Getting Rid of Masturbation among Female Students Residing in the University Guest House: A Comprehensive educational package

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Abstract:

Background: Masturbation is often surrounded by cultural taboos, misconceptions, and psychological distress, particularly in conservative societies. Among university students, especially females, the topic remains highly stigmatized and rarely addressed openly, leading to feelings of guilt, shame, or secrecy. **Aim:** The research aimed to examine the effect of a comprehensive educational package on getting rid of masturbation among female students residing in the university guest house. **Design:** A quasi-experimental research design (one group "pre/posttest") was utilized to achieve the aim of this research. **Setting:** The lecture hall of the obstetrics and gynecology department on the third floor, faculty of nursing, Benha University, Egypt. **Sample:** A snow ball sample "network sample" of (43) students residing in the University Guest House; Benha city, were selected for one year**. Tools:** Six tools were used for data collection; a structured self-administered questionnaire*,* Students' knowledge questionnaire, Negative attitudes toward masturbation Inventory, Students' health behaviors questionnaire, Rosenberg self-esteem scale and Offer self-image questionnaire. **Results:** Statistically significant differences were detected among mean scores of university students' knowledge, attitudes, health behaviors, self-esteem, and body image related to masturbation at post intervention phase compared to pre intervention. Also, there was a highly statistically significant positive correlation between students' total knowledge score and (attitude, health behaviors, self-esteem and body image) scores at both pre- and post-intervention phases. **Conclusion:** The present research revealed that the comprehensive educational intervention significantly improved university students' knowledge, attitudes, health behaviors, self-esteem, and body image related to masturbation. **Recommendation**: Educational institutions, especially universities, should integrate comprehensive and culturally sensitive sexual health education into curriculum to improve students' knowledge and correct misconceptions about masturbation and related topics

Keywords: Getting Rid of Masturbation, Female Students Residing in the University Guest House, Comprehensive educational package.

Introduction

A sexual activity known as masturbation is the act of self-stimulation of the genitals for sexual pleasure with one's own hands, fingertips, external objects, or sex devices ***(Van Niekerk, 2023).*** A desire for sexual behavior in general, including compulsive masturbation, develops when a person loses control and spends a significant amount of time engaged in sexual-related activities to the point of ignoring social, educational, or familial duties ***(Munawar et al., 2024).***

Masturbation is a common behavior across different ages and genders including female university students. While some of scientific research considers masturbation a natural physiological activity, ongoing debates persist regarding its psychological and social impacts, particularly in cultural and religious contexts where it is often discouraged ***(Phuah et al., 2024).***

University life can be stressful due to academic pressure, social expectations, and future career concerns. Masturbation can provide temporary relief by releasing endorphins, which promote relaxation and reduce stress. College students are a distinctive demographic in terms of their motivations for engaging in or abstaining from masturbation. This is because they may possess more expansive perspectives on masturbation, while also (for a limited number of individuals) having limited experience with masturbation ***(Leistner et al.,2024).***

Many university students engage in masturbation to explore bodies, relieve stress, and experience sexual pleasure in a safe and private manner. It was suggested that masturbation is prevalent among both male and female university students, though the frequency and attitudes toward it may vary based on cultural, religious, and personal beliefs ***(Soares et al., 2024).***

In university residential settings, various factors may contribute to the prevalence of masturbation among female students, including academic stress, social isolation, having a lot of free time, not engaging in activities, and being away from family and exposure to different forms of stimulation. Although occasional masturbation is generally considered harmless, excessive or compulsive engagement in this behavior may lead to feelings of guilt, anxiety, and potential negative effects on mental well-being, self-esteem, body image, academic performance, and social relationships ***(Weinstein et al., 2022).***

The self-esteem and self-image of university students who engage in masturbation is influenced by various psychological, cultural, and social factors. Masturbation can be associated with both positive and

negative self-perceptions, depending on personal beliefs, upbringing, and social norms ***(Kucherenko et al., 2024).***

For some students, societal, cultural, or religious messages can cast masturbation in a negative light, leading to feelings of guilt or shame. This internalized stigma may diminish self-esteem by creating conflicts between personal desires and external moral expectations. The negative emotions associated with these conflicts such as anxiety and self-doubt can erode confidence and hinder the development of a positive sexual identity ***(Liu, et al., 2025).***

Positive perceptions and adequate knowledge about masturbation are linked to better self-esteem and self-image, while negative emotions such as guilt can adversely affect psychological well-being. The findings highlight the need for comprehensive sexual education programs that address misconceptions and promote healthy attitudes and behaviors toward masturbation ***(Unsal and Ayranci, 2024).***

So, one of the most effective ways to overcome compulsive behaviors is by developing self-awareness and practicing self-control. Understanding personal triggers, such as stress, boredom, or loneliness, allows individuals to address underlying emotional needs in healthier ways. Mindfulness techniques, meditation, and journaling can help students become more conscious of their actions and create healthier coping mechanisms in an attempt to get rid of masturbation ***(Stevens, 2023).***

In addition, engaging in sports or outdoor activities can also serve as a healthy distraction and help reduce the tendency to engage in compulsive habits. Social engagement has a significantly positive impact on emotional and mental well-being. The cultivation of strong relationships with peers and family can mitigate feelings of isolation and provide emotional support. Moreover, A structured daily routine that prioritizes studies, career aspirations, and personal growth helps in reducing idle time, which can sometimes lead to compulsive behaviors ***(Vosper et al., 2023).***

So, sexual health education plays a crucial role in helping students develop a healthy perspective on masturbation and supporting students by providing accurate information about sexual health and encouraging open conversations free from judgment. Creating a more open and informed discussion around sexual health can help students develop positive attitudes about bodies and well-being ***(Garcia and Reiber, 2023).***

Thus, a comprehensive educational package should be designed to help female students understand the different aspects of this behavior and adopt healthier alternatives. The package is based on scientific and psychological principles, focusing on self-awareness, stress management, and engaging in positive activities such as sports, social interactions, and productive hobbies to get rid of masturbation ***(Karaahmet et al., 2024).***

Nurses assist individuals in managing compulsive masturbation behaviors, promoting healthier lifestyles, and enhancing overall well-being nurses, play a vital role in providing support and guidance. Nurses encourage open discussions about feelings and concerns related to sexual behavior, helping individuals feel comfortable sharing their experiences. This supportive environment fosters trust and facilitates effective counseling ***(Holas et al., 2020).***

Providing accurate information about healthy sexual behaviors and the potential consequences of compulsive actions is a key nursing intervention. Nurses educate individuals on alternative coping strategies to manage urges, such as engaging in physical activities, pursuing hobbies, or practicing relaxation techniques. Nurses may also explore the meanings behind specific behaviors and discuss alternative actions with the individual ***(James et al., 2023).***

Significance:

The topic of masturbation remains a sensitive and often stigmatized subject in many cultures and educational settings especially among females' students. Furthermore, exploring the relationship between masturbation and attitudes, self-esteem, engagement in healthy behaviors and overall well-being offers valuable insights into promoting sexual health education ***(Kong, et al., 2024).***

Masturbation remains a prevalent practice worldwide, with notable variations across genders and regions. A study published in *Sexuality and Culture* examined masturbatory behaviors among 552 Malaysian young adults. The research found that 77.7% had masturbated at least once in their life, with a notable gender difference: 97.8% of men and 63.7% of women reported having masturbated. This study also highlighted that men tended to begin masturbating at a younger age and reported more positive attitudes toward the practice compared to women ***(Phuah et al.,2024).***

As well as, a 2019 study involving 299 undergraduate students from a private university in Khulna reported that 33% had engaged in masturbation, with a higher prevalence among male students (42.2%) compared to female students ***(Chowdhury et al., 2019).***

Masturbation is relatively common among Egyptian youth that is often accompanied by feelings of guilt and perceptions of prohibition, highlighting the need for comprehensive sexual education to address misconceptions and promote healthy attitudes toward sexual health ***(El-afandy and Hagrasy, 2024).***

A study involving 955 Egyptian youth revealed that 62% had engaged in masturbation, despite over 80% perceiving it as prohibited, wrong, or medically harmful ***(Menshawy et al.,2021).*** In a study of 484 male medical students at Tanta University, 75.2% reported practicing masturbation, typically starting between the ages of 12 and 17. Despite its prevalence, 93.2% expressed a need

for more awareness about masturbation, and 63.2% desired to quit the practice ***(Kabbash et al.,2017).*** Since there is a scarcity or almost no research conducted on university females, the researchers decided to conduct this research.

