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Erectile Dysfunction (ED) within Hospital Facilities in Cotonou

Natchagandé Gilles, Avakoudjo Dedjinin Georges Josué, Yevi Inès Dodji Magloire, Agounkpé Michel Michaël, Kaka Mahamane Adama Salissou, Sossa Jean, Hodonou Detondji Fred, Jacquet Djamal, Soumanou Fouad, Hounnasso Prince Pascal

CNHU-HKM Urology-Andrology University Clinic, Cotonou, Republique of Benin
Email: anagilas2000@yahoo.fr

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Abstract

Introduction: Erectile dysfunction (ED) is defined as the persistent inability to achieve the necessary degree of erection for sexual activity. It is a common disease which can significantly affect the quality of life of sufferer and their partners. The purpose of this study is to give an overview of the magnitude of this medical condition in Benin society. **Material and Method:** It was a multicenter cross-sectional descriptive and analytical study conducted over a period of one month from 1st to 30th June 2015. A questionnaire was prepared for this purpose. **Outcomes:** The average age in this series is 48.32 with extremes ranging from 18 to 95 years. These patients were predominantly public servants. All our patients (100% of the study population) responded to the single question of John. B. Mckinlay. The global ED prevalence was 52.6%. The multivariate analysis helped to identify a correlation with several factors associated with ED. These factors included: age, occupation, lifestyle, etc. 41.91% of patients with ED and/or other sexual disorders declared "not at all acceptable" to continue living with these disorders. The patients benefitted from different treatments including IPDE-5 and traditional treatment in respectively 32.8% and 40.1% of cases. **Conclusion:** ED is a condition in its own which has an impact on the patients' quality of life. Its discovery may lead to the diagnosis of cardiovascular, hormonal or neurological diseases.

Keywords

ED, Sexual Disorder, Sexuality

1. Introduction

Erectile dysfunction (ED) is defined as the persistent inability to achieve the necessary degree of erection for sexual activity [1]. It is a common disease which

can significantly affect the quality of life of sufferer and their partners [2] [3]. If for the past few years and through epidemiological studies, erectile dysfunction and its prevalence are better known than previously, no pharmaco-epidemiological research on its routine care and support has been conducted [4]. Care and support for erectile dysfunction have recently experienced major revolution leading to an increased number of patients seeking consultation [4]. Today, erectile dysfunction is recognized as a common medical condition, with its prevalence directly correlated with age and the presence of chronic diseases such as high blood pressure, stroke, dyslipidemia, diabetes and depression [5]. Sometimes, it can be symptomatic of serious pathologies [4]. Its prevalence is often under-estimated, owing to socio-cultural considerations which are still very importance in the African societies. These considerations have a significant influence on the diagnosis and treatment of this medical condition. The purpose of this study is to give an overview of the magnitude of this disease in Benin society through its incidence, social impact and therapeutic modalities.

2. Material and Method

Framework of the study

This study was conducted at Hubert Koutoukou Maga National Teaching Hospital (CNHU-HKM) of Cotonou (Benin), particularly in the out-patients surgery department (urology, visceral surgery, and trauma), out-patients cardiology department and internal medicine department.

Period and type of study

It was a multicenter cross-sectional descriptive and analytical study conducted over a period of one month from 1st to 30th June 2015.

Study population

The study population was composed of all men aged 18 years and above, who attended any of the consultations at CNHU-HKM during the study.

Sampling

In the absence of a database pertaining to this theme, we conducted a survey on patients carrying the variables of studies. The sample size was 215.

Inclusion criteria

-Be Benin resident, present at CNHU-HKM during the study,

-Be 18 years or above,

-And having given full consent to respond to the questionnaire.

Non-inclusion criterion

-Refusal to participate.

