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Original Article

Male Erectile Dysfunction Problems in Healthcare Facilities in Dar-es-Salaam, Tanzania

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Male erectile dysfunction is a significant public health problem that considerably impacts one's relationships and affects sexual life. However, few studies have been conducted in Sub-Saharan Africa to explore male erectile dysfunction. This study explored how healthcare professionals identify and manage male erectile dysfunction in Dar es Salaam, Tanzania. Eighteen (18) focus group discussions were conducted with healthcare practitioners (N=60) and students (N=61), stratified by midwifery, nursing, or medicine. Thematic analysis resulted in two main themes: history taking and disease management. Providers and students highlighted different approaches to handling erectile dysfunction, and the results revealed inadequate knowledge among providers on male erectile dysfunction. In addition, the results presented the unmet need of patients with erectile dysfunction in the community, forcing patients to seek care from traditional healers. Therefore, this study recommends comprehensive health training and continuous education for practicing health professionals on sexuality and sexual health across disciplines. Training would potentially increase confidence among healthcare providers when engaging with patients and provide referrals to specialized care to optimize patient outcomes.

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INTRODUCTION

Male erectile dysfunction (ED) is a significant public health problem that considerably impacts one's relationships and affects sexual life for men, women, and their partners. ED is currently one of the most common sexual dysfunctions in men worldwide. However, less has been studied in developing countries. ED is the inability to attain or maintain a penile erection sufficient for satisfactory vaginal intercourse (National Institute of Health, 1993). ED is strongly associated with increasing age, smoking, medication side effects, mental health issues, performance anxiety, sexually transmitted infection (Chirca et al., 2023; Luo et al., 2017; Olugbenga-Bello et al., 2013), low testosterone, prostate inflammation, prostate cancer, sedentary life and obesity and depression symptoms (Wang et al., 2017). Additionally, ED is also associated with cardiovascular disease (CVD), diabetes mellitus, and benign prostatic hyperplasia (BPH) (Amidu et al., 2010; Hurisa & Negera, 2020; Olugbenga-Bello et al., 2013; Oyelade et al., 2016; Wang et al., 2017; Yovwin et al., 2015). Numerous studies suggest that men with these pre-conditions, i.e., non-communicable diseases are more likely to have mild-to-severe ED than those patients without these pre-conditions. (Agaba et al., 2017; Ayta et al., 1999; Correia et al., 2022; Kessler et al., 2019; Mutagaywa et al., 2014; Nyalile et al., 2020; Yovwin et al., 2015). Kessler (2019) found that

the global prevalence of erectile dysfunction (ED) was 3-76.5%. Likewise, the estimated projection of ED worldwide indicates that by 2025, 322 million men will be affected (Ayta et al., 1999).

ED in Africa is less studied compared to other sexual health problems. Even though there is limited literature in Africa on ED, the statistics show the regional prevalence of Sub-Saharan Africa is 20% (Yovwin et al., 2015). For instant the prevalence rate for ED in Egypt is estimated to be 10% for moderate and 13% for severe (Seyam et al., 2003), Ghana, 66% and the most prevalent area of difficulties include infrequency 70% and premature ejaculation 65% (Amidu et al., 2010) and Nigeria, 44% to 59% (Olugbenga-Bello et al., 2013; Oyelade et al., 2016). In Kenya, of 385 adult men with hypertensive conditions who attend an ambulatory clinic at Kenyatta National Hospital, 364 (95%) had ED problem (Correia et al., 2022). In Ethiopia, 60% (212) of the diabetic patients in tertiary hospital of southwest had almost all forms of ED and 97.6% (207) of patients with ED were not treated or received care (Hurisa & Negera, 2020). These statistics indicate high prevalence of ED and significant measures need to be taken into account to promote men's sexual health and that of their partners.

Proper sexual functioning is the one of the most essential components of quality life (Mutagaywa et al., 2014). The Tanzania government, through

the Ministry of Health Community Development, Gender, Elderly, and Children (MoHCDEC) made several efforts to address ED. They include the development of guidelines, policies, and authorization of traditional herbs for treating ED (e.g., Ujana herbs) and other medication (Ajao et al., 2019; Makoye, 2019). Despite the ministry's efforts, there is an increasing rate of men looking for aphrodisiacs and different healing strategies (e.g., traditional herbs/medical plants/witch doctors) which denotes the unmet needs in the community (Ajao et al., 2019; Mutagaywa et al., 2014; Mutebi, 2017). Similarly, the increased volume of billboards and fliers in the community with different massages. For example, in Kiswahili "*Daktari wa kuongeza nguvu za kiume/kukuza uume anapatikana hapa*" translation "If you want to enlarge your penis/arousal/erection, the doctor is available here" all these signify the unmet needs within the society.

The few studies conducted in Tanzania indicated the presence of ED to be 24% and 55% among men in the community-setting and those attending a diabetic care at Muhimbili National Hospital (Mutagaywa et al., 2014; Pallangyo et al., 2016a). Nyalile et al. (2020) study shows one out of three men in Moshi municipality have ED problem. Despite the variation in statistics, these findings show the presence of all forms of ED (mild ED, mild-moderate, moderate, and severe ED) were reported for men 40 years and above. The absence of men's sexual and reproductive health plans in the national reproductive health strategies pose a huge problem for men's sexual health in Tanzania.

