression analysis was fitted to identify factors independently associated. $P<0.05$ was considered statistically significant.

Ethical considerations

The study was approved by the Ethics Committee of the Faculty of Health Sciences, University of Buea (2023/1956-02/UB/SG/IRB/FHS). An administrative clearance was obtained from the Regional Delegation of Public Health for the South West Region. Informed consent was obtained from all participants before their enrolment in the study.

RESULTS

Demographic characteristics of the study participants

A total of 400 participants took part in the study. The mean age of participants was 34.25±11.27 years, with 197 (49.3%) of them between 21 and 30 years; 183 (45.8%) had a tertiary level of education. For the marital status, 229 (57.3%) were single and 161 (40.3%) were married of which 130 (80.7%) were in a monogamy regime. Majority 361 (90.3%) of the participants were Christians. With regards to employment status, 303 (75.8%) were employed with 174 (43.5%) having income below 50000 frs CFA (Table 2).

Prevalence of sexual dysfunction in males of the Buea Health District

The overall prevalence of sexual dysfunction (the proportion of males who reported to be suffering from one or more sexual dysfunctions) was 18%. The prevalence of different types of sexual dysfunction is as shown in Figure 1. The most prevalent disorder was poor erectile function (48%), followed by poor sexual desire (20.1%),

Table 2. Demographic characteristics of the study participants.

Variable	Categories	Frequency	Percent
Health area	Buea town	71	17.8
	Molyko	82	20.5
	Muea	197	49.3
	Tole	50	12.5
	Total	400	100
Age group (Years)	>50	40	10
	21 - 30	197	49.3
	31 - 40	97	24.3
	41 - 50	66	16.5
	Total	400	100
Marital status	Divorced	6	1.5
	Married	161	40.3
	Single	229	57.3
	Widowed	4	1
	Total	400	100
Marital regimen	Polygamy	31	19.3
	Monogamy	130	80.7
	Total	161	100
Educational level	No education	21	5.3
	Primary	54	13.5
	Secondary	142	35.5
	Tertiary	183	45.8
	Total	400	100
Occupation	Employed	303	75.8
	Unemployed	97	24.3
	Total	400	100
Religion	Christian	361	90.3
	Muslim	22	5.5
	Others	17	4.3
	Total	400	100
Income range (x 1000 FCFA)	<50	174	43.5
	50-100	108	27
	101-200	72	18
	>200	46	11.5
	Total	400	100

poor satisfaction with intercourse (9.2%), and poor orgasmic function (8.7%). Out of the 48% suffering from erectile dysfunction, 44% suffered from mild erectile dysfunction, 2% suffered from moderate ED, while 2% suffered from severe ED (Figure 2).

Ejaculatory disorders

With regards to the various types of ejaculatory disorder, 8.5% of the participants were suffering from delayed ejaculation and 3.1% were suffering from premature ejaculation (Figure 3).

Demographic factors independently associated with sexual dysfunction in males of the Buea Health District

