# HHS Public Access

Author manuscript

*J Sex Med*. Author manuscript; available in PMC 2022 October 01.

Published in final edited form as:

*J Sex Med*. 2021 October ; 18(10): 1690–1697. doi:10.1016/j.jsxm.2021.07.007.

# The Management of Masturbation as a Sexual Health Issue in Dar es Salaam, Tanzania: a Qualitative Study of Health Professionals' and Medical Students' Perspectives

**Stella E. Mushy, MN. MWH, BScN[a], B. R. Simon Rosser, PhD, MPH[b], Michael W. Ross, PhD, MD DSc[b], Gift Gadiel Lukumay, MSc.PEC, BScN[a], Lucy R. Mgopa, Mmed, MD[a], Zobeida Bonilla, PhD[b], Agnes F. Massae, MN. MWH, BScN[a], Ever Mkonyi, MS, MA[b], Dorkas Mwakawanga, MSc.MWH, BSc.M[a], Inari Mohammed, MPH[b], Maria Trent, MD, MPH[c], James Wadley, PhD[d], Sebalda Leshabari, RNM, Ph.D., MPH[a]**

[a]Muhimbili University of Health and Allied Sciences Dar es Salaam, Tanzania

[b]University of Minnesota, Minneapolis, MN, USA

[c]Johns Hopkins University, Baltimore, Maryland, USA

[d]Lincoln University, Philadelphia, PA, USA

## Abstract

**Background:** Across Africa, there are strong cultural taboos against masturbation.

**Aim:** As part of a broader study investigating sexual health training needs of the health providers, researchers conducted a study to investigate how masturbation is addressed as a clinical issue in clinics in Dar es Salaam, Tanzania.

**Methods:** An exploratory qualitative study design conducted in June 2019 involving 18 focus groups among healthcare providers and students in the health professions (midwives, nurses, medical doctors). A total of 61 health care students and 58 health providers were interviewed. The study participants were purposively selected and the design was purposively stratified to examine findings across the three main healthcare providers and by experience (clinicians versus students). A semi-structured interview guide in Kiswahili language was used. The study participants were presented a case scenario of a 14-year-old boy who was found masturbating in his room by his father, and asked how this case would be handled in a clinical setting. Data were transcribed in Kiswahili and Translated to English.

*Corresponding Author: B.R. Simon Rosser, PhD, MPH, LP, University of Minnesota, 1300 S. 2nd, St. #300, Minneapolis, MN 55454, Wk. 612-624-0358; Cell. 612-356-1711; Fax. 612-625-5652, rosser@umn.edu.

Authors' contributions

Conceptualization, B.R.S., M.W.R., J.W., M.T. and S.L.; Methodology, B.R.S., M.W.R., M.T. and Z.B.; Investigation, B.R.S., M.W.R., J.W., M.T., L.R.M., S.E.M, A.F.M. and S.L.; Writing – Original Draft, S.E.M., G.G.L., L.R.M.; Writing – Review & Editing, S.E.M., B.R.S., M.W.R, G.G.L., L.R.M., B.R.S., M.W.R., J.W., M.T., A.F.M., E.M., D.M., I.M., M.W.R., Z.B. and S.L.; Funding Acquisition, B.R.S., M.W.R., J.W., M.T., S.L. and L.M.; Resources, B.R.S. and M.W.R.; Supervision, B.R.S. and M.W.R.

**Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

**Outcomes:** Inductive-deductive thematic analysis was performed. Major themes and subthemes were identified.

**Results:** Two main themes emerged: (1) knowledge about the management of masturbation and (2) views about the effects of masturbation. Clinical interventions providers would try include normalization of masturbation as a pubescent behavior combined with advice to stop the adolescent from masturbating, a recommendation to watch for negative effects immediately post-masturbation, and referral to a psychologist for treatment. Across providers and students, masturbation in adolescence was seen as clinically problematic, potentially leading to multiple issues in adulthood including sexual dissatisfaction with a spouse, psychological dependency, and erectile dysfunction, loss of sexual sensitivity in intercourse, premature ejaculation, and penis size reduction. Several participants mentioned they received no training about masturbation to guide their clinical practice.

**Clinical Implications:** These findings affirm the need for comprehensive sexual health training in Tanzanian universities.