ED negatively impacts relationships and health-related quality of life (Seyam et al., 2003). It is vital to address and prevent ED early because unaddressed ED problems may contribute to mental, physical, and psychological problems among men. For example, men experience depression, guilt, fear of intimacy, reduced self-esteem, anxiety, and can contribute to a broken relationship (Brooten-Brooks, 2021; Seyam et al., 2003; Sheng, 2021; Traish et al., 2011). The impact of ED in low-income countries is

significantly higher than that of developed countries due to the prevailing taboos, shyness, and embarrassment of discussing sexual health issues or topics for both HCPs and patients (Agaba et al., 2017; Nyalile et al., 2020). Due to these prevalent factors, neither HCPs feel confident to query patients about ED during their interactions (Albaugh et al., 2017; Haboubi & Lincoln, 2009; Malviya et al., 2016; McCabe et al., 2016; Ribeiro et al., 2014), nor do patients raise sexual health issues with their providers (Agaba et al., 2017; Nyalile et al., 2020; Ross et al., 2021; Rosser et al., 2020; Skelton & Matthews, 2001; Wang et al., 2017). While these topics may be challenging in clinical practice, it is essential that HCPs perform the following if patients present ED or related symptoms that might lead to ED: 1) perform thorough clinical histories that include questions regarding desire, arousal, sexual function, pain, and orgasm, 2) perform standard screening for related health issues, and 3) examine the patient to adequately explore ED during clinical visits (Annon, 1976; Ross et al., 2021; Workowski & Bolan, 2015). Fewer studies have been conducted in Tanzania, about ED in the community and at the clinical setting, specifically for those patients with diabetes. However, no study has explored how these HCPs identify and manage ED for men in Tanzania.

Study Objectives

This study provides a baseline on how healthcare providers identify and manage ED at healthcare facilities in Tanzania. The study aimed to inform the development of a culturally relevant curriculum for students and practitioners in the three disciplines, i.e., nurses, midwifery, and medical doctors.

MATERIAL AND METHODS

This study employed a formative qualitative research design to explore the experiences and perspectives of HCPs [practitioners and students] in medicine, midwifery, and nursing. This methodology section have been deeply presented in different articles (Mgopa et al., 2021; Mkonyi

et al., 2021) but will be reviewed briefly here. This study is in collaboration with two universities, the Muhimbili University of Health and Allied Sciences [MUHAS] in Tanzania and the University of Minnesota in the United States. The study obtained ethical clearance from the National Institute of Medical Research (NIMR), Tanzania, and the MUHAS and University of Minnesota Institutional Review Boards.

Eighteen focus groups were conducted in June 2019 with healthcare practitioners and students. The sample size for this study and number of focus group discussion was determined based on the saturation level (i.e., when there is no new information from the participants). A purposive, stratified sampling design was implemented to examine their experiences and perspectives regarding providing sexual health services (Palinkas et al., 2015). This design allowed the team to assess differences across provider types, capture the practice experience, and identify unmet training needs of students. During the focus group discussions, participants were presented with a scenario focused on a male with erectile dysfunction. The participants were encouraged to share their experiences and opinions on how they would manage such scenarios with their patients.

Recruited participants for this study were midwifery, nursing, and medical students in their final year recruited from MUHAS in Dar es Salaam. Participants had at least four years of clinical experience in the major public and private health hospitals in Dar-es-Salaam. Health care providers were recruited from their department or unit by clinical leaders. Only one provider from a department or clinic could participate to optimize diversity. When more than one professional in a department was interested and met the criteria, the provider with the highest number of years in the profession was enrolled. Students and practitioners who did not fall in the listed criteria above were not allowed to participate in the study. Detailed description of the participants is also previously reported in Mkonyi et al, (2021) article. The total of 121 HCPs participated in the study (Table 1). Sixty were healthcare practitioners (n=60), and 61 were healthcare students. Most (N = 61) students were male with a mean age of 25.5 years old, all in their fourth year of training. Most (N = 60) practitioners were female, with a mean age of 43.1 years and a mean duration of clinical experience of 14.6 years.

Table 1: Demographic Characteristics of the Sample (N=121 health care students and practitioners, Tanzania)

		Midwifery	Nursing	Medicine	Total
Sample Size	Students	20	19	22	61
	Practitioners	21	21	18	60
	Total	41	40	40	121
Gender	Students	14 M; 6 F	13 M; 6 F	11 M; 11 F	38 M; 23 F
	Practitioners	0 M; 21 F	5 M; 16 F	6 M; 12 F	11 M; 49 F
	Total	14 M; 27 F	18 M; 22 F	17 M; 23 F	49 M; 72 F
Age (in years)	Students: Mean	27.7	25.1	24.0	25.5
	Range	23-37	23-27	22-28	23-37
	Practitioners: Mean	44.5	41.1	43.5	43.1
	Range	26-58	24-59	31-62	24-62
Experience (in years)	Students	4	4	4	4
	Practitioners: Mean	18.0	13.1	11.9	14.6
	Range	4-38	2-30	4-25	2-38

Data Analysis

Each moderator-led focus group included five to eight participants, employed a semi-structured guide for consistency, and lasted between 60-90

minutes. Focus group discussions were conducted in private meeting rooms convenient to the provided type to ensure access and privacy. Discussions were conducted in English,

Kiswahili, or both languages. Kiswahili, however, was the preferred language used during the focus groups. Participants were introduced to all procedures and focus groups' rules and ethics. Bilingual moderators provided a summary of the main themes from the focus group discussion session with participants for clarity.