Erectile dysfunction was independently associated with

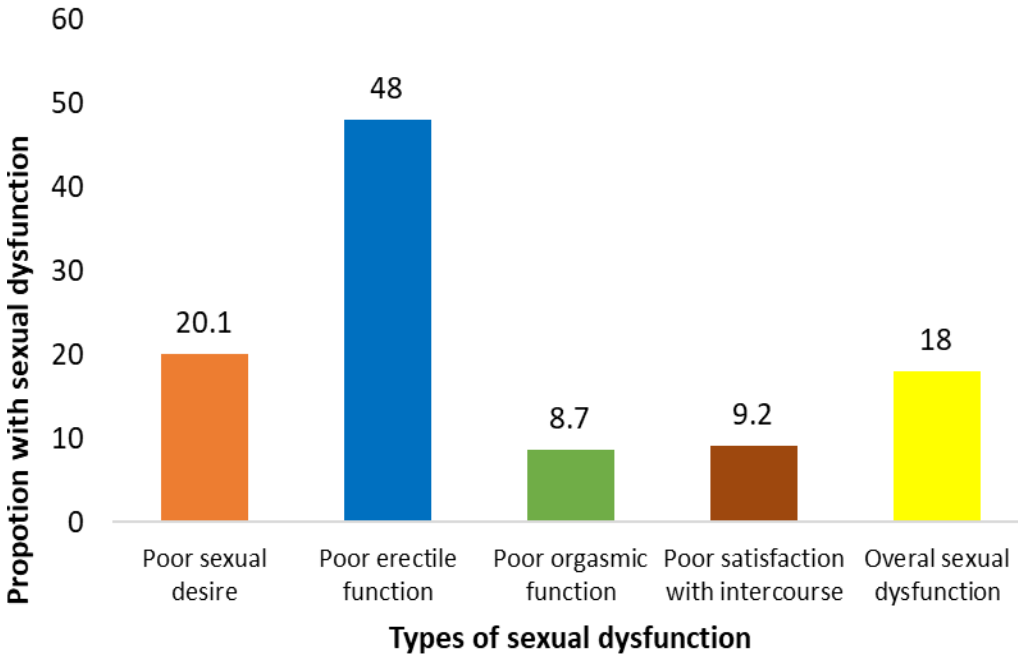

Figure 1. Proportion of participants with different types of sexual dysfunctions in the Buea Health District.

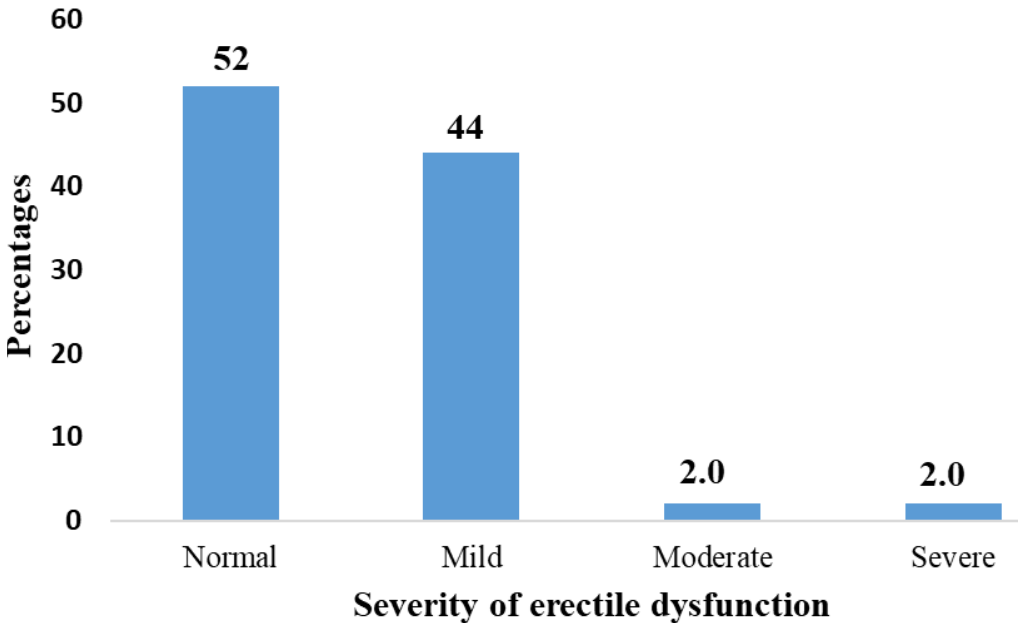

Figure 2. Severity of erectile dysfunction among males in the Buea Health District.

health area, education level, age group, and occupation. The odd of a participant living in Buea town developing erectile dysfunction were 3.89 higher (AOR=3.89. CI: 1.72 to 8.78, p= 0.001) compare to those living in Molyko. Participants within the age range of >50 were 3.19 times more likely to suffer from erectile dysfunction compared to those within the age range of 41 to 50 (AOR = 3.19, CI: 1.30 to 7.84, p=0.011).