**Strengths and Limitations:** Use of stratified design by profession and experience allowed to explore if there appear to be differences between students and experienced providers. The findings cannot be generalizable to all health professional students and providers across Tanzania.

**Conclusion:** When designing sexual health curricula for Tanzania, it is important to include accurate information about masturbation as a normal and healthy sexual practice to address widely held myths about its effects on health, and to train providers in how to counsel when concerns and inaccurate information are brought to the clinical encounter.

### Keywords

Masturbation; health care students; healthcare providers; management; perception; Tanzania

## Introduction

Masturbation is the process of stimulating or manipulating one's genitals such as the penis, clitoris, vulva, and breast, to obtain an orgasm. It is also referred to as sexual self-gratification or sexual pleasuring [1]. An increase in sex hormones during puberty predisposes adolescents to masturbation, and it is regarded as a normal part of human sexual health development [2, 3, 4]. More than 90% of men and 50% of women reported having ever masturbated at some point in their life [4, 5]. Initially, masturbation was believed to be a psychological problem by Sigmund Freud, founder of psychoanalysis. It was addressed in the Diagnostic and Statistical Manual: Mental Disorders (DSM-I) which guided the management of mental health problems [6, 7]. However, in 1968 masturbation was formally removed from the Diagnostic and Statistical Manual of Mental Disorders II (DSM-II). It was found to be an extremely common behavior that lacked any identified adverse effects [8].

Attitudes towards masturbation vary widely across cultures [9]. In some cultures, this non-reproductive behavior remains a highly stigmatized topic in the general public, families, and even health professionals [9]. The silence, negative beliefs, and myths about the consequences of masturbation can lead to guilt, anxiety, and shame, potentially

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

impacting sexual health development among individuals [9, 10, 11, 12]. Kabbash et al. showed that among male medical students in Egypt, 75.2% asserted that they engaged in masturbation, and only 11.8% believed masturbation was not harmful [13]. Most predicted it would negatively impact future sexual satisfaction in marriage (64.7%), lead to premature ejaculation (56.8%), loss of sexual desire (32.6%), and weak erections and sexual dysfunction (25.2%). Generally, there is a shortage of published data on health professionals' and health care students' attitudes regarding masturbation practices and associated factors and the physiological and psychological aspects of masturbation in the African context. Masturbation is practiced both by males and females [14, 15]; however, the authors limited the question to male masturbation beliefs and their clinical approach.

Many myths have hampered the understanding of masturbation. These include that a person will become blind, have mental health problems, experience sexual dysfunction, or lose semen believed to sap men of energy and vital fluids that could ultimately impact fertility [16]. African societies, including Tanzania, are not excluded from associating masturbation with taboos, and despite the existence of these myths, masturbation continues to be practiced. Among unmarried adolescents in Tanzania, 36% of boys and 17.0% of girls reported they had masturbated [14]. However, in African societies sexual health-related issues are perceived as personal [17, 18]. so it is very rare to find people breaking this taboo by sharing information about their sexual activities. This taboo extends even to healthcare professionals who are highly respected and trusted and assumed to be informed about medical concerns. Most health professionals receive very limited, if any, training in sexual health concerns [9]. As a result, care providers are reluctant to probe and address sexual health issues leaving patients' sexual health concerns underestimated and unresolved despite seeking care. Tanzania is among the countries with the most significant sexual and reproductive health challenges, like the high prevalence of HIV, teen pregnancy, rape, and early marriages [19, 20, 21, 22]. Yet, professional health students receive almost no training in addressing sexual health-related issues.

Sexual health is an important component of human health [23]. Health professionals and health students need to be competent in addressing common sexual health concerns, take a good sexual history, and provide sexual counseling that is medically accurate, non-judgmental, and confidential [9]. Health professionals are responsible for conveying medically correct information, correcting misinformation, and promoting healthy sexual attitudes and behaviors by patients.

Authors examined the results from research designed to explore health professionals' and university students' perspectives in professional health training programs on masturbation as a sexual health issue to develop a tailored sexual health curriculum for midwifery, nursing, and medical doctor students targeting Tanzanian culture.