Aim of the research:

The research aimed to examine the effect of a comprehensive educational package on getting rid of masturbation among female students residing in the university guest house.

Hypotheses:

H1: Students' knowledge about masturbation will be increased after receiving the comprehensive educational package, compared to before.

H2: Students' attitudes toward masturbation and well-being will be improved after receiving the educational package, compared to before.

H3: Students will be more engaged in health behaviors following the comprehensive educational package, compared to before.

H4: Students will show an improved self-esteem and body image after receiving the comprehensive educational package, compared to before.

Conceptual definitions:

- **Health Behaviors:** are actions taken that affect health, either positively or negatively. These behaviors are shaped by psychological, social, and environmental factors and play a crucial role in health promotion ***(WHO, 2022).***
- **Self-esteem**: A dynamic self-evaluation shaped by social, cultural, and online interactions, reflecting an individual's perceived worth. Modern research emphasizes fluidity across contexts (e.g., social media comparisons) and links to mental health disparities in youth and marginalized groups ***(Orth and Robins, 2023).***
- **Body Image:** is a multidimensional construct that includes perceptual, cognitive, affective, and behavioral components related to one's physical appearance. Body image involves how individuals perceive, think about, feel, and behave toward bodies, influenced by sociocultural and interpersonal factors ***(Tylka, and Piran, 2023).***
- **Getting rid of something:** refers to the deliberate act of eliminating, discarding, or distancing oneself from thoughts, emotions, behaviors, or objects perceived as unwanted, harmful, or no longer useful. This concept is often associated with cognitive restructuring, behavior modification, or lifestyle changes aimed at personal growth and well-being ***(Beck, 2020).***

Operational definition:

- **Comprehensive educational package:** refers to a structured, multi-component intervention designed to improve knowledge, attitudes, and behaviors related to masturbation (e.g., health behaviors, body image, or self-esteem).

Subjects and method

Research Design:

A quasi-experimental research design (one group "pre/posttest") was utilized to achieve the aim of this research.

Research Setting:

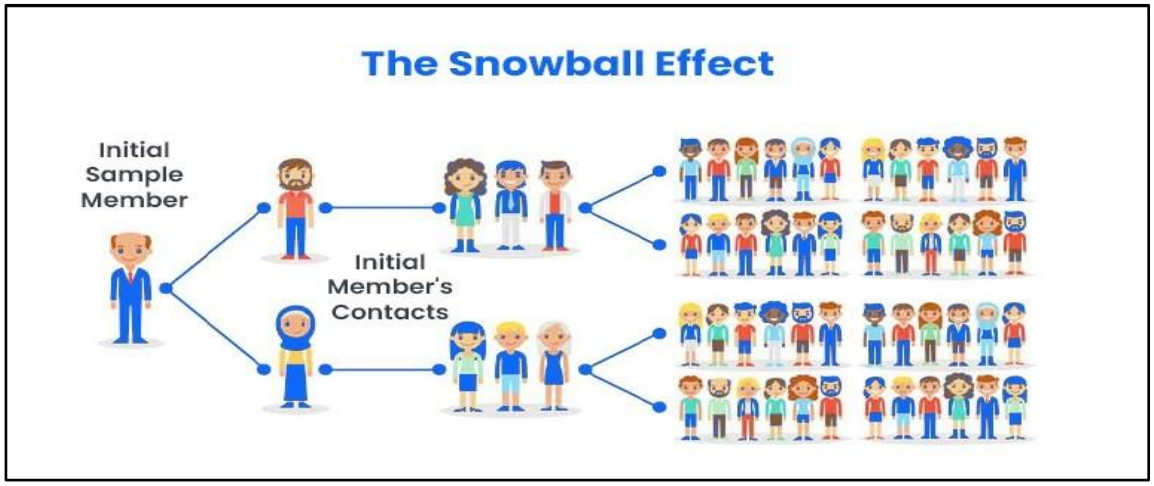
The research was conducted at the lecture hall of the obstetrics and gynecology department on the third floor, faculty of nursing, Benha University, Egypt. This hall is equipped with comfortable chairs, a platform for explanation, in addition to a computer, a data show device and a screen.

Sampling:

Sample type, size and technique: A snow ball sample "network sample" of (43) students residing in the University Guest House; Benha city, were selected for one year.

Snowball sampling may be justified provided that the subject matter is sensitive or personal. In situations where the desired population is difficult to access or there is no extant database or sampling frame to assist in its identification, snowball sampling is employed. Research conducted on socially marginalized groups, including drug addicts, destitute individuals, and sex workers, frequently employs avalanche sampling. In order to implement a snowball sample, the researcher should initially identify an individual who is amenable to participating in the study. Subsequently, the researcher should request that these individuals introduce them to others ***(Nikolopoulou, 2023).***

The first student or case was obtained when she sought health and psychological advice from one of the researchers regarding masturbation in an attempt to get rid of it. The researcher relied on this case after obtaining her official written consent in order to reach many other students who suffer from masturbation. This type of sample was used due to the sensitivity of the subject under study, as it is difficult to obtain a sample without the help of those who are in the same situation.



Tools of data collection:

Six tools were used for data collection:

Tool I: A structured self-administered questionnaire: It was constructed by researchers after reviewing a related literature **(*Chowdhury, et al., 2019)*** and translated into Arabic language. It included two parts:

Part (1): **Personal characteristics of studied students:** It comprised of 3 items which were (age, residence, occupation and socioeconomic status).

Part (2): **Masturbation frequency and patterns of studied students:** It comprised of 5 items which were (frequency of masturbation, time of day masturbation usually occur, triggers that usually urge to masturbate, feeling immediately after masturbating, and trying to stop or reduce masturbation).

Tool II: Students' knowledge questionnaire: It was developed by researchers after reading the relevant literatures ***(Brito and Morales-Brown et al., 2024; Chen et al., 2023 and Kim et al., 2023)*** to assess students' knowledge about masturbation. It included 9 multiple choice questions (MCQs) as: (definition of masturbation, symptoms and signs, reasons, motives and triggers for female masturbation, side effects and risks, physical negative effects, mental and psychological negative effects, social negative effects and prevention of masturbation).