The odds of participants with secondary education suffering from ED was 0.56 (AOR=0.56, CI: 0.34 to 0.93, p=0.024) times less compared to those to those with tertiary education. Participants who were employed had

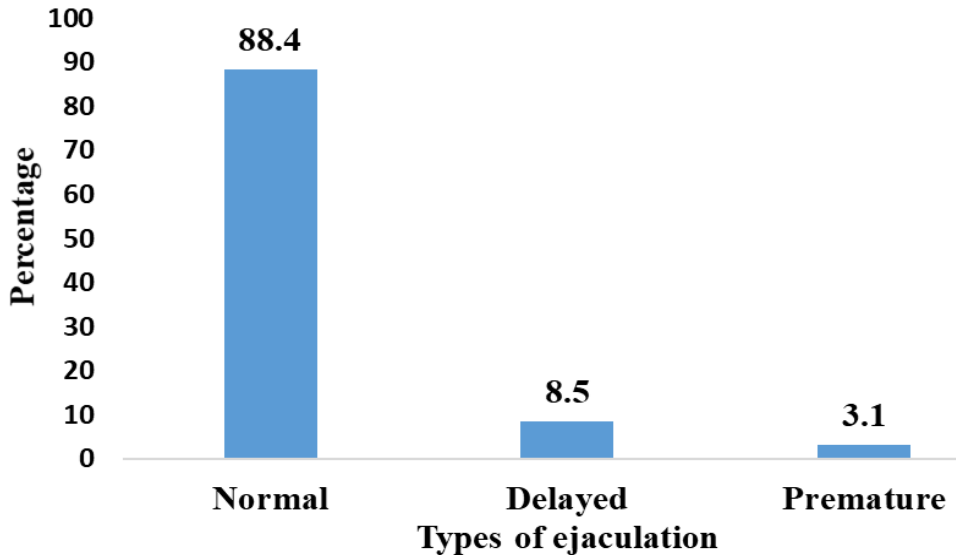

Figure 3. Distribution of the various types of ejaculation in the Buea Health District.

Table 3. Demographic factors independently associated with erectile dysfunction in males of the Buea Health District.

Variable	Categories	AOR	95% CI		p-value
			Lower	Upper	
Health area	Muea	1.16	0.56	2.40	0.683
	Tole	1.83	0.81	4.14	0.148
	Buea town	3.39	1.72	8.78	0.001
	Molyko	1			
Age group	31 - 40	0.95	0.48	1.89	0.888
	41 - 50	0.70	0.37	1.33	0.273
	>50	3.19	1.30	7.84	0.011
	21 - 30	1			
Education level	No education	1.73	0.59	5.10	0.318
	Primary	0.52	0.26	1.05	0.070
	Secondary	0.56	0.34	0.93	0.024
	Tertiary	1			
Occupation	Employed	0.33	0.19	0.57	<0.001
	Unemployed	1			

AOR: Adjusted odd ratio; CI: confident interval.

0.33 less odds (AOR=0.33, CI: 0.19 to 0.57, p<0.001) of suffering from ED than the unemployed (Table 3).

There were no demographic factors independently associated with poor sexual desire, poor intercourse satisfaction, and poor orgasmic function.

Life style and predisposing factors independently associated with sexual dysfunction

Smoking status and anxiety were independently associated to erectile dysfunction. The AOR for a smoker suffering from erectile dysfunction were 1.7 times higher (AOR=1.70 95%CI: 1.01 to 2.86, p=0.046) compared to non-smokers. For anxiety, participants who are anxious are 1.7 times more likely to suffer from erectile dysfunction than those who are not anxious (AOR= 1.7, 95% CI: 1.0 to 2.8, P=0.032) (Table 4).

Only masturbation was independently associated to intercourse satisfaction and orgasmic function. Those who masturbate were 2.43 time likely to have poor intercourse satisfaction (AOR = 2.43, CI: 1.17 to 5.03

Table 4. Life style and predisposing factors independently associated with erectile dysfunction.

Variable	Categories	AOR	95% CI		p-value
			Lower	Upper	
Masturbation	Yes	1.54	0.93	2.54	0.093
	No	1			
Smoking	Yes	1.70	1.01	2.86	0.046
	No	1			
Diabetic patient	Yes	1.93	0.43	8.68	0.391
	No	1			
History of hypertension/vascular disease	Yes	4.45	0.87	22.64	0.072
	No	1			
Self-access depression	Yes	1.59	0.98	2.60	0.063
	No	1			
Self-access anxiety	Yes	1.7	1.01	2.8	0.032
	No	1			

AOR: Adjusted odd ratio; CI: confident interval.

Table 5. Life style and predisposing factors independently associated with intercourse satisfaction.