All focus group discussions were audio recorded and saved in the secured server. The audio files were subsequently transcribed verbatim and translated into English for analysis. The six moderator teams [MUHAS & University of Minnesota] employed deductive and inductive coding strategies informed by grounded theory to generate the codebook, code each transcript, and perform the thematic analysis used to generate themes and subthemes. The team strictly followed a three-step, iterative coding process (Saldana & Omasta, 2018) using open coding, first coding cycle, and axial coding. The approach enabled a debate and reflection process that generated a deeper understanding of healthcare practitioner and student training and experiences in delivering sexual health services. In addition, this process generated broader themes and sub-themes/categories that could subsequently be compared across HCP types (practitioners versus students) and discipline.

Validity and Reliability of Tools

Researchers employed different measures to enhance the credibility and trustworthiness of this study during research design, study implementation, and data analysis. First, designing of research tools/instrument: tools were designed by experienced researchers in qualitative research and instructors with different backgrounds in medicine, midwifery, and nursing and pilot tested and revised by bilingual

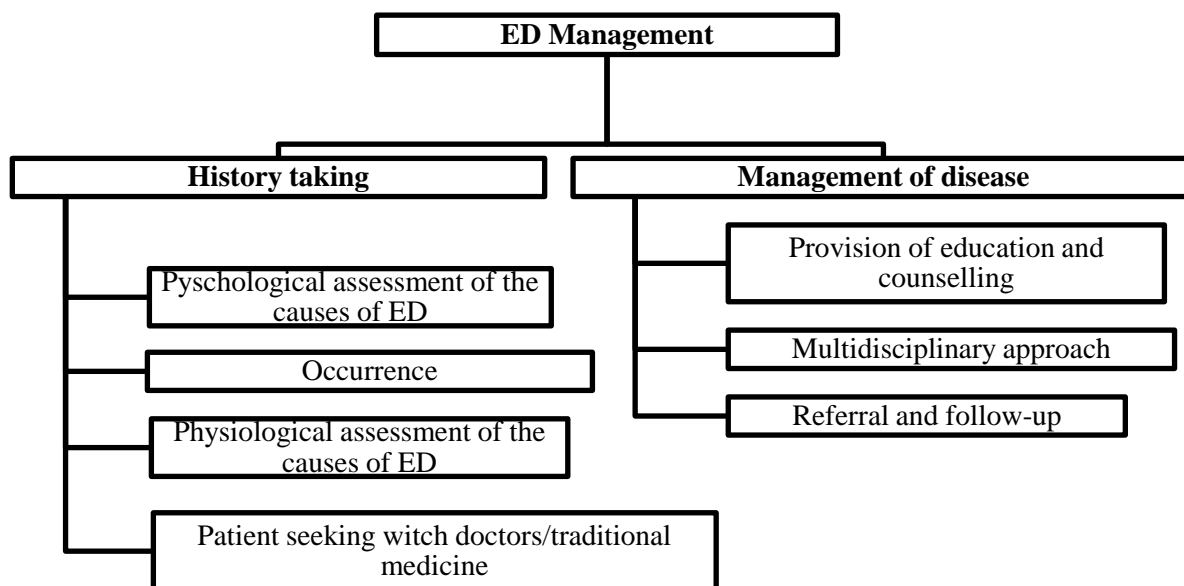
researchers to make sure the instrument is precise and understood by participants. Second, the research team ensured the recruitment of participants adhered to the study objectives using exclusion and inclusion criteria. Second, participants and researchers' validation: during the data collection process, the researchers employed triangulation methods by inviting participants to comment/rectify mistakes from the moderator's notes at the end of the focus group discussion. This process helped ensure that the themes and concepts related to the discussion. Also, feedback and debriefs from the research team help triangulate the information collected daily. All focus group discussions were recorded using a voice recorder and transcribed verbatim by a bilingual researcher and proof read by Principal Investigator. Third is code validation: during data analysis, each transcript was analyzed by more than two researchers using a codebook developed by a team of researchers using deductive and inductive approaches. When there is disagreement in the coding, researchers set together to address the issue and reach a consensus. All researchers were also reminded to reduce their personal biases throughout the research process by adhering to the research ethics and how their biases would affect the results presented.

RESULTS

This section provides the results of the scenario of a man with erectile dysfunction that professionals were given during the focus group discussion. This scenario generated broader themes and sub-themes presented in Figure 1.

Scenario 1. A man has come to you and says he cannot have an erection to have sex with his wife. How would this be handled?

Figure 1: Present the Themes and Sub-themes for Male Erectile Dysfunction (ED)



Handling Patients with ED

Participants were presented with this case and shared their experiences on how they would handle the case of a man who presented to the facility with an erectile problem. Participants stated that the first step was to take a history, conduct physical and psychological assessments, and manage the ED by providing counselling, treatment, or referrals for comprehensive care.