Scoring system:

For each question, the correct answer was scored as "1" and the incorrect or I don't know answer was scored as "0". The total knowledge score was calculated by adding up of the scores of all questions. The higher scores reflected the higher knowledge. ***The total knowledge score was classified as the following:***

- Good knowledge: 60% to 100% = 6-9 score
- Average knowledge: 50% to <60% = 5-6 score
- Poor knowledge: < 50% = 0-4 score

Tool III: The Negative Attitudes toward Masturbation Inventory (NAMI): It was adapted ***(Abramson and Mosher, 1975)*** and translated into Arabic language. It was used to assess students' negative attitude toward masturbation. It consisted of (30 statements) divided into 3 factors: ***The first factor*** composed of 12 items, 9 of which were easily labeled positive attitudes toward masturbation. ***The second factor*** consisting of 11 items that represented false beliefs regarding the detrimental nature of masturbation. ***The third factor*** reflective of the negative consequences of masturbation that I have personally experienced and included seven items

Scoring system:

anchored by not at all true (5) to exceedingly true (1), this inventory is a 30-item, 5-point Likert-type scale, with reversed scoring on 10 items. Approximately seven minutes are necessary to finish the scale. 3, 5, 8, 11, 13, 14, 17, 22, 27, and 29 are the 10 items with reversed scoring. To calculate an index of masturbation-guilt, the scores are added together to produce a score between 30 and 150. Higher scores suggest a more optimistic outlook ***Total attitudes score was categorized into:***

- Positive attitude: ≥60% -100% of total score (102 –150 score).
- Negative attitude: < 60 % of total score (30 –101 score).

Tool IV: Students' health behaviors questionnaire: It was designed by the researchers after reviewing the literature ***(Kumar, 2023; Shekar et al., 2023; Shafea et al., 2017 and Shekarey et al., 2011)*** to assess students' health behaviors to get rid of masturbation. It comprised 14 items as (Physical exercises (walking, running ..etc), Sleep adjustment (going to bed early and waking up early in the morning), Quality of sleep (sleeping flat on backand don't sleep soft beds), Meditation or mindfulness, Relaxation techniques as yoga and breathing exercise relaxes, Avoid solitude or isolation and spending time with friends …etc).

Scoring system:

On a three-point Likert scale, each item was rated as either always (score 2), sometimes (score 1), or never (score 0). Overall, the score was between 0 and 28, with higher scores suggesting a greater level of engagement in self-care practices. ***The total self-care practices score was classified as the following:***

- Satisfactory level: 75% to 100% = 21-28 score
- Unsatisfactory level: < 75% = 0-20 score

Tool V: Rosenberg self-esteem scale (RSE): It was adapted from ***(Rosenberg, 1965).*** Using the ten elements, self-esteem was evaluated. The RSE scale was translated into Arabic, and the initial query was in the form of "How well or poorly do the following statements apply to you? the scale encompasses the following statements: feeling being at least as worthy as other people, feeling having many good qualities, overall, feeling unsuccessful, being able to do things as well as other people, not feeling like there are many things to be proud of, having a positive attitude towards myself, overall, being satisfied with myself, wishing to have more respect for myself, sometimes, certainly feeling being useless, and sometimes, feeling being worth nothing

Scoring system:

On a four-point Likert scale, students rated the extent to which the statements applied to them, with the range being from (1) "Applies very well " to (4) "Does not apply very well." In order to ensure that a high value corresponded to high self-esteem, the scoring of five items was reversed. A single scale was converted from all ten products. Self-esteem scores on the scales varied from 10 to 40, with 10 indicating extremely low self-esteem and 40 indicating extremely high self-esteem.

Tool VI: Offer Self-Image questionnaire (OSIQ): Body image was assessed by using an Arabic translation of five items from the Offer Self-Image questionnaire (OSIQ) ***(Offer, Ostrov and Howards, 1977).*** The primary inquiry was, "To what extent do the following statements apply to you?" The five statements were as follows: When thinking about how looking in the future, to be happy, Feeling ugly and unattractive, Being proud of my body, Feeling happy with the physical changes of my body in recent years, Feeling strong and healthy.

Scoring system:

The statements were evaluated by students on a four-point Likert scale, with the range of (1) "Describes me very well" to (4) "Does not describe me at all." So that a higher result would suggest a more positive body image, the scoring of four statements was reversed. Each of the five elements was combined into a single scale. The scale had a score range of 5 to 20, with 5 denoting a very low body image and 20 indicating a very high body image.

Tools validity:

In order to guarantee the clearness, relevance, comprehensiveness, and applicability of tools, a panel of three jury experts in the field of obstetrics and gynecological nursing at Benha University assessed the validity of questionnaires. There were no modifications necessary. The expert opinion was that the tools were legitimate.

Tools reliability:

The reliability of tools was done by Cronbach's Alpha coefficient test, which revealed that the internal consistency of research tools as following:

Tools	Cronbach's alpha value
Tool II: Students' knowledge questionnaire.	Internal consistency (α =0. 87) .
Tool III: The Negative Attitudes Toward Masturbation Inventory (NAMI).	Internal consistency (α =0. 82) .
Tool IV: Students' health behaviors questionnaire	Internal consistency (α =0. 94) .
Tool V: Rosenberg self-esteem scale (RSE).	Internal consistency (α =0. 91) .
Tool VI: Offer Self-Image questionnaire (OSIQ).	Internal consistency (α =0. 92) .

Ethical consideration:

Several ethical considerations were assessed prior to the commencement of the investigation, including: In order to complete the study, the scientific research ethical committee of the nursing faculty at Benha University granted its sanction REC-OBSN-P68. The designated study settings granted official permission for the completion of the study. The researchers provided an explanation of the study's objective and significance prior to the implementation of the tools in order to establish students' confidence and trust. It was ensured that the researchers obtained notarized consent from women to participate in the study and maintained confidentiality. There were no physical, social, or psychological hazards to the women during the course of the study. The confidentiality of the women who participated was ensured by the destruction of all data collection tools following the statistical analysis. There were no corrupt statements in the study tools, and they were respectful of human rights. Women were permitted to discontinue their studies at any moment.

Pilot study:

The pilot study was conducted on 10% of the total sample duration (5 weeks, in which 3 students participated) to evaluate the clarity, objectivity, feasibility, and applicability of the tools. It also aimed to identify potential obstacles and issues that could impede data collection and to identify any unique issues with the statements, such as the sequence of questions and clarification. This also facilitated the estimation of the time required for data collection. There were no modifications implemented in accordance with the pilot

results. For this reason, the pilot sample was incorporated into the research, as well as the challenge of obtaining cases.

Field work:

The research was carried out from the beginning of April, 2024 and completed at the end of March 2025 covering one year. The researchers met the visiting students in the previously mentioned setting until completion of the predetermined duration three times/ week (Sundays, Mondays and Thursdays) from 10.00 a.m. to 3 p.m. The students were interviewed individually or small groups "according to their will" by the researchers on; average of 3-4 students were interviewed /month to implement the comprehensive educational package.

Current research was implemented through the following six phases; preparatory phase, interviewing and assessment phase, implementation phase, planning phase, break phase and evaluation phase.

Preparatory phase:

A review of the local and international literature regarding the research problem was conducted during the preparatory phase, which was the initial phase of the research. This assisted the researchers in gaining an understanding of the problem's severity and magnitude, and it also aided them in the development of the necessary data collection tools. Three experts in the field of obstetrics and gynecological nursing at Benha University were each provided with the tools, and the jury results were generated.

Interviewing and assessment phase:

During the second segment, the students were interviewed in order to evaluate their performance. The researchers initiated the interview by extending a warm welcome to the students, introducing themselves, outlining the purpose and requirements of the research, providing the students with comprehensive information regarding the number and frequency of educational sessions to ensure their compliance with the interventions, and obtaining signed consent to participate in the research.