## Materials and Methods

### Research design

This study used a qualitative exploratory research design. In June 2019, researchers conducted 18 focus group discussions (FGDs) with health care providers and students

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

to inform a comprehensive sexual health training curriculum for midwifery, nursing, and medical students attending a large public health science university in Tanzania. This qualitative study design was purposely stratified (three groups for each category) to examine findings across the primary healthcare providers (i.e., midwives, nurses, and medicine) and by experience (clinicians versus students) to capture the practice of experienced providers as well as the training needs of current students. Focus groups were chosen because they are an efficient way to assess current practice while also facilitating discussions about variations and nuances in clinical practice. This study was conducted with oversight from the Muhimbili University of Health and Allied Sciences and the University of Minnesota, USA.

## Study population, recruitment, and data collection process

The study population consisted of 61 midwifery, nursing, and medical students in their $4^{th}$ year at Muhimbili University of Health and Allied Science in Dar-es-Salaam, and 58 midwifery, nursing, and medical providers with at least five years of clinical experience from major public and private health hospitals in Dar-es-Salaam. Students were recruited using flyers posted on several note boards on the university campus one month before data collection. The study coordinator (G.G.L) and moderators (D.M) were responsible for recruiting the participants. To ensure a diverse sample, providers were from different departments or clinics. With the head of each selected unit, researchers recruited healthcare professionals who were purposely selected. If more than one professional in a department met the inclusion criteria, the provider with the most experience or expertise was enrolled.

Each focus group consisted of 5 to 8 participants and lasted 60-90 minutes. Two Tanzania bilingual moderators led each group, one who asked questions assisted by another who took notes and observed. A semi-structured interview guide (in the Kiswahili language), including masturbation questions and other sexually related topics, was used. To explore how masturbation was addressed, participants were asked, “What about a father who says he found his 14-year old son masturbating (in his bedroom). How would that be handled?” with a follow-up probe, “How many of you here believe masturbation is a normal practice, and why?” “How many of you would think masturbation could lead to sexual problems in adulthood?” “What sexual problems?”

The National Institute of Medical Research (NIMR), Tanzania, and University of Minnesota (UMN) Institutional Review Board deemed the study exempt from human subjects review since the focus was on clinical practice and curriculum development. Researchers also obtained permission from the study sites. Focus group discussions were held in a private room on the university campus or the hospital to ensure convenient access and privacy. At the start of each group, members were informed of the study’s purpose, scope, importance, and their rights to confidentiality and that they could withdraw at any time during the interview. Written informed consent was obtained from each participant for their participation in the interview. Participants were instructed to write their first name (or an alias) on tent cards and invited to respond in either Kiswahili or English (whichever they preferred). The moderator stressed that there were no right or wrong answers and encouraged members to share their experience even if it differed from other members.

Author Manuscript

Six moderators who are also the research co-authors (three midwives, one nurse, one mental health specialist doctor, and one sociologist) conducted the interviews. Experience in conducting interviews, using recorders, and knowing and experiencing sexuality issues were the criteria used to select moderators. The moderators received a one-day training on the study's purpose and what and how to ask questions and probes to influence the data collection process. Moderators were also trained on obtaining written informed consent from the study participants.

## Data processing and analysis

Audio files were uploaded into a secure location immediately after each interview. The interviews were directly transcribed verbatim in Kiswahili language then translated into English to be easily understood by members of the research team who were non-Kiswahili speakers. Two translators did a translation to English then a back translation for comparison. Thematic analysis was conducted following the steps outlined by Braun and Clarke [24]. A deductive-inductive, team-based coding approach was employed to code and analyze the data [25]. The six moderators who conducted the FGDs undertook the coding process and analysis. Individual codes were then organized into sub-themes and larger themes. Quotations from the participants were used to illustrate the key findings.

A team-based approach to codebook development was implemented and involved continuous, frequent interaction with the data. The team participated in weekly peer debriefings and an online Google document containing the codebook and memos where codes were updated and annotated by team members. Their applications and definitions were conducted to refine the codes and resolve disagreements [25]. The peer debriefing method was used as another layer of verification, confirmation, and codebook refinement [26].

