



Herbal Medicinal Therapy for Haemorrhoid and Sexual Dysfunction - Perception and Practice among Adult males in Ibadan metropolis, Southwest Nigeria

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ABSTRACT

The application of herbal medicinal products for diverse therapeutic purposes is on the rise in Southwestern, Nigeria due to its relative effectiveness, accessibility, and affordability. This study aimed to assess the perception and application of herbal medicinal products for the treatment of haemorrhoid and sexual dysfunction (SD) among adult males in Ibadan metropolis, Southwest Nigeria. The study involved 283 randomly selected adult male residents of Ibadan metropolis, between 20 to 69 years old and covering different marital statuses, levels of education and professional careers. A questionnaire-based survey was conducted to evaluate the perception and experience of the subjects about the application of herbal-based therapy for haemorrhoid and SD. Based on the results, the most dominant groups include 20 to 29 years old (51.6%), single (59.4%), first degree holders (55.8%) and public servants (52.7%). Furthermore, 61.5% of the respondents reported prior experience of haemorrhoid; 73.8% opined that the condition could lead to SD; 87% and 60.2% believed that herbal medicine can be used to treat haemorrhoid and SD respectively. There was correlation between the age and level of education of respondents with methods of treating SD and experience of side effects due to herbal therapy. The study population holds an affirmative opinion that herbal medicinal products are effective for treatment of haemorrhoids and SD. Apparently, the application of herbal therapy would continue to increase among the study population hence, there is a need to regulate and standardize its production and therapeutic applications.

Keywords: Herbal medicine; Haemorrhoids; Sexual dysfunction; Adult males; Nigeria

INTRODUCTION

Herbal Medicine Products are derivatives of medicinal plants which are applied for therapeutic purposes and maintenance of physiological equilibrium (Zhang *et al.*, 2017). Essentially, the therapeutic activity of medicinal plants and their products confers on them the empirical value that amplifies their relevance as alternative or complementary sources of health care (Omotoso *et al.*, 2021). In most parts of the Southwest Nigeria, there is a widespread natural biodiversity of medicinal plants which in turn makes herbal medicinal products to be relatively affordable and accessible. Moreover, the application of herbal products for therapeutic purposes has

been a common practice due to the associated high level of efficacy and insignificant adverse effects (Ekor, 2014). These herbal products or decoction (locally called "agbo") have wide range of ethnopharmacological applications which include treatment for malaria, body pain, joint pain, stomach pain, haemorrhoids and to improve erectile or sexual dysfunction (SD) (Ariyo *et al.*, 2020).

Haemorrhoids are plexuses of arterial and venous vessels which surround the distal part of the rectum and anal canal in all individuals and become symptomatic when they become engorged, inflamed, thrombosed or prolapsed (Gallo *et al.*, 2020).



Based on the anatomical dentate line landmark, haemorrhoids can be categorized as internal and external haemorrhoids which are located proximal or distal to the landmark respectively. The development of symptomatic haemorrhoids is characterized with the weakening of surrounding connective tissue and overlying mucosa as well as the enlargement and distal displacement of the anal cushions (Sun and Migaly, 2016). Generally, the causes of haemorrhoids include low dietary fibre, constipation, straining during defecation, sedentary lifestyle, pregnancy, abnormal high tension of the internal anal sphincter muscle, chronic diarrhoea, prolonged sitting on the toilet seat, aging, alcoholic cirrhosis and heredity (Peery *et al.*, 2015; Gallo *et al.*, 2020).

Depending of the type, the current methods of treatment of haemorrhoids include rubber-band ligation, infrared coagulation, sclerotherapy, cryotherapy, and surgery. Some of these treatment methods provide only temporary relief while some others have adverse effects (Rivadeneira *et al.*, 2011; Guindic, 2014). Herbal medicinal products or decoction (locally referred to as “agbojedi-jedi”) is commonly used for the treatment of haemorrhoids among the people of Southwestern Nigeria (Oreagbaet *et al.*, 2011; Akinboro *et al.*, 2023). This product has also gained prominence among the population due its perceived effectiveness as aphrodisiac, anti-hyperglycemic agent and for easy defecation (Azeez and Isiugo-Abanihe, 2019; Akinboro *et al.*, 2023). The herbal-based therapy for haemorrhoids, involves medicinal plants such as *Aframomum melegueta* and *Eugenia aromatica* (Ariyo *et al.*, 2020).