The students were interviewed firstly to assess their personal characteristics and frequency and patterns of masturbation ***(Tool: I)***. after that, their knowledge regarding masturbation was assessed using ***(Tool: II)***. Then, the researchers distributed ***(Tool: III)*** to determine students' attitude toward masturbation, ***(Tool: IV)*** was distributed to determine students' health behaviors to get rid of masturbation, ***(Tool: V)*** to assess students' self-esteem. Finally, ***(Tool: VI)*** was distributed to assess students' body image. Each questionnaire required an average duration of 5 to 10 minutes to be completed with total duration ranged from 45 to 50 minutes.

Planning phase:

Researchers devised a comprehensive educational bundle on masturbation in the form of a printed booklet in accordance with the results obtained during the assessment phase. The booklet is specifically designed for students in a simple Arabic language to align with their level of comprehension and to address the health behaviours and knowledge deficits of the studied students in order to eliminate masturbation. The number of sessions, their contents, instructional media, and various teaching methodologies are quantified. These objectives were established to be achieved upon the conclusion of the comprehensive educational program. The primary goal was for each student to gain the necessary knowledge, health behaviours, and positive attitude toward masturbation, as well as enhance their self-esteem and body image, by the conclusion of the comprehensive educational program sessions.

Implementation phase:

The intervention was administered in the lecture chamber of the Obstetrics and Gynecology Department at the Faculty of Nursing at Benha University, where students received a comprehensive educational program. The comprehensive educational package was implemented over the course of three scheduled sessions within two consecutive weeks (two sessions per week) immediately following the completion of the assessment phase. Each session was scheduled to last 50–60 minutes, contingent upon the participants' feedback and achievements. The students attended all three sessions in the private lecture hall in the aforementioned location to ensure greater confidentiality. Interviews were conducted individually or in small groups, depending on the students' preferences (1 to 2 students attended each session).

The contents of the first session were introduced to the students at the outset. The subsequent session commenced with a review of the previous session and the objectives of the upcoming session. In order to accommodate the students' comprehension levels, plain Arabic language was employed. A brief period of time was allocated at the conclusion of each session to allow students to pose questions, elucidate the session's content, and address any misunderstandings. All students are apprised of the time of the subsequent session.

- ***1st session*** "the introductory session" was ***overview about masturbation*** (definition of masturbation, symptoms and signs, reasons, motives and triggers for female masturbation side effects and risks, physical negative effects, mental and psychological negative effects, social negative effects and prevention).

- ***2nd session*** was about ***complications of masturbation and its negative effects (***physically, mentally or psychologically and socially).

- ***3rd session*** was about health behaviors and lifestyle modifications as (physical exercises (walking,

running ..etc), sleep adjustment (go to bed early and wake up early in the morning), quality of sleep (sleep flat on backand don't sleep soft beds), meditation or mindfulness, relaxation techniques as yoga and breathing exercise relaxes, avoid solitude or isolation and spending time with friends, programming for leisure time (activities such as calligraphy, swimming ..etc), pick up a hobby or creative activities, avoiding triggers like explicit content, taking a cold bath to decrease of sexual desire, development of spirituality (because there is a positive significant relationship between sticking to right religious beliefs, tranquility and abstention from aberrant behaviours), change the mood to drive away from the thought of doing masturbation, healthy and balanced diet (eat foods which don't arouse their sexual desires and eat food at appropriate time, because it is one of the reasons that cause sleeping disorders) and professional help (e.g., therapy, counseling)

Different methods of teaching were used such as lectures, group discussions, downloaded videos, problem solving and brainstorming. Instructional media include helpful tools such as laptop and PowerPoint presentations; as well as the booklet was distributed to all recruited students from the first session to achieve the objectives.

The break phase:

Throughout period between implementation and evaluation phase, the researchers followed up with the students through phone calling or using social media like WhatsApp messages for assuring that the students followed the instruction of comprehensive educational package; additionally, in order to answer students' questions, enhancing implementation the delivered educational sessions and to avoid their dropping out of the research.

Evaluation phase:

The effect of the comprehensive educational package was evaluated through: using the same format of pretest (Tool II, III, IV, V andVI). Post-test was conducted two-months after last educational session. The studied students were evaluated throughout scheduled meetings or via telephone and WhatsApp.

Statistical analysis:

The data were verified before being entered into the computer system. By employing suitable statistical methodologies and tests, the data was efficiently organized, categorized, computerized, and analyzed. version 25.0 of the Statistical Package for Social Sciences (SPSS). These descriptive statistics comprised means, standard deviations, frequencies, and percentages. Inferential statistics, including the Chi-square test and Paired t-test, were implemented to evaluate the research hypotheses. A correlation coefficient was employed to examine the relationship between the total scores of the study variables. The p-value ≤ 0.05 indicated a statistically significant difference, the p-value > 0.05 indicated no statistically significant difference, and the p-value $P \leq 0.001$ indicated a highly statistically significant difference.

Result :

Table (1): Showed that (46.5%) of studied students were in age group ≥ 22 years old with a mean age of 21.02±1.20 years. In relation to residence, less than three-quarters (72.1%) of them lived in rural areas. Concerning the socioeconomic status, less than two-thirds (65.1%) of them belonged to moderate socioeconomic status.

Table (2): Revealed that, (46.5%) of studied students practice masturbation few times a week and (51.2%) of them practice masturbation late night. Regarding triggers that usually urge to masturbate, (100.0%) and (76.7%) of them reported loneliness or boredom and viewing or reading erotic stories or pornography respectively. Also, (79.0%) of them reported that guilty or ashamed feeling immediately after masturbating and more than half (58.1%) of them tried to stop or reduce masturbation.

Table (3): Demonstrated that there was a highly statistically significant difference between the results of post -intervention phase compared to pre-intervention phase in relation to all items of knowledge regarding masturbation ($p \leq 0.001$).

Figure (1): Displayed that, slightly (20.9%) and (88.4%) of the studied students had good knowledge regarding masturbation at pre and post-intervention phases respectively.

Table (4): Demonstrated that, there was a highly statistically significant difference between total mean scores of studied students' attitude toward masturbation at pre and post -intervention phases with (p- value <0.001). The total mean score of attitude was improved from 80.46±6.04 to 111.23±6.08 throughout study phases respectively.

Figure (2): Showed that, (32.6%) and (79.1%) of studied students had positive attitude toward masturbation at pre and post-intervention phases respectively.

Figure (3): Displayed that, (23.3%) and (65.1%) of studied students had satisfactory level of health behaviors to get rid of masturbation at pre and post-intervention phases respectively.

Table (6): Demonstrated that, there was a highly statistically significant difference between total mean scores of studied students' self-esteem at pre and post -intervention phases with (p- value < 0.001). The total mean score of self-esteem was improved from 26.95±2.48 to 34.34±1.96 throughout study phases respectively.

Table (7): Demonstrated that, there was a highly statistically significant difference between total mean scores of studied students' body image at pre and post -intervention phases with (p- value < 0.001). The total mean score of body image was improved from

14.13±1.61 to 16.90±1.83 throughout study phases respectively.

Table (8): clarified that there was a highly statistically significant positive correlation between total score of knowledge of the studied students and their total score of (attitude, health behaviors, self-esteem and body image) at pre-intervention and post-intervention phases (P ≤ 0.001).

Table (1): Distribution of the studied student according to personal characteristics (n=43).