History Taking

During the discussion of the erectile problem, providers discussed history taking as necessary to understand the patient and their concerns. They mentioned part of history taking included asking questions about the man's partner, his sexual history, the onset of the problem, medication use, and assessment of other health conditions. Proper history taking was seen as key to providing appropriate treatment for a patient with ED.

Examine the Occurrence of ED and Partner's Relationship

Participants said they would need to assess the magnitude of the problem and when that problem occurred. Most participants mentioned smoking, alcohol use, diabetes, and sexual relationship

history as the main causes of erectile problems. Providers mentioned each causal factor needed to be assessed during the history taking process.

Some participants commented that they would explore the problem to understand whether the ED occurred more frequently only with his wife, in extramarital affairs, or in both. Participants also said they would assess their patient's sexual relationship by asking different questions, such as how they relate to each other? How do they communicate? Do they fight a lot? Participants echoed that asking these questions to ED patients is fundamental because if partners are not in a good sexual relationship communication is likely to reduce sexual intimacy and might contribute to ED.

The statement from one of the medical doctor's students is evidence.

"As fellows have said, the first thing you need to take a history, and you need to understand when the problem occurs clearly, is it when he wants to do sex with his wife or when meeting another outside woman? Also, you need to assess his approach when he wants to meet his wife and /or is there anything between them that they remember and affects their mood

when they meet? And if possible, talk to another side [the wife]" (Group 6: Medical Doctors Students).

Another participant also had this to say about the possible causes of ED:

For example, for those who smoke too much or drink too much alcohol, where will they get an erection? If a person stops drinking alcohol, taking drugs, and smoking, the erection will come automatically. Drinking more alcohol, more cigarettes, and such things can cause permanent ED. (Group 1: Medical Doctors Professionals)

Furthermore, other midwives' professionals had this to say during a discussion,

First, I will ask him whether the problem started when he married his wife or if it just happened suddenly. If it happened suddenly, I would ask him if he is using alcohol or what environment [sexual environment] he is meeting with his wife...! Does he not have any stress... (Midwife professionals)

Psychological Assessment as a Cause Of ED

Providers discussed their opinions on the various psychological causes of ED among their patients. Some thought that ED is mostly psychological, and others felt it was a combination of psychological and physiological issues. Providers discussed specific psychological conditions such as depression, fear, and stress. The following statement from one of the medical doctor student groups is the evidence,

As a doctor, most of these problems are caused by the psychology of that particular man. I will try to determine and analyse different causes to know exactly why that patient has such a problem. Such a problem can be the result of long-term medication or stress. Understanding this would help me to know how to treat my patient, including providing referrals to the psychologist for counselling (Medical Doctors Students)

Another participant from the nursing professionals' group had this to say "...Sometimes, a man is psychologically affected because he has heard his wife cheats with someone else. So, he thinks maybe the other man is infected and his wife is not safe. Such suspicion can cause this problem..." (Group 3: Nurse Professionals). Likewise, one of the midwifery students also had this to say, "On my side ... I will take history then after I would see if he had depression or not...! Because stress and depression mostly affect the erection if he is not well psychologically" (Group 7: Midwifery Students).

The Physiological Assessment as a Cause of ED

Participants cited that healthcare providers must perform a physical assessment after history taking to reveal the magnitude and causes of the problem or illness before introducing any treatment. Therefore, this sub-category looks at how providers understand the various physiological aspects of ED. To treat patients properly, doctors, nurses, and midwives should understand the various health conditions that could lead to EDs. A wide variety of conditions was mentioned by interviewees, with diabetes being the most common. The following quotes exemplify, "*You must do physical examination because patients with diabetes tend to fail to erect their penis most of the time. So physical examination will help to rule out other causes*" (Group 2: Nursing Student).

Concern About Patients Seeking Witchdoctor/Traditional Medicine

The findings show mixed opinions about patients seeking care to treat ED. Participants reported that most of their patients seek treatment from witch doctors or traditional healers before, or in addition to, seeking care at regulated health facilities.

Most participants were concerned that traditional or witch doctors' medicine could have unintended consequences on the patient's health. As stated by one of the participants, "*You know I will also ask if he has tried to go anywhere for treatment because he might have gone to witch doctors who*

lied to them with some fake medicine without any impact" (Group 9: Midwifery Students).

The issue of patients seeking care outside the hospitals was also revealed in a nursing students' group. One of the participants acknowledged the prevalence of ED in the community and explained what avenue patients explored to solve their ED problem. The following statement is an example.

But in the case of the community, most people in my experience are not seeking treatment from the hospital. You may find that most of them are going to witch doctors, and others seek information online. But most of them are going to different areas than a hospital (Group 1: Nursing students).

Participants also noted a different level of knowledge among providers (nurses/midwifery verses medical doctors) on the management and treatment of ED which contributes to an increasing number of patients who seek care outside the hospital. Findings show that medical doctors have more experience and knowledge on handling ED in patients than nurses or midwifery. Other participants within the same group of nursing students echoed that

On my side, firstly, for this case of ED, this is a big issue within our country even the government struggles with how we can solve this. But for us, health providers should be confident and knowledgeable about this issue. If we know the causes of ED, I believe...! we can provide quality care, unfortunately we are not. Most of us are treating them with medicines that are helping them temporarily, not permanently. In addition, most are using traditional medicines more than hospital management. This is the challenge. (Group 1: Nursing students).