The next step was to generate the themes that involved open-ended coding of several transcripts with no predetermined codes or categories. Coding was done directly onto the hard copies of the transcripts during multiple readings of the interviews. Team members coded the interviews individually and then shared and compared the results with another team member to assess initial agreements and reconcile differences. If a team member generated any new codes, they entered them into the codebook.

During the first entire coding cycle, the coding team applied the codes from the codebook to the transcripts' first set. The codes were refined, reduced, and expanded during this period. Concerns and disagreements were addressed and reconciled by the team during this phase in a continuous process. Coding continued in this manner for the remaining interviews. The team then did axial coding, where the coding team generated larger categories and themes based on the first coding cycle findings. The team regrouped codes under these larger findings of subcategories, categories, and themes. Finally, professionals and students compared the themes and sub-themes across professions to identify any differences by experience and specialization.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

## Results

As shown in Table 1, overall, the sample was about equal between students and experienced providers, predominantly female (59.5%), with the students aged 23-37 and the providers 24-62. Students had four years of experience (while in school) while providers had between 5-38 post-school experience.

The analysis revealed two major themes and their sub-themes across all focus groups: knowledge about the management of masturbation and beliefs about the outcomes of masturbation (see Table 2).

### Knowledge about the management of masturbation

When the participants were asked to describe how they should manage an adolescent male who was found masturbating by his father, four sub-themes emerged on how providers and health students would address this clinically. Participants' responses on the clinical management of masturbation were then grouped in four sub-themes: (a) the importance of educating parents on physiological changes occurring during puberty; b) advice on how to stop masturbating; c) referral to a psychologist to treat the masturbation; and d) comments related to the lack of training among providers on the topic of masturbation.

**a) Importance of educating parents on physiological changes occurring during puberty—**Participants considered masturbation part of normal and healthy sexual development in adolescence, stating they would educate the father on the physiological changes during puberty. Both providers and students said that they would counsel the father on masturbation as a normal part of his son's development while watching what participants described as "misbehavior" that the masturbation might cause during or immediately after the behavior. The commonly referred misbehaviors were attempting to rape and failure to concentrate on his studies.

> "You need to educate the father about the normal physiological changes which takes place in the boys ' body at that age which demand him to do that thing (masturbate)" **[FGD 15; Nurse professional]**

> "We need to reassure the father by telling him that masturbation is a normal practice teenagers go through because of hormonal changes and it is part of human sexual development" **[FGD 16; Medical doctor professional]**

> "I personally, I will assure the parent that the action is normal for everyone but only when it does not interfere his studies, his activities, and is doing that only for sexual pleasure" **[FGD 6; Medical student]**

Participants further said they would warn the father that masturbation is a sign that his child is sexually active.

> "Father should be told that masturbation is normal practice only if the kid is not misbehaving during or after the act" **[FGD 16; Medical doctor professional]**

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

**b) Counseling about the effects of masturbation—**Health providers and students reported that they believed masturbation has lots of adverse outcomes in later life. The first thing they would do is inform the child about the negative sexual health consequences in adulthood and stop masturbating by avoiding masturbation triggers.

> "I will educate him on the effects of masturbation and I will try to build him psychologically so that he can stop thinking about such behavior (masturbation)" **[FGD 11; Midwifery professional]**

> "I will counsel the child to stop masturbating because it might cause sexual problems later in adulthood" **[FGD 7; Midwifery student]**

Furthermore, the participants reported that they would suggest several activities to him to distract him from his thoughts and practice.

> "I will suggest to him to do activities like exercises, sports and concentrating on his studies to disrupt masturbation thoughts" **[FGD 11; Midwife professional]**

> "If the child can, I will advise him to stop watching pictures that can tempt him to masturbate" **[FGD 13; Medical doctor professional]**

**c) Referral to a psychologist—**Participants across all focus groups conceptualized masturbation as a psychological problem and explained that they would refer the child and his father to a psychologist for assessment and treatment.

> "I will take history to find out how and when he started. Thereafter I will refer him to the psychologist as masturbation is a mental issue" **[FGD 16; Medical doctor professional]**

> "Masturbation is not good for health, if a person does [it], it indicates that he has psychological issues. So I will directly refer the child to the mental health specialist for further management" **[FGD 4; Medical student]**

**d) Lack of training among providers on the topic of masturbation—**Lack of training among health professionals was another important finding under the central theme of knowledge. Student participants declared they did not know how to manage masturbation and the lack of clarity about how to handle such a case.