Personal characteristics	No	%
Age (in years):		
18 -	2	4.7
19 -	5	11.6
20 -	3	7.0
21 -	13	30.2
≥ 22	20	46.5
Mean ± SD = 21.02±1.20		
Residence:		
Rural	31	72.1
Urban	12	27.9
Socioeconomic status:		
High level	10	23.3
Moderate level	28	65.1
Low level	5	11.6

Table (2): Distribution of the studied students according to frequency and patterns of masturbation (n=43).

Frequency and patterns of masturbation	No	%
Frequency of masturbation		
Daily	13	30.2
Few times a week	20	46.5
Weekly	8	18.6
Monthly	2	4.7
time of day masturbation usually occur		
Morning	3	7.0
Afternoon	2	4.6
Evening	16	37.2
Late night	22	51.2
Triggers that usually urge to masturbate *		
Stress or anxiety	16	37.2
Loneliness or boredom	43	100.0
Sexual thoughts or fantasies	5	11.6
Viewing or reading erotic stories or pornography	33	76.7
Physical sensations (e.g., hormonal changes, menstrual cycle phases)	3	7.0
Feeling immediately after masturbating		
Satisfied	3	7.0
Guilty or ashamed	34	79.0
Neutral	6	14.0
Trying to stop or reduce masturbation		
Yes	25	58.1
No	18	41.9

*Results aren't mutually exclusive

Table (3): Distribution of the studied students according to knowledge regarding masturbation at pre and post -intervention phases (n=43).

Knowledge items	Pre-intervention				Post-intervention				X^2	(P-value)
	Correct answer		Incorrect answer or don't know		Correct answer		Incorrect answer or don't know			
	No	%	No	%	No	%	No	%		
Definition of masturbation	32	74.4	11	25.6	43	100.0	0	0.0	11.31	0.001**
Symptoms and signs of masturbation	30	69.8	13	30.2	43	100.0	0	0.0	15.31	0.000**
Reasons of masturbation	19	44.2	24	55.8	40	93.0	3	7.0	23.80	0.000**
Motives and triggers for female masturbation	26	60.5	17	39.5	43	100.0	0	0.0	21.18	0.000**
Side effects and risks of masturbation	20	46.5	23	53.5	43	100.0	0	0.0	31.39	0.000**
Physical negative effects of masturbation	21	48.8	22	51.2	42	97.7	1	2.3	26.17	0.000**
Mental and psychological negative effects of masturbation	20	46.5	23	53.5	37	86.0	6	14.0	15.03	0.000**
Social negative effects of masturbation	18	41.9	25	58.1	40	93.0	3	7.0	25.63	0.000**
Prevention of masturbation	17	39.5	26	60.5	32	74.4	11	25.6	10.67	0.001**

**** Highly statistically significance P-value ≤0.001.**

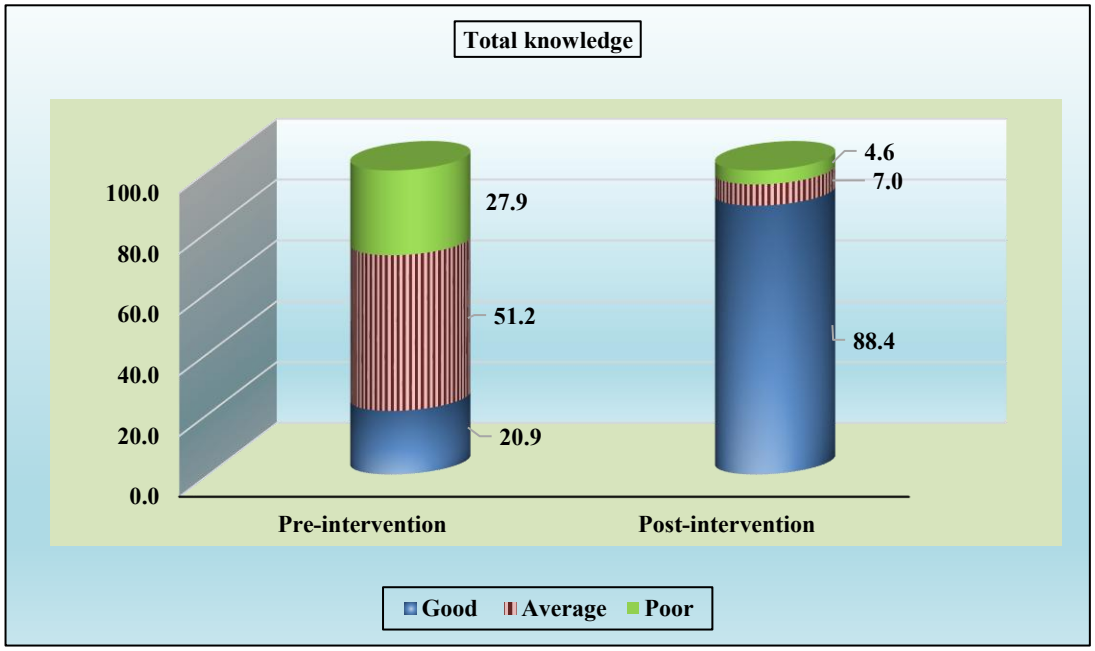


Figure (1): Distribution of studied students according to total knowledge score regarding masturbation at pre and post-intervention phases (n=43).

Table (4): Mean score of studied students' attitude toward masturbation at pre and post-intervention phases (n=43).

Attitude items	Min./Max. score	Pre-intervention	Post-intervention	Paired t-test	P-value
		Mean ± SD	Mean ± SD		
People masturbate to escape from feelings of tension and anxiety.	1/5	2.79±1.16	3.55±1.07	8.23	0.000**
People who masturbate will not enjoy sexual intercourse as much as those who refrain from masturbation.		2.53±1.16	3.51±1.01	10.07	0.000**
Masturbation is a private matter which neither harms nor concerns anyone else. (R)		3.16±0.61	3.95±0.75	8.64	0.000**
Masturbation is a sin against yourself.		2.58±1.05	3.58±0.95	9.50	0.000**
Masturbation in childhood can help a person develop a natural, healthy attitude toward sex. (R)		3.77±0.92	4.48±0.66	7.50	0.000**
Masturbation in an adult is juvenile and immature.		2.51±0.73	3.60±0.72	24.38	0.000**
Masturbation can lead to homosexuality.		2.55±0.82	3.70±0.80	21.31	0.000**
Excessive masturbation is physically impossible, as it is a needless worry. (R)		1.95±0.65	2.86±0.71	11.30	0.000**
If you enjoy masturbating too much, you may never learn to relate to the opposite sex.		1.90±0.71	3.07±0.76	17.62	0.000**
After masturbating, a person feels degraded.		2.79±0.74	4.02±0.74	18.90	0.000**
Experience with masturbation can potentially help a woman become orgasmic in sexual intercourse. (R)		2.39±0.76	3.79±0.80	15.69	0.000**
Feeling guilty about masturbating.		3.16±0.65	4.40±0.58	18.90	0.000**
Masturbation can be a "friend in need" when there is no "friend in deed." (R)		2.39±0.79	3.53±0.66	21.31	0.000**
Masturbation can provide an outlet for sex fantasies without harming anyone else or endangering oneself. (R)		2.39±0.76	3.79±0.80	15.69	0.000**
Excessive masturbation can lead to problems of impotence in men and frigidity in women.		2.51±0.73	3.60±0.72	24.38	0.000**
Masturbation is an escape mechanism which prevents a person from developing a mature sexual outlook.		2.55±0.85	3.65±0.86	24.38	0.000**
Masturbation can provide harmless relief from sexual tensions. (R)		2.97±.70	4.26±0.72	18.48	0.000**
Playing with genitals is disgusting.		2.00±0.87	3.13±0.88	15.99	0.000**
Excessive masturbation is associated with neurosis, depression, and behavioral problems.		1.88±0.87	3.02±0.91	15.99	0.000**
Any masturbation is too much.		2.90±0.81	4.12±0.82	19.26	0.000**
Masturbation is a compulsive, addictive habit which once begun is almost impossible to stop.		3.16±0.65	4.40±0.58	18.90	0.000**
Masturbation is fun. (R)		2.79±0.74	4.02±0.74	18.90	0.000**
When masturbate, being disgusted with myself.		3.00±1.02	3.95±0.89	10.63	0.000**
A pattern of frequent masturbation is associated with introversion and withdrawal from social contacts.		3.65±0.97	4.20±1.05	5.49	0.000**
Being ashamed to admit publicly to masturbate		1.35±0.57	2.02±0.83	5.68	0.000**
Excessive masturbation leads to mental dullness and fatigue,		3.26±1.11	4.06±1.00	6.71	0.000**
Masturbation is a normal sexual outlet. (R)		3.60±0.87	4.25±0.75	7.45	0.000**
Masturbation is caused by an excessive preoccupation with thoughts about sex.		2.51±0.73	3.60±0.72	24.38	0.000**
Masturbation can teach to enjoy the sensuousness of body. (R)		3.16±0.61	3.95±0.75	8.64	0.000**
After masturbating, being disgusted with myself for losing control of body.		3.00±1.02	3.95±0.89	10.63	0.000**
Total score	**30/150**	**80.46±6.04**	**111.23±6.08**	**73.13**	**0.000****