One of the midwiferies from the midwifery professionals' group had this to say

"You know us midwives do not meet a lot of men with during their visit as we see women. Therefore, I am not sure I would handle such a situation" (Midwife Professionals).

Management and Treatment of ED

Providers contended that managing the disease is a crucial and challenging stage. It is the provider's responsibility to conduct in-depth discussions and assessments to understand the underlying cause of any disease before the provision of treatment. Participants described different approaches to the management of care for patients with ED.

Provision of Education And Counselling

In managing ED, participants across groups provided similar opinions on how they could manage the case. Providers argued that after taking a thorough history and understanding the root cause of the ED, the provider would treat the root cause as physiological, psychological, or both. First, providers would provide counselling and education about illness by alleviating fear, stress, and providing referrals for further care.

As shown in the following statement,

On my side, I think the other way to help a patient is by reducing fear in your patient like your problem is very normal, and many people get [the ED] and get treated and recover. But also, to help him by counselling on bad perceptions, his problem may be related to superstitious practices. So, calming him down will reduce the burden of his stress (Group 5: Medical Doctors Professionals)

Furthermore, another participant from the same medical doctors professional group commented that.

After taking a thorough history... then I will now refer him to a doctor for more discussion and diagnosis. So, I will explain the patient's situation to the doctor, and then the doctor will further assist (Group 5: Medical Doctors Professionals).

Multidisciplinary Approach to Patient Treatment

Providers emphasized that ED could have many physical and psychological causes, so the treatment requires a multidisciplinary team to account for comorbidities. Across the groups,

participants consistently echoed that they could manage the ED as it is without referring by providing counselling and medication, if any. Other participants said they would refer internally (within the same unit/health facility) or externally (higher-level health facilities) depending on the nature or severity of the illness. Also, providers would follow up with their patients to ensure they get quality services.

Most participants favoured a multidisciplinary approach. They commented that a multidisciplinary team within the health facility is important to ensure the patient receives comprehensive quality care within one visit. This is important because when referred to a different clinic, most patients do not usually go due to various reasons such as distance and cost. Participants also emphasized the importance of teamwork in managing and treating ED patients. One of the participants echoed that

So, it is a challenge, but we usually try that, and now that is why we are advocating for a multidisciplinary approach focusing on a patient. We could have a psychologist, a dietician, and everybody responsible for dealing with each part because there are many things we need to assess; we have to understand what is causing the disease (Group 7: Medical doctors professionals).

DISCUSSION

This section discusses the ED scenario results presented to the participants during the focus group discussion. The results show major similarities and minor differences in how the HCPs would manage the ED scenario. Across groups and disciplines, providers mentioned that when they receive a patient with ED, they provide care based on the Tanzanian national guidelines. First, Tanzanian guidelines are not unique, variety of studies outlined the guiding principles that the health care providers need to follow during management of patients such as seeking permission, provide limited information, provide specific suggestion, Intensive therapy (PLISSIT) (Annon, 1976; Mkonyi et al., 2023; Muhrer, 2014;

Reno et al., 2022; Ross et al., 2021) Similar to these studies the providers in this study state that the guidelines require them to conduct a thorough history to understand the cause of the illness, onset of disease, sexual relationship, history of treatment, and medication used before seeking care. Second, they would also perform physical and psychological assessments, and screening. Third, they would treat and manage the disease. These commonalities suggest most providers know what procedures to follow for patients with ED or other related disorders. However, this study's findings depict the gap in implementing these guidelines by some HCPs.

HCPs were able to describe the causes of ED based on the scenario presented, psychological, physiological, or both. Similar to other studies, this study found that depression, fear, stress, knowledge of an adulterous relationship, excessive smoking, and alcohol use contribute to psychological causes (Kessler et al., 2019; Mutagaywa et al., 2014; Oyelade et al., 2016). According to Nyalile et al (2020) and Pallangyo et al (2016) study highlighted the causes of ED of which physiological factor was a main contributor. Likewise, this findings identified physiological factors, such as diabetes, sickle cell disease, and vitamin deficiencies as a driving causes of ED. Consistent with other work, (Nyalile et al., 2020; Pallangyo et al., 2016) diabetes, smoking, and age was identified as the leading cause of ED. Finally, this finding also from HCPs reveals that some patients with ED believe that they have been bewitched; therefore, they seek care from witch doctors or traditional healers. While HCPs demonstrating cultural knowledge of a range of causes and self-care approaches, this approach was viewed by HCPs to represent unmet clinical needs by patients.

This study noted some knowledge and experience variation across disciplines in ED management and treatment. Experienced physicians provided examples of ED cases more often than experienced nurses and midwives. The nurses/midwives expressed uncertainty about management and appropriately indicated they

would obtain a detailed history and refer the patient to the physician. The limited experience among nurses/midwifery to deal with ED signifies the need for more training on ED issues. Even though providers in all disciplines mentioned the importance of referral to be fundamental, most nurses and midwifery were unable to identify where a specialty referral should be directed.