Variable	Categories	AOR	95% CI		P-value
			Lower	Upper	
Masturbate	Yes	2.43	1.17	5.03	0.017
	No	1			
Drug/medication usage	Yes	1.9	0.6	6.2	0.274
	No	1			

AOR: Adjusted odd ratio; CI: confident interval.

p=0.017) than those who did not masturbate (Table 5). Those who masturbate were 3 times more likely to have poor orgasmic dysfunction (AOR=2.43, CI: 1.17 to 5.03, P=0.017) than those who did not masturbate (Table 6). None of the life style predictor of poor sexual desire was identified.

Health seeking habits of males suffering from SD in the Buea Health District

The health seeking habits with regard to sexual dysfunction of males in the Buea Health District were diverse. Their responses indicated that 45.7% go for traditional medication, 40% sought medical care, 20% go for self/auto medication, 11.4 and 2.9% reported seeking treatment from roadside medication and social media, respectively (Figure 4).

Quality of life of males suffering from sexual dysfunction in the Buea Health District

The assessment of the sexual quality of life of males in the Buea Health District (Figure 5) revealed that out of 72 (18%) males suffering from one or more sexual dysfunctions, 40.28% reported a poor quality of life, 18.06% had an average quality of life, and 41.67% had a good quality of life.

Association between quality of life and the different types of sexual dysfunction

People with average and poor effects on quality of life were merged into poor quality of life and the association between the quality of life and different types of sexual dysfunction determined. There was significant

Table 6. Life style and predisposing factors independently associated with orgasmic function in males in the Buea Health District.

Variable	Categories	AOR	95% CI		p-value
			Lower	Upper	
Masturbation	Yes	2.85	1.36	5.97	0.006
	No	1			
Alcohol consumption	Yes	1.84	0.73	4.64	0.199
	No	1			
Hypertension/ vascular disease	Yes	3.62	0.89	14.68	0.072
	No	1			

AOR: Adjusted odd ratio; CI: confident interval.

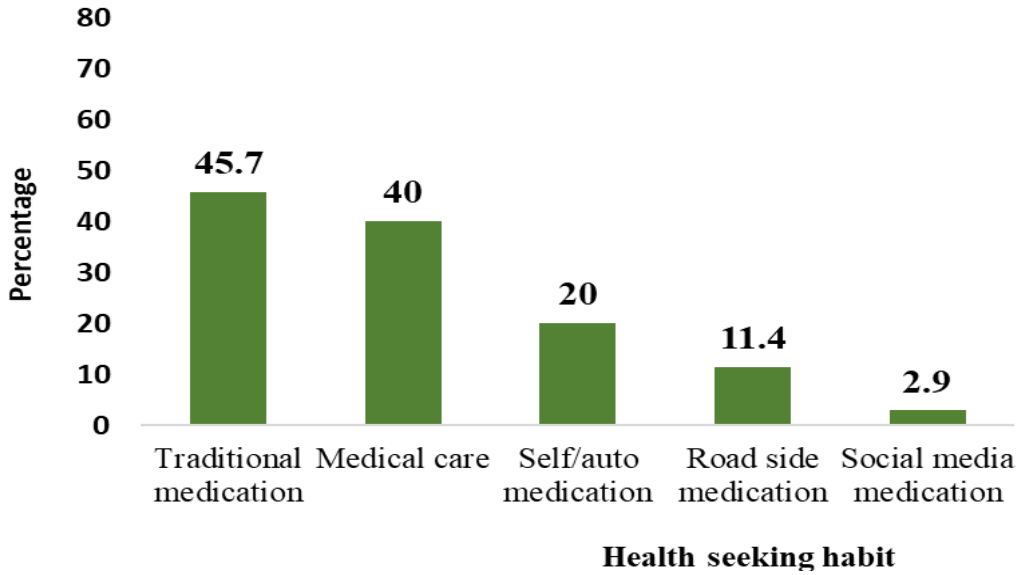

Figure 4. Health seeking habits of males in the Buea Health District.