**** Highly statistically significance P-value ≤0.001.**

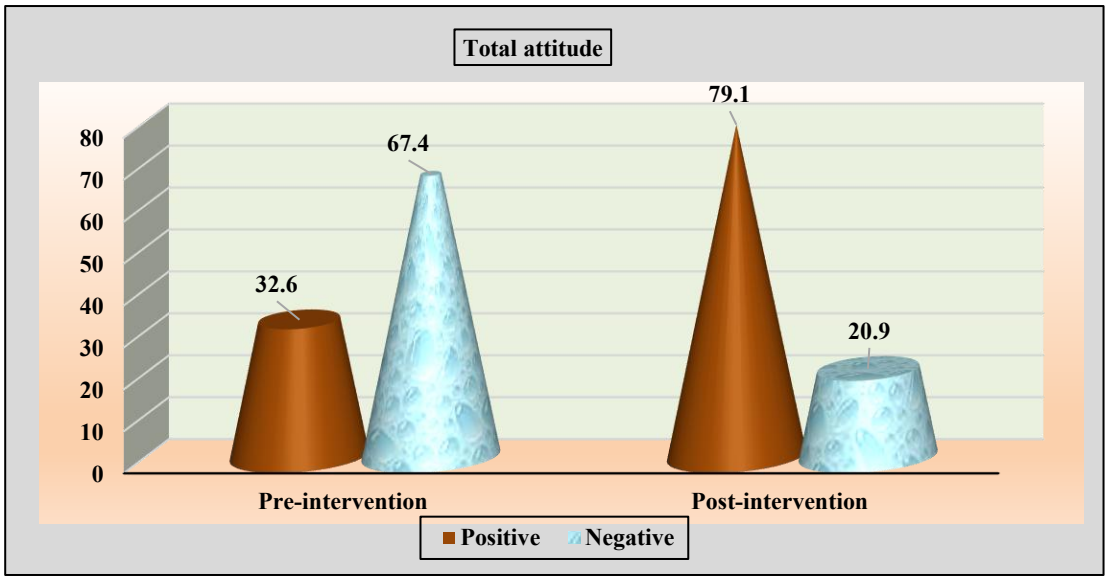


Figure (2): Distribution of studied students regarding total attitude score toward masturbation at pre and post-intervention phases (n=43).

Table (5): Distribution of the studied sample regarding health behaviors to get rid of masturbation at pre and post-intervention phases (n=43).

Health behaviors	Pre-intervention						Post-intervention						X^2	P-value
	Always		Sometimes		Never		Always		Sometimes		Never			
	No	%	No	%	No	%	No	%	No	%	No	%		
Physical exercises (walking, running ..etc)	6	14.0	20	46.5	17	39.5	24	55.8	11	25.6	8	18.6	16.65	0.001**
Sleep adjustment (go to bed early and wake up early in the morning).	18	41.9	8	18.6	17	39.5	40	93.0	3	7.0	0	0.0	27.61	0.000**
Quality of sleep (sleep flat on backand don't sleep soft beds)	16	37.2	14	32.6	13	30.2	36	83.7	4	9.3	3	7.0	19.49	0.000**
Meditation or mindfulness.	3	7.0	9	20.9	31	72.1	22	51.1	15	34.9	6	14.0	32.83	0.000**
Relaxation techniques as yoga and breathing exercise relaxes.	13	30.2	22	51.2	8	18.6	30	69.8	5	11.6	8	18.6	17.42	0.000**
Avoid solitude or isolation and spending time with friends.	30	69.8	5	11.6	8	18.6	43	100.0	0	0.0	0	0.0	15.31	0.000**
Programming for leisure time (Activities such as calligraphy, swimming ..etc)	9	20.9	9	20.9	25	58.2	28	65.1	10	23.3	5	11.6	23.14	0.000**
Pick up a hobby or creative activities	15	34.9	10	23.2	18	41.9	39	90.7	4	9.3	0	0.0	31.23	0.000**
Avoiding triggers like explicit content	11	25.6	12	27.9	20	46.5	29	67.4	5	11.7	9	20.9	15.15	0.000**
Taking a cold bath to decrease of sexual desire.	10	23.2	11	25.6	22	51.2	30	69.8	7	16.2	6	14.0	20.03	0.000**
Development of spirituality	25	58.1	11	25.6	7	16.3	41	95.3	2	4.7	0	0.0	17.11	0.000**
Change the mood to drive away from the thought of doing masturbation.	12	27.9	14	32.6	17	39.5	33	76.7	5	11.7	5	11.6	11.65	0.003*
Healthy and balanced diet.	13	30.2	8	18.6	22	51.2	33	76.7	10	23.3	0	0.0	30.91	0.000**
Professional help (e.g., therapy, counseling)	5	11.6	14	32.6	24	55.8	27	62.8	10	23.2	6	14.0	26.59	0.000**

*A Statistical significant $p \leq 0.0$ **A Highly Statistical significant $p \leq 0.001$ **Table (5):** Clarified that, there was a marked improvement in health behaviors of studied students to get rid of masturbation after implementation of the comprehensive educational package with a highly statistically significant difference between pre and post-intervention phases ($p<0.001$).