Multidisciplinary approach were considered as a way forward in providing patients comprehensive care within short time using referral systems (Mkonyi et al., 2021, 2023; Robinson et al., 2002; Ross et al., 2021). Similarly, in this study HCPs emphasized that a multidisciplinary approach may be the best to account for comorbidities. Despite the fact that a multidisciplinary approach was perceived to be most effective, most health centres/facilities were not equipped with needed services or expertise, resulting in unmet needs for men. Proper training will be required to guide referral sources and appropriate use of referrals by HCPs for further treatment which appeared to be currently a problem

Limitation of the Study

The HCPs in this study were limited to medical, nursing and midwifery providers and students. They mentioned referral to specialists who were not in the study (e.g., psychologists and social workers). But it is unclear if psychologists, social workers, or other named healthcare providers in Tanzania have the training and experience to manage the ED scenario presented in this study. This study was conducted in three urban hospitals located in Dar es Salaam. We think these results would unlikely apply to other more rural parts of the country where multidisciplinary teams and referral to specialists is rare.

CONCLUSION AND POLICY IMPLICATION

Participants were able to identify different approaches to the management of ED. While they commonly cited history taking, physical assessment, and screening as the first stage in managing patients with ED and endorsed using a multidisciplinary approach, they were less clear

on how to treat ED. Specifically, participants were less clear on the provision of therapy, availability of referral sources, and expressed varying levels of comfort providing patient education and counselling. Therefore, this study concludes that provision of education and training among healthcare providers and clinicians related to ED management and handling is necessary to address the current unmet need and knowledge gap.

Policy implication: The government and the universities need to ensure there is a present of policies that reinforces regular/frequent student training and continuous education for HCPs as part of a national plan. The training and refresher training remains crucial given the burden of ED in Tanzania and other African countries and the observed discrepancies in knowledge and discomfort in initiating the conversation about ED and treating patients with ED and other sexual health issues. Government of Tanzania should expand the workforce to include specialty providers in gynaecologists, and urologists with expertise in ED, health educators, and behavioural health/sex therapists to optimize the referral base for general practitioners. In addition, the generalist training will be optimized to facilitate patient-centred sexual health interviews that empower patient disclosure and receptivity to care.

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REFERENCES

- Agaba, P. A., Ocheke, A. N., Akanbi, M. O., Gimba, Z. M., Ukeagbu, J., Mallum, B. D., & Agaba, E. I. (2017). Sexual Functioning and Health-related Quality of Life in Men. *Nigerian Medical Journal: Journal of the Nigeria Medical Association*, 58(3), 96–100. https://doi.org/10.4103/nmj.NMJ_225_16
- Ajao, A. A., Sibiya, N. P., & Moteetee, A. N. (2019). Sexual prowess from nature: A systematic review of medicinal plants used as aphrodisiacs and sexual dysfunction in sub-Saharan Africa. *South African Journal of Botany*, 122, 342–359. <https://doi.org/10.1016/j.sajb.2018.08.011>
- Albaugh, J. A., Tenfelde, S., & Hayden, D. M. (2017). Sexual Dysfunction and Intimacy for Ostomates. *Clinics in Colon and Rectal Surgery*, 30(03), 201–206. <https://doi.org/10.1055/s-0037-1598161>
- Amidu, N., Owiredu, W. K. B. A., Woode, E., Addai-Mensah, O., Gyasi-Sarpong, K. C., & Alhassan, A. (2010). Prevalence of male sexual dysfunction among Ghanaian populace: Myth or reality? *International Journal of Impotence Research*, 22(6), Article 6. <https://doi.org/10.1038/ijir.2010.24>
- Annon, J. S. (1976). The PLISSIT Model: A Proposed Conceptual Scheme for the Behavioral Treatment of Sexual Problems. *Journal of Sex Education and Therapy*, 2(1), 1–15. <https://doi.org/10.1080/01614576.1976.11074483>
- Ayta, I. A., McKinlay, J. B., & Krane, R. J. (1999). The likely worldwide increase in erectile dysfunction between 1995 and 2025 and some possible policy consequences. *BJU International*, 84(1), 50–56. <https://doi.org/10.1046/j.1464-410x.1999.00142.x>
- Brooten-Brooks, M. C. (2021, October 13). *Stress and Erectile Dysfunction: Tips for Better Mental Health*. Verywell Health. <https://www.verywellhealth.com/stress-and-erectile-dysfunction-5202285>
- Chirca, N., Streinu-Cercel, A., Stefan, M., Aurelian, J., & Persu, C. (2023). A Novel Risk Calculator to Predict Erectile Dysfunction in HIV-Positive Men. *Journal of Personalized Medicine*, 13(4), 679. <https://doi.org/10.3390/jpm13040679>
- Correia, M. C., Ogola, E. N., Kayima, J. K., Joshi, M. D., Silverstein, D. M., & Kabinga, S. K. (2022). Erectile dysfunction in hypertensive males in Kenya: A tertiary referral hospital experience. *African Health Sciences*, 22(2), 420–427. <https://doi.org/10.4314/ahs.v22i2.48>
- Correia, M., Ogola, E., Kayima, J., Joshi, M., Silverstein, D., & Kabinga, S. (2022). Erectile dysfunction in hypertensive males in Kenya: A Tertiary Referral Hospital experience. *African Health Sciences*, 22, 420–427. <https://doi.org/10.4314/ahs.v22i2.48>
- Haboubi, N. H. J., & Lincoln, N. (2009). Views of health professionals on discussing sexual issues with patients. <https://doi.org/10.1080/0963828021000031188>, 25(6), 291–296. <https://doi.org/10.1080/0963828021000031188>
- Hurisa, A. D., & Negera, G. Z. (2020). Erectile Dysfunction among Diabetic Patients in a Tertiary Hospital of Southwest Ethiopia. *The Open Public Health Journal*, 13(1), 240–245. <https://doi.org/10.2174/1874944502013010240>