Furthermore, there have been reports of complications associated with haemorrhoids among the male adults which include sexual dysfunction (SD) (Keller and Lin, 2012).

Generally, the factors responsible for SD include endothelial dysfunction, neurogenic factors, dysfunctional hormonal pathway and hemodynamic factors (Karabakan *et al.*, 2017; Walton *et al.*, 2021). Although, the relatedness of the pathogenesis of haemorrhoids and SD have not been fully elucidated, however, the hemodynamic factors associated with SD have morphological and physiological association with the anorectal structures where haemorrhoids are formed (Keller and Lin, 2012).

The current study aimed to assess the perception and application of herbal medicinal products for the treatment of haemorrhoids and SD among the adult males in Ibadan metropolis, Southwestern Nigeria. The findings of the current study would further underscore the role of complementary and alternative medicine in the overall health care system of the study population.

MATERIALS AND METHODS

Study area and population

This cross-sectional study was conducted in Ibadan metropolis, Oyo State, Southwestern Nigeria (7°22'39"N, 3°54'21"E) and involved a total of two hundred and eighty three (283) randomly selected adult males between ages 20-69 years. The participants of this study were individuals drawn from varying marital status, level of education and profession.

Study instrument

The study was conducted among the study population using a structured and three-section questionnaire. The first section comprised of a brief introduction about the study and its significance among the study population, a declaration of consent by the participant and statement to assure participant of confidentiality of data provided.



The second section consisted of demographic information of study participants while the third section comprised of questions centered on the perception of the respondents about haemorrhoids and its association with SD, their experience and application of herbal medicine for the treatment of haemorrhoid and SD. The questions contained in the questionnaire were adapted from a previous study by Oyekunle and Raji (2011) with minor modifications.

Inclusion and Exclusion Criteria

This study involved only healthy and sexually active adult male residents of Ibadan metropolis in Southwestern, Nigeria that voluntarily consented to participate. Non-compliant subjects such as females, elderly (≥ 70 years) and persons with chronic diseases such as hypertension, asthma, diabetes mellitus, cancer and so on were excluded.

Ethical Approval: The ethical approval for the study was granted by the Directorate of Research Innovation and Partnerships of

Redeemer's University, Ede, Nigeria (Reference Number: RUN/REC/2023/015). The study was conducted in compliance with the Helsinki Declaration for medical research involving humans and the informed consent of participants was obtained before the commencement of the study.

Statistical Analysis

Data were analyzed using SPSS software (version 23), Univariate frequency distribution, cross-tabulation, and Pearson's chi-square were used for the analysis. The results were presented in frequency tables and $p \leq 0.05$ was considered as significant.

RESULTS

The findings of this study on the Socio-demographic characteristics of the study population showed that majority of the respondents were within the ages of 20 to 29 years (51.6%); Single (59.4%); first degree holders (55.8%) and public servants (52.7%) (Table 1).

Table 1: Socio-demographic characteristics of respondents

Variables		Frequency	Percentage (%)
Age Groups (Years) n =283	20-29	146	51.6
	30-39	93	32.9
	40-49	17	6.0
	50-59	25	8.8
	60-above	2	0.70
Marital Status n = 283	Singles	168	59.4
	Married	113	39.9
	Divorced	2	0.7
Level of Education n = 283	Primary level	20	7.1
	Secondary level	27	9.5
	Tertiary level (First degree)	158	55.8
	Tertiary level (Postgraduate)	78	27.6
Profession n = 283	Public servant	149	52.7
	Self-employed	20	7.1
	Military personnel	8	2.8
	Trading	13	4.6
	Unemployed	42	14.8
	Others	51	18



Furthermore, 61.5% of the respondents have had haemorrhoid previously and 73.8% opined that the condition could adversely affect sexual health leading to SD. Among the respondents, 87% believed that herbal medicine products can be used to treat haemorrhoid and 60.2% believed that the herbal medicine treatment for haemorrhoid will possibly improve SD (Table 2). Few of the respondents (39.4%) reported prior experience of SD but 66.3% of the respondents agreed to have used herbal medicine to treat SD (Table 2). The results of this study (Table 2) further showed that

26.4% of the respondents routinely obtain herbal medicine products from unauthorized sources, 29.4% from approved sales distributors while others (44.2%) make the herbal preparation themselves. In addition, a cumulative of 82.5% of the respondents perceived that herbal medicine to be effective for the treatment of SD and 73.7% agreed that they can recommend herbal medicine to others for such treatment. However, only less than 16.6% reported side effects due to application of herbal medicine for the treatment of SD.