> "To be honest in my all years of study, I have never seen a management of that case… in short [it] is not clear. So, to me personally I will end up telling him to stop masturbating but I have no any rationale behind [this recommendation]. I don't know the management of that case to tell the truth …it is not even clear. Another person might say, 'Oooh… psychological support, I don't know…counselling but is that real the management?'" **[FGD 9; Midwife student]**

Lack of information that supported the normality or abnormality of masturbating and lack of training was reported as hindering their ability to provide care in such situations.

> "Despite the fact that there is nowhere I have been taught about it [masturbation] but I can say that masturbation is a big challenge although many people think it's a minor issue. Its effects are long-term and cannot be experienced immediately. First

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

of all, this child needs counseling because he might think it is normal but it is an abnormal practice" **[FGD 3; Nurse student]**

## Beliefs about the outcome of masturbation

During the focus group interview, participants were also asked to share their views about masturbation's effect on sexual health in adulthood. Two sub-themes emerged; negative and positive outcomes.

**a) Negative outcome—**Participants identified multiple serious sexual problems in adulthood that they thought resulted from masturbation. Some of the issues mentioned in almost every focus group were: sexual dissatisfaction with a sexual partner and that "*masturbation will make a patient be so satisfied with other forms of sexual intercourse than with a sexual partner" **[FGD 13; Medical doctor professional];*** addiction to masturbation (psychological dependency) "*one of the biggest things that I see is most feared in masturbation is a psychological dependency, after doing masturbation for a long period of time. So, when he wants to stop, it is very difficult to [do so]. Even when he does have normal sex with his fiancé, he cannot enjoy it, so he returns to masturbation" **[FGD 4; Medical student];*** loss of erection *"people who masturbate ends up suffering from erection problem as muscles of the penis loose strength" **[FGD 9: Midwife student];*** loss of sexual pleasure with a sexual partner *"from hearsays that people who masturbate end up not enjoying sex with their sexual partners" **[FGD 9; Nurse professional];*** penis size reduction *"I once came across with person who was used to masturbation for years and now the size of his penis has turned smaller and has contracted" **[FGD 6; Medical student],*** and early or premature ejaculation *"the main effect of masturbation is sexual dysfunction and early ejaculation" **[FGD 3; Nurse student]***

**b) Positive outcome—**Participants, mainly students, reported that masturbation could positively affect someone from getting sexually transmitted infections (STIs) and unwanted pregnancy. However, when participants brought up positive outcomes they always claimed that the adverse effects outweigh the positive.

> "They say when you do masturbation of course you protect yourself from STIs, unwanted pregnancy and other related things that might affect sexual health" however the disadvantages are so many like psychological issues as once you masturbate you lose memory and many other problems that have been said by my colleagues **[FGD 13; Medical student]**

## Differences and similarities between students and experienced providers

Most health professionals, especially medical doctors, perceived masturbation to be the result of hormonal changes that drive a child to masturbate to meet their sexual desires. The professionals indicated they would educate the father and the child about the physiological changes during puberty and reassure them to anticipate such behavior unless they misbehave during or immediately after masturbating. However, many students across professions believed masturbation to be unacceptable and an indication of a psychological problem that would need professional treatment by a psychologist. Even though medical professionals

Author Manuscript
Author Manuscript
Author Manuscript
Author Manuscript

reported masturbation due to the physiological changes taking place during puberty, both students and health professionals had a similar misbelief that practicing masturbation would lead to negative sexual health consequences in adulthood.

## Discussion

First, in Tanzania, most healthcare professionals considered masturbation a significant clinical problem and this was true both across midwifery, nursing, and medical students and professionals, without regard to experience. Second, while several participants indicated that masturbation in puberty was due to hormonal changes, most stated they would warn the patient of the potential long-term dangers of masturbation or refer the adolescent for psychological counseling. Third, several acknowledged the HIV/STI risk and unplanned pregnancy reduction being positive effects of masturbation. Fourth, participants noted a lack of training on this topic. In the absence of education, they appeared to form their attitudes and medical advice from the prevailing cultural attitudes they grew up knowing.