- Kessler, A., Sollie, S., Challacombe, B., Briggs, K., & Hemelrijck, M. V. (2019). The global prevalence of erectile dysfunction: A review. *BJU International*, 124(4), 587–599. <https://doi.org/10.1111/BJU.14813>
- Luo, L., Deng, T., Zhao, S., Li, E., Liu, L., Li, F., Wang, J., & Zhao, Z. (2017). Association Between HIV Infection and Prevalence of Erectile Dysfunction: A Systematic Review and Meta-Analysis. *The Journal of Sexual Medicine*, 14(9), 1125–1132. <https://doi.org/10.1016/j.jsxm.2017.07.001>
- Makoye, K. (2019, July 2). Tanzania approves herbs to treat erectile Dysfunction—Health Policy Watch. *Health Policy Watch: Independent Global Health Reporting*. <https://healthpolicy-watch.news/tanzania-approves-herbs-to-treat-erectile-dysfunction/>
- Malviya, N., Malviya, S., Jain, S., & Vyas, S. (2016). A review of the potential of medicinal plants in the management and treatment of male sexual dysfunction. *Andrologia*, 48(8), 880–893. <https://doi.org/10.1111/and.12677>
- McCabe, M. P., Sharlip, I. D., Lewis, R., Atalla, E., Balon, R., Fisher, A. D., Laumann, E., Lee, S. W., & Segraves, R. T. (2016). Incidence and Prevalence of Sexual Dysfunction in Women and Men: A Consensus Statement from the Fourth International Consultation on Sexual Medicine 2015. *The Journal of Sexual Medicine*, 13(2), 144–152. <https://doi.org/10.1016/j.jsxm.2015.12.034>
- Mgopa, L. R., Ross, M. W., Lukumay, G. G., Mushy, S. E., Mkonyi, E., Massae, A. F., Mwakawanga, D. L., Leshabari, S., Mohamed, I., Trent, M., Wadley, J., Bonilla, Z. E., & Rosser, B. R. S. (2021). Perceptions of Sexual Healthcare Provision in Tanzania: A Key Informant Qualitative Study. *Sexuality Research and Social Policy*. <https://doi.org/10.1007/s13178-021-00607-5>
- Mkonyi, E., Mwakawanga, D. L., Rosser, B. R. S., Bonilla, Z. E., Lukumay, G. G., Mohammed, I., Mushy, S. E., Mgopa, L. R., Ross, M. W., Massae, A. F., Trent, M., & Wadley, J. (2021). The management of childhood sexual abuse by midwifery, nursing and medical providers in Tanzania. *Child Abuse & Neglect*, 121, 105268. <https://doi.org/10.1016/j.chiabu.2021.105268>
- Mkonyi, E., Trent, M., Mwakawanga, D. L., Massae, A. F., Ross, M. W., Bonilla, Z. E., Mohammed, I. S., Lukumay, G. G., Mushy, S. E., Mgopa, L. R., Wadley, J., Mkoka, D. A., & Rosser, B. R. S. (2023). Evaluating the History-Taking Process of Sexual Reproductive Health Problems in Tanzania: Lessons from a Study of Health Students and Practitioners. *East African Journal of Health and Science*, 6(1), Article 1. <https://doi.org/10.37284/eajhs.6.1.1239>
- Muhrer, J. C. (2014). The importance of the history and physical in diagnosis. *The Nurse Practitioner*, 39(4), 30–35. <https://doi.org/10.1097/01.NPR.0000444648.20444.e6>
- Mutagaywa, R. K., Lutale, J., Aboud, M., & Kamala, B. A. (2014). Prevalence of erectile dysfunction and associated factors among diabetic men attending diabetic clinic at Muhimbili National Hospital in Dar-es-Salaam, Tanzania. *The Pan African Medical Journal*, 17. <https://doi.org/10.11604/PAMJ.2014.17.227.2695>
- Mutebi, S. (2017, December 13). *Male Sexual Dysfunction in Tanzania*. https://www.polsoz.fu-berlin.de/ethnologie/forschung/arbeitsstellen/medical_anthropology/forschung/male-sexual-dysfunction-in-tanzania/index.html
- National Institute of Health. (1993). Impotence: NIH Consensus Development Panel on Impotence. *JAMA*, 270(1), 83–90. <https://doi.org/10.1001/jama.1993.03510010089036>
- Nyalile, K. B., Mushi, E. H. P., Moshi, E., Leyaro, B. J., Msuya, S. E., & Mbwapbo, O. (2020). Prevalence and factors associated with