Table 2: Perception and experience of the study participants about the application of herbal medicine products for the treatment of haemorrhoid and SD

Questions	Response	Frequency	Percentage
Have you had haemorrhoid before? (n = 274)	Yes	169	61.5
	No	105	38.2
Does haemorrhoid normally affect sexual health leading to SD? (n = 271)	Yes	200	73.8
	No	71	26.2
Can haemorrhoid be treated with herbal medicine? (n = 270)	Yes	235	87.0
	No	35	13.0
Will herbal medicinal treatment of haemorrhoid possibly improve sexual health or treat SD? (n = 266)	Yes	160	60.2
	No	106	39.8
	No	159	67.4
Have you had any experience of SD? (n = 259)	Yes	102	39.4
	No	157	60.6
How did you treat SD? (n = 92)	Herbal medicine	61	66.3
	Orthodox medicine	31	33.7
Have you used herbal medicinal products to treat SD or enhance your sexual health before? (n = 236)	Yes	77	32.6
	No	159	67.4
What is your routine source of herbal medicinal products? (n = 231)	Authorized Distributor	68	29.4
	Unauthorized Distributor	61	26.4
	Self-prepared	102	44.2
	Fairly effective	21	17.5
How effective was herbal therapy for SD? (n = 120)	Effective	44	36.7
	Strongly effective	55	45.8
	Yes	29	16.6
Was there any side effect due to application of herbal medicine to treat SD? (n = 175)	No	146	83.4
	Yes	165	73.7
Can you recommend herbal medicine to someone for the treatment of haemorrhoid and SD? (n = 224)	No	59	26.3



According to the findings of this study in Table 3, there was no significant relationship between the age and incidence of SD among the study population. However, there was a significant difference between the level of education of the respondents and incidence of SD with the respondents with secondary

level of education having the highest percentage (50.0%) of SD. Similarly, there was a significant difference between the occupation of the respondents and incidence of SD with military personnel being the mostly affected (62.5%).

Table 3: Relationship Between Socio-demographic Characteristics and Incidence of SD among the study participants

	Variables	Yes	No	X ² - value	p-value
Age Groups	20-29	28 (22.4%)	97 (77.6%)	8.03	0.788
	30-39	16 (19.3%)	67 (80.72%)		
	40-49	4 (30.8%)	9 (69.2%)		
	50-59	7 (30.4%)	16 (69.6%)		
	60-above	1 (100 %)	0 (0.0%)		
Level of Education	Primary level	4 (22.2%)	14 (77.8%)	18.68	0.030
	Secondary level	11 (50.0%)	11 (50.0%)		
	Tertiary level (First degree)	27 (19.6%)	111 (80.4)		
	Tertiary level (Postgraduate)	16 (23.5%)	52 (76.5%)		
Profession	Public servant	27 (21.1%)	101 (78.9%)	37.00	0.003
	Self-employed	7 (38.9%)	11 (61.1%)		
	Military personnel	5 (62.5%)	3 (37.5%)		
	Trading	2 (18.2%)	9 (81.8%)		
	Unemployed	8 (22.9%)	27 (77.1%)		
	Others	7 (15.6%)	38 (84.4%)		

Moreover, the results of this study in Table 4 shows the relationship between the level of education of the respondents and the method of treating SD.