Process of the survey

To conduct this study, we developed a specific questionnaire made up of 65 items including the single question of John Mckinlay. It was designed on the basis of continued dynamics meant to get the respondent to open up. The questions related to the following parameters:

- General information (age, occupation, lifestyle …),
- Reasons for consultation,

- Co-morbidity factors,
- Assessment of the ED: It was done on the basis of the single question of John Mickinlay (linguistic translation validated): "How do you describe your current condition*?*"

o "*Always* …",
o "*Generally* (*not always but most of the time*) …",
o "*Sometimes* …",
o *Or* "*Never* …" … able to achieve and maintain the necessary degree of erection *for sexual activities.*

The validated questionnaire of John Mckinlay was used in Massachusetts Male Aging Study to classify the ED degree as slight, moderate or severe through a single question.

- Social impact of the ED on the life of the respondent: this assessment was done on the basis of the following questions,

o If you have to live the rest of your life with your current sexual disorders, will that be.

✓ "Quite acceptable".
✓ "Acceptable".
✓ "Moderately acceptable".
✓ "Not acceptable".
✓ Does your partner suffer from the same sexual disorders?
✓ Have you already talked to a physician about your sexual disorders?

Therapeutic modalities

This study was conducted in agreement with the different departmental heads of CNHU-HKM (n = 5) and with urology residents (n = 17). These residents were well trained on the basis of a survey form established and tested in collaboration with 5 urologists for the purpose of its reliability and understanding by the respondents. During the 30-day study, the trained physicians were dispatched in the available consultation departments to administer questionnaires to patients waiting for specific consultation. Patients with proven level of education filled the questionnaire themselves, while the illiterate were supported by the trained physician.

After data collection conducted on the field, daily data check was carried out by the collection team in order to prevent duplicates and questionnaire completion errors.

The anonymous questionnaire included variables pertaining to the following:

- Socio-demographic aspects.
- Clinical aspects particularly the ED research whose severity was assessed on the basis of the response to the single question of John B. Mickanlay (sexuality assessment-based questionnaire = erection, libido, ejaculation).
- Therapeutic aspects.
- Impact of ED on the quality of life of the respondent or the couple.

Data processing and analysis

On one hand, the analysis consisted in a simple description (frequency table,

average, standard deviation, median, graphs) of the various variables considered in the study.

On the other hand, we searched for possible statistical associations between the dependent variables and several other variables through Chi2 test, Pearson test or Fisher test according to the case or through ANOVA model. Then, a multivariate analysis was used to define the predictive models for independent variables and assess the overall impact of factors associated with the dependent variable.

Tolerable statistical significance threshold is 5%. If required, the Student test and OddS ratio will be used with 95% interval.

Data editing and processing were conducted using MS Word 2007, Excel 2010 and SPSS21.

Ethical consideration

-Consent of the hospital executive director obtained.

-Consent of the departmental heads obtained.

-Compliance with respondents' anonymity.

-Informed consent of respondents obtained.

-No conflicts of interest.

Outcomes

Characteristics of the population

The number of respondents was 215. The average age was 48.32 with 17.59 as standard deviation and 18 - 95 years as extremes.

Among the respondents, 44.6% (96/215) were at their first medical consultation, 39.1% (84/215) came for follow-up of medical treatment while 16.2% (35/215) came for post-surgery observation. Urology patients were predominant (127/215), followed by cardiology (31/215), visceral surgery (23/215), traumatology (19/215) and internal medicine (15/215). In 14.1% of cases, sexual disorders accounted for the only reason for consultation. They are often associated with other reasons in 35.3% of cases. Pain was the 2nd largest reasons for consultation in 24.2% of the cases, followed by prostate pathologies in 23.7% of cases. 45.7% of patients were under long term treatment. Most of such cases often related to prostate pathology treatment (13.1%), followed by anti-hypertensive treatment (11.6%) and diabetes treatment (8.3%).