- erectile dysfunction among adult men in Moshi municipal, Tanzania: Community-based study. *Basic and Clinical Andrology* 2020 30:1, 30(1), 1–7. <https://doi.org/10.1186/S12610-020-00118-0>
- Olugbenga-Bello, A. I., Adeoye, O. A., Adeomi, A. A., & Olajide, A. O. (2013). Prevalence of erectile dysfunction (ED) and its risk factors among adult men in a Nigerian community. *Nigerian Postgraduate Medical Journal*, 20(2), 130.
- Oyelade, B. O., Jemilohun, A. C., & Aderibigbe, S. A. (2016). Prevalence of erectile dysfunction and possible risk factors among men of South-Western Nigeria: A population-based study. *Pan African Medical Journal*, 24(1), Article 1. <https://doi.org/10.4314/pamj.v24i1>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Pallangyo, P., Nicholaus, P., Kisenge, P., Mayala, H., Swai, N., & Janabi, M. (2016a). A community-based study on prevalence and correlates of erectile dysfunction among Kinondoni District Residents, Dar Es Salaam, Tanzania. *Reproductive Health*, 13(1), 140. <https://doi.org/10.1186/s12978-016-0249-2>
- Pallangyo, P., Nicholaus, P., Kisenge, P., Mayala, H., Swai, N., & Janabi, M. (2016b). A community-based study on prevalence and correlates of erectile dysfunction among Kinondoni District Residents, Dar Es Salaam, Tanzania. *Reproductive Health*, 13(1), 140. <https://doi.org/10.1186/s12978-016-0249-2>
- Reno, H. E., Park, I., Workowski, K., Machefsky, A., & Bachmann, L. (2022). A guide to taking a sexual history. Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention. <https://www.cdc.gov/std/treatment/sexualhistory.htm>
- Ribeiro, S., Alarcão, V., Simões, R., Miranda, F. L., Carreira, M., & Galvão-Teles, A. (2014). General Practitioners' Procedures for Sexual History Taking and Treating Sexual Dysfunction in Primary Care. *The Journal of Sexual Medicine*, 11(2), 386–393. <https://doi.org/10.1111/jsm.12395>
- Robinson, B. 'Bean' E., Bocking, W. O., Simon Rosser, B. R., Miner, M., & Coleman, E. (2002). The Sexual Health Model: Application of a sexological approach to HIV prevention. *Health Education Research*, 17(1), 43–57. <https://doi.org/10.1093/her/17.1.43>
- Ross, M. W., Newstrom, N., & Coleman, E. (2021). Teaching Sexual History Taking in Health Care Using Online Technology: A PLISSIT-Plus Zoom Approach During the Coronavirus Disease 2019 Shutdown. *Sexual Medicine*, 9(1), 100290–100290. <https://doi.org/10.1016/j.esxm.2020.100290>
- Rosser, B. R. S., Mgopa, L. R., Leshabari, S., Ross, M. W., Lukumay, G. G., Massae, A. F., Mkonyi, E., Mohammed, I., Mushy, S. E., Mwakawanga, D. L., Trent, M., & Wadley, J. (2020). *Legal and ethical considerations in the delivery of sexual health care in Tanzania*. 3(7), 84–102.
- Saldana, J., & Omasta, M. (2018). *Qualitative research: Analyzing life*. SAGE Publications.
- Seyam, R. M., Albakry, A., Ghobish, A., Arif, H., Dandash, K., & Rashwan, H. (2003). Prevalence of erectile dysfunction and its correlates in Egypt: A community-based study. *International Journal of Impotence Research*, 15(4), Article 4. <https://doi.org/10.1038/sj.ijir.3901000>
- Sheng, Z. (2021). Psychological consequences of erectile dysfunction. *Trends in Urology &*

Men's Health, 12(6), 19–22.
<https://doi.org/10.1002/tre.827>

Skelton, J. R., & Matthews, P. M. (2001). Teaching sexual history taking to health care professionals in primary care. *Medical Education*, 35(6), 603–608.
<https://doi.org/10.1046/j.1365-2923.2001.00926.x>

Traish, A. M., Hassani, J., Guay, A. T., Zitzmann, M., & Hansen, M. L. (2011). Adverse Side Effects of 5 α -Reductase Inhibitors Therapy: Persistent Diminished Libido and Erectile Dysfunction and Depression in a Subset of Patients. *The Journal of Sexual Medicine*, 8(3), 872–884. <https://doi.org/10.1111/j.1743-6109.2010.02157.x>

Wang, W., Fan, J., Huang, G., Zhu, X., Tian, Y., Tan, H., & Su, L. (2017). Meta-Analysis of Prevalence of Erectile Dysfunction in Mainland China: Evidence Based on Epidemiological Surveys. *Sexual Medicine*, 5(1), e19–e30.
<https://doi.org/10.1016/J.ESXM.2016.10.001>

Workowski, K. A., & Bolan, G. A. (2015). Sexually Transmitted Diseases Treatment Guidelines, 2015. *MMWR. Recommendations and Reports: Morbidity and Mortality Weekly Report. Recommendations and Reports*, 64(RR-03), 1–137.

Yovwin, D., Imarhiagbe, F., Obazee, E., & Oguike, T. (2015). Erectile dysfunction in a sub-saharan African population: Profile and correlates in a tertiary care hospital. *Sahel Medical Journal*, 18, 116.
<https://doi.org/10.4103/1118-8561.169286>