Table 4: Relationship Between Socio-demographic Characteristics and Most likely Method of treating SD

	Variables	Herbal	Orthodox	X ² - value	p-value
Age Groups	20-29	33 (64.7%)	18 (35.3%)	1.37	0.850
	30-39	14 (70.0%)	6 (30.0%)		
	40-49	3 (50.0%)	3 (50.0%)		
	50-59	8 (66.7%)	4 (33.3%)		
	60-above	1 (100%)	0 (0%)		
Level of Education	Primary level	9 (75.0%)	3 (25.0%)	13.49	0.004
	Secondary level	9 (69.2%)	4 (30.8%)		
	Tertiary level (First degree)	34 (81.0%)	8 (19.0%)		
	Tertiary level (Postgraduate)	8 (36.4%)	14 (63.6%)		
Profession	Public servant	29 (63.0%)	17 (37.0%)	7.07	0.215
	Self-employed	10 (90.0%)	9 (9.1%)		
	Military personnel	6 (85.7%)	1 (14.3%)		
	Trading	2 (66.7%)	1 (33.3%)		
	Unemployed	6 (46.2%)	7 (53.8%)		
	Others	6 (75.0%)	2 (25.0%)		



In addition, Table 5 revealed a correlation between the age and level of education of the respondents with the application of herbal medicine without having SD.

Table 5: Relationship Between Socio-demographic Characteristics and likelihood of application of herbal medicine products for treatment of SD

	Variables	Yes	No	X ² - value	p-value
Age Groups	20-29	45 (39.1%)	70 (60.9%)	12.15	0.010
	30-39	16 (19.8%)	65 (80.2%)		
	40-49	3 (23.1%)	10 (76.9%)		
	50-59	8 (44.4%)	10 (55.6%)		
	60-above	1 (100%)	0 (0.00%)		
Level of Education	Primary level	7 (36.8%)	12 (63.2%)	8.39	0.010
	Secondary level	8 (38.1%)	13 (61.9%)		
	Tertiary level (First degree)	49 (38.0%)	80 (62.0%)		
	Tertiary level (Postgraduate)	11 (17.7%)	51 (82.3%)		
Profession	Public servant	36 (31.3%)	79 (68.7%)	7.82	0.170
	Self-employed	9 (50.0%)	9 (50.0%)		
	Military personnel	5 (62.5%)	3 (37.5%)		
	Trading	2 (20.0%)	8 (80.0%)		
	Unemployed	8 (25.0%)	24 (75.0%)		
	Others	13 (28.3%)	33 (71.7%)		

Similarly, there is a significant relationship between the respondents' professional career and experience of side effects of herbal medicine for the treatment of SD Table 6.

Table 6: Relationship Between Socio-demographic Characteristics and Perception about possibility of side effects of herbal medicine for the treatment of SD

	Variables	Yes	No	X ² - value	p-value
Age Groups	20-29	17 (17.5%)	80 (82.5%)	0.52	0.970
	30-39	8 (17.4%)	38 (82.6%)		
	40-49	2 (20.0%)	8 (80.0%)		
	50-59	2 (12.5%)	14 (87.5%)		
	60-above	0 (0.0%)	1 (100%)		
Level of Education	Primary level	3 (17.6%)	14 (82.4%)	12.40	0.070
	Secondary level	6 (31.6%)	13 (68.4%)		
	Tertiary level (First degree)	16 (15.8%)	85 (84.2%)		
	Tertiary level (Postgraduate)	4 (11.8%)	30 (88.2%)		
Profession	Public servant	15 (17.2%)	72 (82.8%)	16.16	0.006
	Self-employed	7 (50.0%)	7 (50.0%)		
	Military personnel	2 (25.0%)	6 (75.0%)		
	Trading	1 (12.5%)	7 (87.5%)		
	Unemployed	0 (0.0%)	19 (100.0%)		
	Others	4 (11.1%)	32 (88.9%)		



DISCUSSION

The application of herbal medicine products for the treatment of haemorrhoids and SD is prevalent among the 20 to 29 age group of the study population. Similar finding was reported among some residents of Kano metropolis, Northern Nigeria wherein the application of herbal medicinal products for different therapeutic purposes (and as aphrodisiac) was most prevalent among the 21 to 30 age group (Bello and Isah, 2015). Another study also reported the prevalent application of some herbal decoction for the treatment of haemorrhoid among adult males in major cities of Oyo State, Southwestern Nigeria (Oyekunle and Raji, 2011; Karabakan *et al.*, 2017). This study further show similarity with a retrospective study conducted among the Ghanaian adult males whereby the unmarried males aged 20 to 24 years had significantly higher application of herbal medicinal products for treatment of SD and to enhance sexual performance, in relation to higher incidence of multiple sexual partners (Yeboah *et al.*, 2022).