Prevalence and ED characteristic

All patients (100% of the study population) responded to the single question of John. B. Mckinlay (Table 1). Only 47.4% of them responded being "still able to achieve the necessary degree of erection for sexual intercourse" all consultation reasons included. The global ED frequency was 52.6%. Slight ED "generally able …" = 39 (18.1%), moderate ED "only capable at times …" = 59 (27.4%), severe ED "never able …" = 14 (7%). The overall prevalence of all sexual disorders was 63.7%, or 137 patients. The comparison of patients' age based on the answer to the question of John B. Mckinlay revealed a statistically significant difference between the four groups (p = 0.002). ED prevalence was higher among patients aged 60 years and above, giving a rate of 23.2% (n = 50), respectively with slight

ED = 4.6% (n = 10), moderate ED = 13.5% (n = 30), severe ED = 4.6% (n = 10). It was followed by the age group between 39 - 59 years (n = 38 17.67%) with slight ED = 7.9% (17 patients), moderate ED = 7.4% (n = 16), severe ED 2.3% (n = 5). In the age group between 18 and 38 years ED prevalence was 11.6% (n = 25), with no cases of severe DE. The ED duration and severity are highlighted in Table 2 followed by ED severity by occupation (Table 3).

Associated factors

The multivariate analysis helped to identify a correlation with several factors

Table 1. Overview of age, response to J. Mckinlay and ED characteristics depending on the reason for consultation.

Parameters	Population (n = 215)	Reasons for consultation		
		1st consultation (n = 96)	Follow-up of a treatment (n = 84)	Observation after a surgery (n = 35)
Age Average ± standard deviation	48.32 ± 17.59	46.57 ± 15.95	52.91 ± 292.46	41.43 ± 15.66
Response to ED question according to John Mckinlay	215 (100%)	96 (44.6%)	84 (39.1%)	35 (16.3%)
Still able	102 (47.4%)	43 (44.8%)	41 (48.8%)	18 (51.4%)
Generally able	39 (18.1%)	13 (13.5%)	17 (20.2%)	09 (25.7%)
Only capable at times	59 (27.4%)	34 (35.4%)	21 (25.0%)	04 (11.4%)
Never able	14 (07.1%)	05 (06.2%)	05 (05.9%)	04 (11.4%)
ED prevalence	113 (52.6%)	52 (55.2%)	43 (51.2%)	17 (48.5%)
Prevalence of another sexual disorder	103 (47.9%)	52 (52.2%)	36 (42.8%)	15 (42.8%)
Overall prevalence of sexual disorders (ED and/or other disorder)	137 (63.7%)	66 (68.7%)	50 (59.5%)	21 (60.0%)

Table 2. Distribution of patients based on the duration of ED severity.

		Duration (year)	Pooled age			Total
			18 - 38	39/59	≥60	
Slight	Pooled duration	[1] [3]	6	11	6	23
		[4] [5]	4	1	1	2
		[6] [7]	0	1	0	1
		[8] [9]	1	2	1	4
	Total		11	15	8	30
Moderate	pooled duration	[1] [3]	10	11	16	37
		[4] [5]	2	4	7	9
		[6] [7]	0	1	3	4
		[8] [9]	1	1	2	4
		[10] [11]	1	0	2	3
	Total		14	19	30	57
Severe	pooled duration	[1] [3]	00	3	8	11
		[4] [5]	00	1	4	3
	Total		00	4	12	14
	Total		25	38	50	113

associated with ED, age, occupation, lifestyle etc … respectively with statistically significant differences p = 0.012, p = 0.012 for coffee intake only. Thus, the risk of ED occurrence based on social characteristics is highlighted in Table 4.

Prevalence of other sexual disorders

Hundred and three patients or 47.9% having responded to J. B. Mckinlay questionnaire reported to have suffered from other sexual disorders other than ED. Ejaculation disorders were predominant (premature ejaculation 32.55%), followed by pain during sexual intercourse in 13 cases (Table 5).

It's worth noting in Table 5 that, if some patients could develop several associated disorders, others had none.

Suffering associated with sexual disorders

Table 3. ED severity by occupation.

Occupation		ED condition			Total
		Slight	Moderate	Severe	
Pupil/student	Number	6	2	1	9
	% included in occupation	0.667	0.222	0.111	1
Civil servant/private sector official	Number	17	22	2	41
	% included in occupation	0.415	0,537	0.049	1
Artisan	Number	7	15	2	24
	% included in occupation	0,292	0.625	0.083	1
Trader	Number	3	2	0	5
	% included in occupation	0.6	0.4	0	1
Other	Number	6	18	10	34
	% included in occupation	0.176	0.529	0.294	1
Total	Number	39	59	15	113
	% included in occupation	0.345	0.522	0.133	1

Table 4. Risk of ED occurrence based on social characteristics and the reason for consultation.