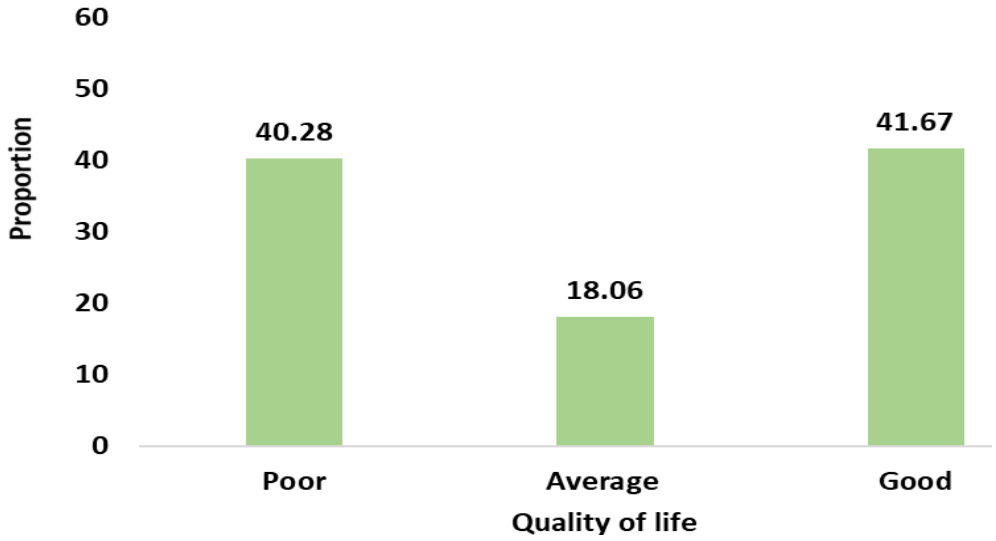

Figure 5. Quality of life in males with sexual dysfunction in the Buea Health District.

Table 7. Association between quality of life and the different types of sexual dysfunction.

Variable	Categories	n	Quality of life				Chi^2	p-value
			Good	%	Poor	%		
Erectile function	Mild	173	28	7.11	145	36.80	81.10	<0.001
	Moderate	8	6	1.52	2	0.51		
	Normal	205	3	0.76	202	51.27		
	Severe	8	5	1.27	3	0.76		
	Total	394	42	10.66	352	89.34		
Satisfaction with intercourse	Good	355	29	7.42	326	83.38	22.05	<0.001
	Poor	36	12	3.07	24	6.14		
	Total	391	41	10.49	350	89.51		
Orgasmic function	Good	358	30	7.65	328	83.67	19.06	<0.001
	Poor	34	11	2.81	23	5.87		
	Total	392	41	10.46	351	89.54		
Sexual desire	Good	314	27	6.87	287	73.03	5.62	0.018
	Poor	79	14	3.56	65	16.54		
	Total	393	41	10.43	352	89.57		
Overall sexual satisfaction	Good	358	22	5.58	336	85.28	83.85	<0.001
	Poor	36	20	5.08	16	4.06		
	Total	394	42	10.66	352	89.34		
Type of ejaculation	Delayed	33	2	0.52	31	7.99	13.15	0.001
	Normal	343	34	8.76	309	79.64		
	Premature	12	5	1.29	7	1.80		
	Total	388	41	10.57	347	89.43		
Premature ejaculation	No	122	18	5.26	104	30.41	4.22	0.040
	Yes	220	17	4.97	203	59.36		
	Total	342	35	10.23	307	89.77		

association between all types of sexual dysfunction and the quality of life (Table 7).

DISCUSSION

In this study, 18% of the participants were found to be experiencing some form of sexual dysfunction. The study recorded all types of sexual dysfunction in the study population, indicating a significant prevalence of sexual dysfunction among males in the Buea Health District. Notably, results of this study differ from those of a study conducted in Yaoundé, Cameroon, which reported a much higher prevalence of sexual dysfunction at 57.7% (Boombhi et al., 2020). This difference may be because the study carried out in Yaoundé was on males with comorbidities such as hypertension and diabetes, which are predisposing factors to sexual dysfunction. A study carried out in South Africa (Ramlachan and Campbell, 2014) reported a prevalence of sexual dysfunction of 64.9%.