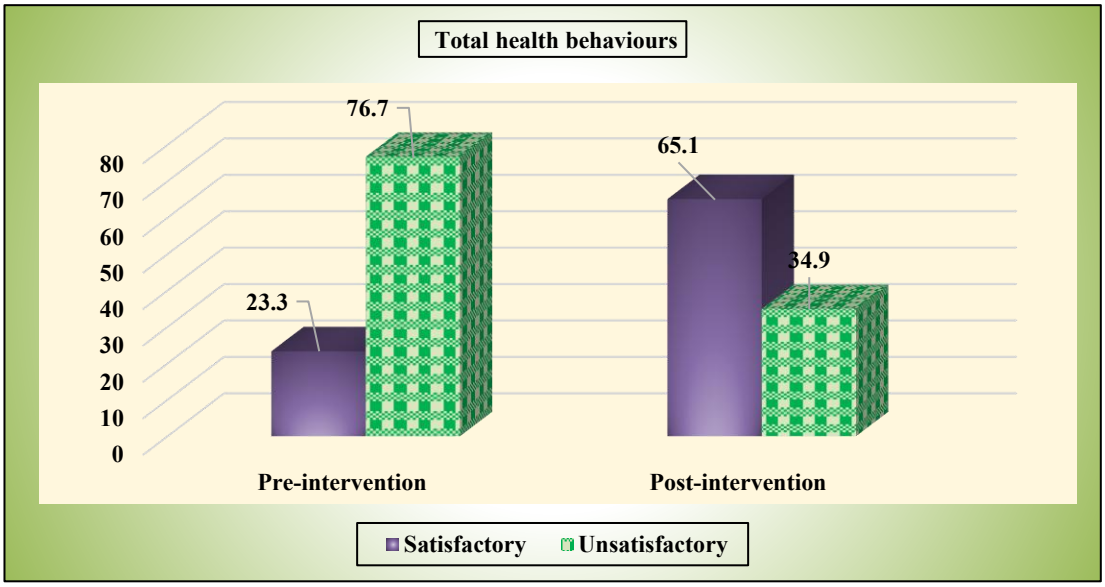


Figure (3): Distribution of studied students regarding total health behaviours to get rid of masturbation at pre and post - intervention phases (n=43).

Table (6): Mean Scores of self-esteem of studied students at pre and post-intervention phases (n=43).

Self-esteem items	Min./Max. score	Pre-intervention	Post-intervention	Paired t-test	P-value
		Mean ± SD	Mean ± SD		
feeling being at least as worthy as other people	1/4	3.35±0.75	3.90±0.29	5.22	0.000**
Feeling having many good qualities		2.42±0.79	3.39±0.69	13.85	0.000**
Overall, feeling unsuccessful		3.09±0.86	3.67±0.47	6.49	0.000**
Being able to do things as well as other people		2.53±0.79	3.30±0.63	9.54	0.000**
Not feeling like there are many things to be proud of		2.28±0.82	3.11±0.62	8.93	0.000**
Having a positive attitude towards myself		2.60±0.49	3.27±0.70	6.86	0.000**
Overall, being satisfied with myself		2.51±0.55	3.34±0.65	9.55	0.000**
Wishing to have more respect for myself		3.16±0.65	3.81±0.39	7.45	0.000**
Sometimes, certainly feeling being useless		1.93±0.63	2.93±0.76	12.26	0.000**
Sometimes, feeling being worth nothing		3.07±0.66	3.58±0.58	6.63	0.000**
Total score	**10/40**	**26.95±2.48**	**34.34±1.96**	**28.19**	**0.000****

**** Highly statistically significance P-value ≤ 0.001.**

Table (7): Mean Scores of body image of studied students at pre and post-intervention phases (n=43).

Body image items	Min./Max. score	Pre-intervention	Post-intervention	Paired t-test	P-value
		Mean ± SD	Mean ± SD		
When thinking about how looking in the future, to be happy	1/4	1.91±0.92	2.72±0.88	9.08	0.000**
Feeling ugly and unattractive		3.51±0.50	3.90±0.29	5.24	0.000**
Being proud of my body		2.63±0.78	3.25±0.75	7.12	0.000**
Feeling happy with the physical changes of my body in recent years		3.09±0.75	3.53±0.59	4.91	0.000**
Feeling strong and healthy		3.00±0.75	3.48±0.66	6.33	0.000**
Total score	**5/20**	**14.13±1.61**	**16.90±1.83**	**17.40**	**0.000****

**** Highly statistically significance P-value ≤ 0.001.**

Table (8): Correlation between total knowledge and total (attitude, health behaviors, self-esteem and body image) scores of the studied students at pre, post-intervention and follow up phases (n=43).

Variables	Total knowledge score			
	Pre-intervention		Post-intervention	
	r	P-value	r	P-value
Total attitude score	0.745	0.000**	0.561	0.000**
Total health behaviors score	0.569	0.000**	0.575	0.000**
Total self-esteem score	0.458	0.000**	0.512	0.000**
Total body image score	0.671	0.000**	0.624	0.000**

**A Highly Statistically significant $p \leq 0.001$

Discussion

Masturbation among university students reveals the complex interplay between sexual behaviors and cultural, societal, and emotional factors ***(Garcia and Reiber, 2023)***. Nevertheless, a notable proportion of students expressed feelings of guilt, shame, or inner conflict, often stemming from sociocultural or religious influences. These negative emotional responses were found to adversely affect attitude, self-esteem, body image and the development of a healthy sexual identity, so universities can help to reduce stigma, provide accurate information, and support students in making informed decisions about sexual health, leading to a healthier and more balanced approach to sexuality ***(Skidmore and Smith, 2024).***

The results of this research highlighted the effectiveness of a comprehensive educational package in addressing masturbation knowledge, attitude, behaviors, self-esteem and body image among female students residing in the university guest house. **The results of this research confirmed the aforementioned hypotheses and this was clarified by discussing the following results**

As regards **personal characteristics**, the findings of the present study revealed that nearly half of the studied students were aged 22 years or older, with a mean age of 21.02±1.20 years. This is consistent with the typical age range of university students in the final years of academic programs. Age is a crucial factor that may influence students' knowledge, attitudes, and behaviors, especially in relation to sensitive topics such as sexual health and masturbation, as older students may have more exposure to diverse sources of information and life experiences.

Moreover, the majority of participants were from rural areas. This high percentage may reflect the geographic distribution of the student population at the selected institution. However, it also highlights the potential cultural and social influences of rural communities, where discussions around sexual health are often considered taboo, possibly leading to limited knowledge or misconceptions regarding such topics. This result was inconsistent with ***(Kabbash et al., 2017)*** who found that more than half of the studied students were of urban residence.

Regarding socioeconomic status, the study found that nearly two-thirds of the students belonged to the moderate socioeconomic level. Socioeconomic status can significantly impact access to health information, education, and communication within families about sensitive issues. Students from moderate backgrounds may face challenges in accessing reliable health education resources, making school-based or university-level interventions even more critical in addressing gaps in sexual health knowledge.

As regards **frequency and patterns of masturbation**, the results of the present research showed that less than half of the students reported engaging in masturbation a few times per week. This suggests that masturbation is a common behavior among this group, though not necessarily frequent. This result agreed with ***Sule and Adebayo, (2024)*** who found that half of university students reported engaging in masturbation at least once a week, which aligns closely with the present research's finding .

Also, more than half of the students reported engaging in masturbation late at night, which could be indicative of privacy or time-related factors influencing the behavior. This finding was consistent with ***Ozisik et al., (2021)*** who stated that university students commonly reported masturbation during solitary and nighttime hours due to increased privacy and reduced daily responsibilities.

Moreover, all students reported that loneliness or boredom was a trigger for masturbation. This finding points to the importance of emotional and psychological states in influencing the behavior, suggesting that students may use masturbation as a coping mechanism or a way to fill an emotional void. Additionally, more than three-quarters of students reported that viewing or reading erotic stories or pornography prompted them to masturbate. This emphasizes the strong influence of external sexual stimuli on the behavior, reflecting the pervasive role of media and digital content in shaping sexual habits.