Factors	Bivariate analysis			Multivariate analysis		
	ODDS Ratio (OR)	IC 95%	p Value	Adjusted ODD ratio (OR)	IC 95%	p Value
Social characteristics						
Age	-	-	0.001	0.522	0.29; 0.92	0.027
Profession	-	-	0.010	-	-	0.50
Coffee intake	0.853	0.48; 1.49	0.012	-	-	0.59
Reason for consultation						
Prostate problem	3.469	1.72; 6.99	0.000	1.79	1.18; 4.56	0.04
Sexual disorders	4.028	2.18; 7.43	0.000	4.11	1.06; 15.91	0.04
Treated high BP	2.314	1.28; 4.17	0.005	1.81	1.34; 1.92	0.04
Treated diabetes	5.051	1.41; 17.99	0.004	4.01	1.03; 15.61	0.04
prostate pathology aftercare	2.3/3	1.186; 4.51	0.004	1.67	1.77; 3.61	0.04
STI	2.110	1.15; 3.84	0.014	1.51	1.75; 3.06	0.006
Pelvic trauma	2.533	1.32; 4.85	0.004	2.54	1.19; 5.39	0.015

Among patients suffering from ED and/or other sexual disorders 41.91% declared "not at all acceptable" to continue living with these disorders. 13.48% suffering from ED deem it "moderately acceptable" to spend the rest of their lives with it in this condition. Furthermore, fifty-three patients or 46.9% of those with ED felt that their partners could accept their sexual status (Table 6).

The first person informed about the disorders

In this series, most patients (19.4%) suffering from ED informed a friend first, while 21 patients or 18.5% reported to have informed a doctor (irrespective of specialties) first, a medical staff and a traditional healer in 5.3% cases respectively. However 46 patients (40.7%) chose to remain silent.

Informed therapeutic

The patients received different treatments including IPDE-5 and traditional treatments in 32.8% and 40.1% of cases respectively. The combination of both treatments was observed in 10.9% of cases. 21.6% among patients treated with IPDE-5 declared to have had satisfaction during the treatment. Meanwhile, 7.9% of those who underwent a traditional treatment had the same answer.

3. Discussion

We collected 215 questionnaires during this study. The latter is a relatively modest study compared to those already undertaken in the literature of 650 cases in the study of CHEW and *et al.* [6], 1740 cases in ENJEU study [7], to approximately 28,000 patients interviewed in MALE *et al.* study [8]. Our study

Table 5. Characteristics of other sexual disorders.

Criteria	N = 215		
	Proportion (%)		$95_{\%(\%)}$
Ejaculation-related problems	103		-
Premature ejaculation	71	69	63; 75
Delayed ejaculation	02	2	00; 04
Anejaculation	03	03	01; 05
Lack of pleasure	06	06	03; 09
Lack of desire	04	04	01; 06
Pain during sexual intercourse	13	13	08; 17
Penis curvature	04	04	01; 06

Table 6. Distribution of patients based on the acceptability depending on ED severity.

Idea of spending the rest of life with his disorder	All disorders inclusive (n = 136)	ED (n = 113)			Other disorders (n = 103)
		Slight	Moderate	Severe	
Quite acceptable	18 (13.2%)	06 (05.3%)	04 (03.5%)	03 (02.6%)	10 (09.7%)
Acceptable	10 (7.3%)	05 (4.4%)	04 (3.5%)	00 (00%)	05 (4.0%)
Moderately acceptable	30 (22.1%)	06 (5.3%)	22 (19.4%)	01 (1.0%)	21 (20.3%)
Not at all acceptable	57 (41.9%)	18 (15.9%)	26 (23.0%)	11 (9.7%)	42 (40.7%)
Does not know	21 (15.4%)	04 (3.5%)	03 (2.6%)	01 (1.0%)	30 (29.1%)