Furthermore, the results of this study indicated that majority of the respondents had attained relatively higher level of education and were mostly employed. This connotes that the application of herbal medicine products is not dependent on educational or socioeconomic status of the participants. In a previous study, it was reported that 85% of southwest Nigerian population, irrespective of their socioeconomic status, preferred herbal therapy for different clinical conditions due to its higher efficacy compared to orthodox medical care (Aina *et al.*, 2020). It has been reported that the application of herbal medicine for the treatment of haemorrhoids and SD is usually independent of socioeconomic status of individuals (Chen *et al.*, 2019). Invariably, the participants of this study are more inclined towards an easily accessible, affordable and effective source of health care, which herbal medicine provides

similar to the findings of a previous study (Amorha *et al.*, 2018).

The incidence of haemorrhoid among the study population is high with more than half of the study population reported to have had and/or treated haemorrhoid mainly with the application of herbal medicinal products. According to the study by Oreagba *et al.*, (2011), herbal medicinal decoction (agbojedi) is the most widely applied herbal therapy for the treatment of haemorrhoid among residents of Lagos metropolis, southwest Nigeria. In another study conducted among the adult male residents of Ogbomoso city in Southwest Nigeria, majority (79.24%) often apply herbal medicine products for the treatment of SD (Oyekunle and Raji, 2011). The observed preference for herbal treatment of haemorrhoid and SD in the current study can be further underscored by the choice of majority (73.7%) of the respondents to recommend such treatment to others. The study among Lagos residents had associated the significant increase in the application of herbal medicine in recent times to the referral by friends and relatives after satisfactory therapeutic outcomes (Oyekunle and Raji, 2011).

Moreover, the results of this study showed that 73.8% of the respondents perceived that haemorrhoid occurrence is associated with SD while 60.2% of the respondents opined that herbal medicinal therapy for haemorrhoid could also serve as therapy for SD. The study by Keller (2012) had reported that the occurrence of erectile dysfunction was significantly common among adult males under 40 years old that had prior diagnosis of haemorrhoid. In a previous study which involved haemorrhoid patients with concurrent diagnosis of erectile dysfunction, the procedure of haemorrhoidectomy was reported to significantly improve erectile function among the patients compared to those that did not undergo the procedure (Abdelaziz *et al.*, 2019).



Other studies had also indicated the relationship between haemorrhoid and erectile dysfunction (Pilkington *et al.*, 2000; Keller and Lin, 2012). The postulated mechanism of erectile dysfunction in patients with haemorrhoids was based on the connection of the rectum with autonomic prostatic plexus that also contribute to initiation of penile erection (Keller and Lin, 2012).

Furthermore, the finding of this study showed that only 39.4% of the respondents reportedly had prior case of SD. This could be inferred as under-reporting of the case among the respondents with some perhaps choosing a non-disclosure stance. This disposition could be related with the common belief in African culture that silence on sexual matters is regarded as a virtue (Sun and Migaly, 2016). This might also account for the preference of herbal medicinal application for SD among majority of the respondents (66.3%) compared to those (33.7%) that prefer orthodox medical care. This may also be relatable to the considerable percentage (44.2%) of the respondents that self-prepare the herbal medicine compared to those that obtain theirs from authorized distributor (29.4%) or unauthorized distributor (26.4%). Generally, orthodox medical therapy for haemorrhoid and SD has its associated challenges which include high financial cost, drug adverse effects or traumatic clinical

procedures (such as anal examination and surgeries like haemorrhoidectomy) (Siddiqui *et al.*, 2014; Sun and Migaly, 2016). Conversely, the easy accessibility, relative affordability and negligible adverse effects or trauma associated with herbal medicinal therapy would continue to encourage its application. The results of this study showed that majority (83.4%) of the respondents reported no prior experience of adverse effects due to therapeutic application of herbal medicine. This further corroborates the negligible adverse effects generally reported concerning herbal medicinal application (Osemene *et al.*, 2011; Getachew *et al.*, 2022).

CONCLUSION

This study showed the reliance on herbal medicine as a viable complementary source of therapy against haemorrhoid and SD among the study population due to its accessibility, affordability, perceived efficacy and insignificant adverse effects.

RECOMMENDATION

Increased funding and support for herbal medical education and research would be required to provide quality and effective complementary health services. In addition, government regulatory agencies should do more awareness and mass-education on the appropriate application of herbal medicinal products.

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