Erectile dysfunction was the most prevalent type of sexual dysfunction in the Buea Health District, affecting 48% of the male population. These findings are similar to those reported in a study carried out in Nigeria (Umuerri and Ayandele, 2021) who reported a prevalence of 45.7%. A small proportion of the participants (9.2%) reported poor satisfaction with intercourse and poor orgasmic function (8.7%). Poor orgasmic function could be linked with poor satisfaction with intercourse. The prevalence of poor orgasmic dysfunction reported in this study is in line with the study of Nicolosi et al. (2006).

Poor sexual desire was reported in 20.1% of the population. This finding differs from those of McCabe et al. (2016). Concerning ejaculation disorders, few participants reported delayed (8.5%) and premature to ejaculation (3.1%). These findings are lower compared the 25.2% delayed ejaculation and 7.3% premature

ejaculation reported by Corona et al. (2019). The difference in these results might be due to the measurement method as well as the research setting.

The present study revealed that poor erectile dysfunction increased with age. This is consistent with previous research that identified age as a significant risk factor for erectile dysfunction (Mulhall et al., 2016; Meldrum et al., 2020). Smoking was identified as risk factors for erectile dysfunction. This association is consistent with previous research findings (Kovac et al., 2015). Anxiety is known to be a risk factor for sexual dysfunction, particularly erectile dysfunction. It was reported that anxiety could interfere with sexual function by causing physiological responses that can inhibit sexual arousal and performance (Corretti and Baldi, 2007).

Masturbation came out as one of the leading risk factor of erectile dysfunction, intercourse satisfaction, and orgasmic dysfunction. This finding is different from those of a study that reported masturbation as having a positive effect on sexual function and could even be considered as a treatment option for certain types of sexual dysfunction such as premature ejaculation (Rowland et al., 2022). In previous findings, masturbation was found to be independently associated with poor orgasmic function, having a negative effects on orgasm and sexual function (Cervilla and Sierra, 2022). Individuals who rely on masturbation as their primary sexual outlet may have difficulties achieving orgasm during sexual activity with a partner. This can be due to desensitization of the genitals or a decreased ability to respond to different types of stimulation as earlier reported (Marquis, 1970). Interventions studies based on sexual education and good health seeking habit could help improve on the sexual habits and proper health seeking habits.

Men with sexual dysfunction reported a diverse health seeking habit with the main being self-treatment. Males with sexual dysfunction are usually stigmatised and as a result of stigma and psychosocial concern associated with sexual dysfunction; they hesitate to seek medical assistance (Sharma and Sharma, 2019). As was reported by Al-Shaiji (2022), one of the main reasons for poor health seeking habit is the stigma surrounding it as a complaint and the deep-seated fear to discuss it. This self-treatment could have a potential negative consequence, as self-medication could be dangerous and lead to incorrect treatment. This highlights the importance of educating the community on the potential risks associated with poor health seeking habits.

The perceived quality of life of men with sexual dysfunction was generally poor. A large proportion of participants perceived sexual dysfunction as affecting their quality of life. This finding is similar to other studies who reported an association between sexual dysfunction and worst quality of life as it affects the physical, psychological, and emotional components of life (Bancroft, 2008; Marinelli et al., 2021). These findings highlight the importance of addressing sexual dysfunction in a healthcare intervention and ensuring that individuals experiencing negative effects receive appropriate counselling and treatment.

Limitations

One of the limitations of this study was the lack of physical examination to corroborate the participant's response. The fact that this study was a cross sectional study could not give an in-depth of the sexual dysfunction experienced by the participant.

The findings in this study could be subjected to recall bias since their sexual experiences were evaluated on the past six months.

Conclusion

Male sexual dysfunction is prevalent in all its forms in the Buea Health District and it is affected by life style, sexual preference, and demographic factors. The perceived sexual quality of life that affected males is poor. The health seeking habits of males suffering from sexual dysfunction is diverse with only a small proportion of participants seeking medical care. Setting up a health intervention to address sexual dysfunction and health seeking habit could help in reducing the burden and improving the quality of life with people living with sexual dysfunction.

Contribution to existing knowledge

This study assessed the prevalence of the various types of sexual dysfunction in the general population. Previous studies in Cameroon were limited to specific types of sexual dysfunction. This is also the first study that assesses sexual dysfunction in the South Region of Cameroon. The data collected during this study adds up to the existing data on sexual dysfunction in the male population in Cameroon.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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