This study's findings show that even highly experienced health professionals and students still have several misconceptions about the effects of masturbation in adolescence on adult sexual health. Sexual dissatisfaction with a spouse, loss of sexual sensitivity in intercourse, loss of erection, psychological dependency, premature/early ejaculation, and penis size reduction were the most reported supposed side effects of practicing masturbation. Most participants believed masturbation might negatively affect early/premature ejaculation and sexual dissatisfaction in the marital relationship. In the absence of sexual health training of health professionals in Tanzania, professionals fall back on the population stereotypes that they have learned in the community.

Our findings align with Kabbash et al. in Egyptian medical students, most of whom also believed masturbation to be medically problematic [13]. These findings confirm the need for health students in Tanzania to receive accurate sexual health education to provide patients with medically accurate information. Such education should provide medically accurate, scientific information on masturbation, namely that it is a common sexual behavior linked to indicators of sexual health, not illness [15]. To change healthcare providers' attitudes, the curriculum would need to address the prevailing negative cultural, religious, and societal attitudes towards masturbation and the widely held assumptions of it causing adverse effects. Further, skills-based training on how to counsel patients in practice is essential.

Sexuality issues, including masturbation, are very sensitive topics to deal with in traditionally conservative societies, and Tanzania is no exception. Yet, East Africa has among the world's highest rates of HIV [19], teen pregnancy [20], early marriage [21], STIs, and some of the worse rates of forced sex with teenage girls [27], and illegal abortion [28]. Sex is the common factor underlying these concerning statistics. Educating health providers in sexual health addresses multiple epidemics and examines the underlying behaviors and beliefs sustaining such statistics. At the community and population health level, destigmatizing masturbation, especially in adolescents, may be an effective and free risk reduction strategy to address multiple sexual health concerns.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

A challenge researchers have encountered in designing an African-centric approach to sexual health education for health students is finding the right ethical balance between respect for Tanzanian culture, norms and beliefs, and provision of medically accurate information that will promote health. This indigenous expertise and knowledge of the sexual health literature are invaluable in addressing sexual health within the African context, particularly in Tanzania.

### Study strengths and limitations

This study provided rich information from healthcare providers and health care students' voices about important topics to be addressed in a sexual health curriculum. The focus group methodology's key strength was the moderators' opportunity to interact with the participants, posing probes, and asking follow-up questions needed to explore providers' training, treatment, and attitudes towards masturbation. Our stratified design by professions allowed us to explore differences across groups based on experience and profession. While the groups do not appear to differ, our analysis did not include a statistical comparison. As with other qualitative methodologies, the chief limitation is that some respondents may have felt the need to agree with what others had said, consistent with social desirability bias. Since masturbation has consistently been reported to be a sign of a psychological problem, the study would also plan to interview a group of psychologists to know more about their responses. This study focused on male masturbation; therefore, researchers recommend further study to research female masturbation. The study had a high chance of positionality, so researchers used a team-based analysis approach and resolved all disagreements as a team. The results may also not be generalizable to all health professional students and providers across Tanzania.

## Conclusions

In this study of the health students and practicing professionals in Tanzania, there was widespread misinformation, negative attitudes, and intentions to treat patients who masturbate. Loss of sexual dissatisfaction with a spouse, psychological dependency, erectile dysfunction, loss of sexual sensitivity in intercourse, premature ejaculation, and penis size reduction were the primary misconceptions health care providers and students reported could result from adolescent masturbation on sexual health in adulthood. Lack of training on sexual health was the key factor identified by participants as informing their recommendations. It is crucial to develop and implement a comprehensive health professional training curriculum that addresses several sexual health topics, including masturbation, to prepare the next generation of African, especially Tanzanian, healthcare providers that include counseling and managing sexual health concerns. Evidence-based education specifically to improve general sexual misconceptions, attitudes towards masturbation, and skills-building for non-judgmental communication is warranted.