population is comparable to that of N. Hicquel *et al.* [9] in France and Y. El Ahab and *et al.* [10] in Morocco who recorded respectively 160 and 189 cases and significantly higher than that of AVAKOUDJO *et al.* [11] who recorded 44 cases. Our patients' age varied from 18 to 95 years with an average age of 48.3 years. Some authors [8] [9] [11] recorded higher extremes than ours. This is due to the fact that lifespan is higher in their countries than in ours. The global ED frequency was 52.6% in this series. Our study was conducted over a one-month period, similarly to that of COSTA *et al.* [4] conducted in France. Our findings are similar to those of Y. El. Ahab and *et al.* [10] who recorded 52.9%. Meanwhile, ENJEU study [7] in France recorded 67.9%, which is significantly higher than our results, and this could be explained by the fact that ENJEU study was conducted only among patients admitted in urology consultation. Therefore these patients were already prepared for possible questions during their routine consultation. Cultural considerations in the African society where sex is still a taboo could be a limit to this study and overlook the incidence of the disease. Similarly, this study was also held in services other than urology where patients do not necessarily discuss about ED with their physician, despite the impact of this medical condition in their life. Only 18.5% declared to have informed a physician.

Several factors including age, occupation, coffee, history of prostate pathology, diabetes, hypertension, sexually transmitted infection, pelvic trauma, and sexual disorder other than ED were associated with ED occurrence with a statistically significant difference in this series. The same factors were recorded by many authors [7] [8] [9] [11] [12] as factors of developing ED. This study also revealed that ED is more severe in elderly patients than young ones. This could be related to the fact that the age group above 60 years is more exposed to chronic (cardiovascular and metabolic) and prostate diseases which are sources of ED particularly ED of organic origin. It is also the favorable age for androgenic deficiencies. Among young patients till 40s, slight ED predominance can be explained by the lack of self-control, job stress and sometimes psychological conflicts. Resurgent incidence of imitating pornographic film and futile efforts can sometimes cause feelings of worthlessness at this age which often accounts for slight ED.

Fifty three patients or 47.9% of the study population declared to have suffered from sexual disorders other than ED, and the most important was premature ejaculation. These disorders are substantial factors of ED occurrence due to their psychological impact on the sufferer. Similarly, it is worth noting the confusion often made by many patients between these disorders and ED.

The overwhelming majority of patients living with ED felt "not at all acceptable" to continue living with these disorders. The psychological motives and relational problems are important driving force for consultation with regard to some patients "ED devalue them", whereas for others "it triggers psychological problems", and finally, some patients declared that "it is a burden on their couple" [9]. Twenty one patients or 18.58% declared to have informed a physician (irrespective of the specialty) first, at the beginning of their symptomatology. Hic-

quel *et al.* [9] recorded significantly higher results with 31.4% of patients with ED having consulted their referring physician for this reason. BALDWIN *et al.* [12] and DROUPY *et al.* [7] recorded respectively 22% and 58.8%. The low rate of information to the physician might be explained by the fact that, a physician with no specialized training in the field could be unhelpful. Unconsciously, Patients also think that this disorder is inevitable. It is perceived as a foregone conclusion, as the result of aging, and other remote reasons are the feeling of shame "you are ashamed to talk about ED", indifference to the issue of erection ("this is not a problem" and "this is not a priority") and the preference granted to the Specialist to share their sexual problem. Furthermore, this low rate observed in this series could be explained by not only the social considerations (sex = taboo subject), but also the difficulties associated with access to medical care in our countries. This justifies the high use of traditional therapeutic means and self-medication as a remedy in our study. Furthermore, in this study the assessment of the ED impact on the couple could be limited by the evaluation of the man only. This reflects the need for a study on both members of the couple simultaneously.

4. Conclusion

DE affects patients' quality of life; it is a symptom in its own. Its detection may lead to the diagnosis of cardiovascular, hormonal or neurological diseases. However, as confirmed by this study and the literature review, very few men suffering from ED are able to talk to their physician. There is a need to encourage behavioral change communication so that the male population could consider ED as part of the essential health-related issues.

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