## Funding

This work was funded by the **Eunice Kennedy Shriver** National Institute of Child Health and Human Development (NICHD), National Institutes of Health, Grant number: 1 R01 HD092655. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NICHD.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

## References

[1]. Couper RT, Huynh HFemale masturbation masquerading as abdominal pain. J Paediatr Child Health. 2002; 38: 199–200. [PubMed: 12031007]

[2]. Van-Anders SM, Dunn EJAre gonadal steroids linked with orgasm perceptions and sexual assertiveness in women and men?Horm Behav. 2009; 56: 206–213. [PubMed: 19409392]

[3]. Lipsith J, McCann D, Goldmeir DMale psychogenic sexual dysfunction: The role of masturbation. Sex Relatsh Ther. 2003; 18: 447–471.

[4]. Ajlouni HK, Daoud AS, Ajlouni SF, Ajlouni KMInfantile and early childhood masturbation: Sex hormones and clinical profile. Ann Saudi Med. 2010; 30: 471–474. [PubMed: 21060161]

[5]. Yang ML, Fullwood E, Goldstein J, Mink JWMasturbation in infancy and early childhood presenting as a movement disorder: 12 cases and a review of the literature. Pediatrics. 2005; 116: 1427–1432. [PubMed: 16322167]

[6]. Freud SL'hérédité et l'étiologie des névroses [Heredity and etiology of the neuroses]. Gesammelte Werke. London: Imago. 1952: 407–422.

[7]. American Psychiatric Association. (1952). Diagnostic and Statistical Manual: Mental Disorders. Washington, DC: Author.

[8]. American Psychiatric Association. (1968). Diagnostic and Statistical Manual: Mental Disorders (2nd ed.). Washington, DC: Author.

[9]. Parish SJ, Clayton AHSexual medicine education: Review and commentary. J Sex Med. 2007; 4: 259–267. [PubMed: 17367420]

[10]. Robbins C, Schick V, Reece M, Herbenick D, Sanders S, Dodge B, et al. Prevalence, frequency and associations of masturbation with partnered sexual behavior among US adolescents. Arch Pediatr Adolesc Med. 2011; 165: 1087–1093. [PubMed: 21810625]

[11]. Kaestle C, Allen KThe role of masturbation in healthy sexual development: Perception of young adults. Arch Sex Behav. 2011; 40: 983–994. [PubMed: 21293916]

[12]. Laumann EO, Gagnon JH, Michael RT, Michaels SThe social organization of sexuality: Sexual practices in the United States. Chicago, IL: University of Chicago Press1994; https://press.uchicago.edu/ucp/books/book/chicago/S/bo3626005.html [accessed May 12, 2020]

[13]. Kabbash I, Abo Ali E, Kabbash M, El-Naga APerception and practices of masturbation by male medical students, Tanta University, Egypt. EJCM. 2017; 35: 97–107.

[14]. Kazaura MR, Masatu MCSexual practices among unmarried adolescents in Tanzania. BMC Public Health. 2009; 9: 373. [PubMed: 19804651]

[15]. Coleman EMasturbation as a means of achieving sexual health. J Psychol Hum Sex. 2003; 14: 5–16.

[16]. Money J, Prakasam KS, Joshi VNSemen-conservation doctrine from ancient Ayurvedic to modern sexological theory. Am J Psychother1991; 45: 9–13. [PubMed: 2018201]

[17]. Muhwezi WW, Katahoire AR, Banura C, Mugooda H, Kwesiga D, Bastien S, Klepp KPerceptions and experiences of adolescents, parents and school administrators regarding adolescent-parent communication on sexual and reproductive health issues in urban and rural Uganda. Reprod Health. 2015; 12: 110. [PubMed: 26621129]

[18]. Motsomi K, Makanjee C, Basera T, Nyasulu PFactors affecting effective communication about sexual and reproductive health issues between parents and adolescents in zandspruit informal settlement, Johannesburg, South Africa. Pan Afr Med J. 2016; 25: 120. [PubMed: 28292083]

[19]. Ministry of Health Community Development, Gender, Elderly and Children (MoHCDGEC). Tanzania HIV Impact Survey (THIS) Preliminary Findings. (2017). https://phia.icap.columbia.edu/wp-content/uploads/2017/11/Tanzania_SummarvSheet_A4.English.v19.pdf [accessed May 17, 2020]

[20]. Shirima CP, Kinabo JLNutritional status and birth outcomes of adolescent pregnant girls in Morogoro, Coast, and Dar es Salaam regions, Tanzania. Nutrition. 2005; 21: 32–38. [PubMed: 15661476]

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

[21]. Watch HR. “No way out”: Child marriage and human rights abuses in Tanzania. 2014. https://www.hrw.org/report/2014/10/29/no-way-out/child-marriage-and-human-rights-abuses-tanzania [accessed May 18, 2020]

[22]. Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC). National survey on the drivers and consequences of child marriage in Tanzania. (2017). https://www.cdftz.org/files/Forward%20230%20Page%20Report%202017%20WEB.pdf [accessed August, 2019]

[23]. World Health Organization. Defining sexual health: Report of technical consultation on sexual health. Geneva, Switzerland: WHO, 2002. https://www.who.int/reproductivehealth/publications/sexual_health/defining_sh/en/ [accessed April 5, 2020]

[24]. Braun V, Clarke V (2012). Thematic analysis. In Cooper H, Camic PM, Long DL, Panter AT, Rindskopf D, Sher KJ (Eds.), APA handbooks in psychology®. APA handbook of research methods in psychology. Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological (p. 57–71). American Psychological Association. https://doi.org/10.103713620-004 [accessed May 7, 2021]

[25]. MacQueen KM, McClellan E, Kay K, Milstein BCodebook development for team-based qualitative analysis. CAM Journal. 1998; 10: 31–36.

[26]. Given LMThe SAGE encyclopedia of qualitative research methods. Los Angeles, CA: SAGE Publications, 2008.

[27]. World Health Organization (WHO). Fact sheet # 209. Violence against women. Geneva, Switzerland: WHO, 2006. https://apps.who.int/iris/bitstream/handle/10665/85239/9789241564625_eng.pdf;jsessionid=349235BC7464C54DE7A8B804F5C9B46F?seciuence=1 [accessed May 20, 2020]

[28]. World Health Organization (WHO). Unsafe abortion: Global and regional estimates of incidence of unsafe abortion and associated mortality in 2008. Geneva, Switzerland: WHO, 2011. https://www.who.int/reproductivehealth/publications/unsafe_abortion/9789241501118/en/ [accessed May 18, 2020]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

**Table 1:**

Demographic characteristics of the sample (N = 121 health care students and providers, Tanzania)

| | Midwives | Nurses | Medicine | Total |
|---|---|---|---|---|
| **1. Sample size** | | | | |
| Students | 20 | 19 | 22 | 61 |
| Providers | 21 | 21 | 18 | 60 |
| | 41 | 40 | 40 | 121 |
| **2. Gender** | | | | |
| Students | 16M; 6F | 13M; 6F | 11M; 11F | 38M; 23F |
| Providers | 0M; 21F | 5M; 16F | 6M; 12F | 11M; 49F |
| | 14M; 27F | 18M; 22F | 17M; 23F | 49M; 72F |
| 3. **Age (in years)** | | | | |
| Students: Mean | 27.7 | 25.1 | 24.0 | 25.5 |
| Range | 23-37 | 23-37 | 22-28 | 23-37 |
| Providers: Mean | 44.5 | 41.1 | 43.5 | 43.1 |
| Range | 26-58 | 24-59 | 31-62 | 24-62 |
| **4. Experience (in years)** | | | | |
| Students | 4 | 4 | 4 | 4 |
| Providers: Mean | 18.0 | 13.1 | 11.9 | 14.6 |
| Range | 5-38 | 5-30 | 5-25 | 5-38 |

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

**Table 2:**

Major themes and subthemes identified in the analysis of the focus group interviews when participants were asked how to handle a masturbation case

| Themes | Subth ernes |
| --- | --- |
| Knowledge about the management of masturbation | • Education on physiological changes occurring during puberty |
| | • Counseling about behavior change |
| | • Referral to the psychologist |
| | •Lack of training about masturbation |
| Outcomes of masturbation | **Negative** |
| | •Sexual dissatisfaction with the partner |
| | •Masturbation addiction (psychological dependency) |
| | •loss of erection |
| | •loss of sexual pleasure with the partner |
| | •penis size-reduction |
| | •early or premature ejaculation |
| | **Positive** |
| | •Protection against STI |
| | •Protection against unintended pregnancy |