These results were in the same line with ***Moshi and Nyambo, (2023)*** who highlighted that loneliness and

boredom were frequently cited as emotional states that trigger masturbation among university students. Additionally, exposure to erotic media, such as pornography, has been consistently linked with masturbation behaviors.

Also, more than three-quarters of the students reported feelings of guilt or shame immediately after masturbating. This could point to societal, cultural, or personal beliefs surrounding masturbation that might influence emotional well-being. More than half of students attempted to stop or reduce masturbation, which could reflect efforts to manage guilt, shame, or personal beliefs about the behavior, or perhaps concerns over the frequency or impact of the behavior on daily lives.

These findings aligned with ***Zuma and Phiri, (2023)*** who revealed that significant proportion of university students reported feeling guilty or ashamed after masturbating. This was primarily due to societal stigma surrounding sexual behaviors that are not openly discussed, leading students to internalize negative emotions associated with natural sexual acts. Also, ***Johnson and Morrow, (2023)*** stated that feelings of guilt and shame after masturbation were significantly correlated with religious beliefs and moral views about sexuality. Many students internalized these feelings due to teachings that sexual acts outside of procreation or marital relationships were sinful or immoral, contributing to the emotional distress they experienced post-masturbation.

Sexual education programs that offer accurate and scientifically grounded information are crucial in changing attitudes, enhancing awareness, and promoting healthy sexual behaviors. The effectiveness of interventions like this one could be attributed to factors such as the provision of evidence-based information, a supportive learning environment, and the ability to address sensitive topics in a non-judgmental manner ***(Hemati Alamdarloo et al., 2023).***

Pertaining to **knowledge t**here was a highly statistically significant difference between the results of the post-intervention phase and the pre-intervention phase in relation to all items of the women's knowledge on masturbation that were observed. This significant improvement suggests that the educational intervention successfully addressed gaps in knowledge and promoted a better understanding of masturbation among the students.

In addition, prior to the intervention, only slightly more than one-fifth of the students had good knowledge about masturbation. However, after the intervention, a significant increase was observed, with the majority of the students demonstrating good knowledge on the subject. This improvement highlights the positive impact of the comprehensive educational package in increasing awareness and reducing misconceptions about sexual health topics, including masturbation, among university students, to reduce stigma, and foster healthier attitudes toward sexual behaviors.

This result agreed with ***Mather and Walker, (2023)*** who stated that educational interventions led to significant improvements in students' knowledge about various aspects of sexual health, including masturbation. The intervention contributed to a reduction in misconceptions and an increase in positive attitudes toward sexual behaviors. Additionally, ***Elsayed and Al-Harbi, (2022)*** revealed that participants who received educational sessions on sexual health, including masturbation, demonstrated significant improvements in knowledge.

Moreover ***Sulaiman et al., (2022)*** showed that after a sexual education program, university students reported a better understanding of sexual health topics, including masturbation. Similarly, findings from ***Al-Ghamdi et al. (2021)*** confirmed that structured sexual education programs significantly improved students' knowledge and comfort discussing sensitive topics like masturbation.

The present research indicated a highly statistically significant difference in the total mean scores of students' attitudes toward masturbation between the pre-intervention and post-intervention phases with respect to their attitudes toward masturbation. This finding indicated that the comprehensive educational package had a significant impact on students' attitudes towards masturbation, leading to a positive shift in views. At the pre-intervention phase, the mean attitude score was 80.46 ± 6.04. However, by the post-intervention phase, the mean attitude score significantly improved to 111.23 ± 6.08, indicating a considerable change in students' attitudes.

Increasingly, the findings of current research revealed that less than one third of the students exhibited a positive attitude toward masturbation during the pre-intervention phase. However, post-intervention, more than three-quarters of the students displayed a positive attitude, reflecting a significant improvement. This improvement suggested that the comprehensive educational package was successful in providing accurate information, addressing misconceptions, and reducing negative feelings associated with masturbation, such as guilt or shame, highlighting the potential impact of the comprehensive educational package in transforming attitudes toward previously stigmatized topics, leading to healthier attitudes and behaviors.

This positive shift aligned with previous studies indicating that educational interventions can significantly improve attitudes toward sexual health topics, including masturbation. Research by ***Sule and Adebayo (2024)*** similarly found that university students' attitudes toward masturbation became more positive following educational programs that emphasized the normalization of sexual behaviors and promoted healthier attitudes.

Additionally, ***Kashani et al. (2023)*** found that university students' attitudes toward masturbation improved significantly after participating in a sexual health education program. The intervention addressed the

stigma surrounding masturbation and encouraged open discussions. So, the post-intervention group showed a significant shift toward more positive attitudes. Finally, ***Abiola and Olumide (2022)*** conducted a study on Nigerian university students and found that sexual health education led to significant improvements in students' knowledge and attitudes toward masturbation. The study also highlighted how discussions on sexuality, including masturbation, contributed to reduced feelings of guilt and shame, similar to the findings in the present research.

According to **health behaviors** to get rid of masturbation, the results of the present research revealed that there was a marked improvement in the health behaviors of the studied students aiming to reduce or eliminate masturbation after the implementation of the comprehensive educational package. The highly statistically significant difference observed between pre- and post-intervention phases indicated the strong positive effect of the comprehensive educational package on students' behavioral change.

In other words, our research finding showed a noticeable improvement in the proportion of students who demonstrated a satisfactory level of health behaviors aimed at reducing or eliminating masturbation**,** increasing from less than quarter in the pre-intervention phase to nearly two thirds in the post-intervention phase. This improvement can be attributed to the multi-dimensional nature of the comprehensive educational package which offered scientifically accurate information, clarified misconceptions, and promoted the healthier alternatives to get rid of masturbation. This confirmed that open discussions, myth-busting, and supportive guidance within the intervention helped to reduce shame and guilt, replacing them with constructive approaches such as exercise, mindfulness, time management, or communication with trusted individuals.

These findings were nearly consistent with prior research that supported the role of structured educational programs in promoting positive behavioral change. For instance, ***Asare et al. (2022)*** found that health education targeting sexual behavior significantly improved university students' self-control and coping mechanisms, reducing engagement in risky or compulsive sexual habits, including excessive masturbation. Similarly, ***Kohut and Štulhofer (2023)*** emphasized that interventions grounded in evidence-based sexual education lead to better health outcomes and more responsible sexual decision-making.

Concerning to **self-esteem,** the results of the present research demonstrated that there was a highly statistically significant improvement in self-esteem among the studied students following the implementation of the comprehensive educational package, with the mean self-esteem score increasing from 26.95±2.48 to 34.34±1.96. This significant change suggested that the comprehensive educational package was effective in enhancing students' perception of self-worth and confidence. This improvement may be attributed to that comprehensive educational package focused on providing scientifically accurate information, emotional support, and healthy behavioral alternatives, to empower the students to develop a more accepting and positive self-image.

These findings were supported by ***Briken et al. (2022)***, who emphasized the link between sexual education and improvements in psychological well-being, particularly among youth facing sexual shame or confusion. Similarly, ***Rahman et al. (2023)*** found that comprehensive sexual education programs led to significant gains in students' self-esteem and emotional resilience by promoting body positivity and sexual autonomy.

As regards **body image,** the results of the present research displayed that there was a highly statistically significant improvement in students' body image following the implementation of the comprehensive educational package, with mean scores increasing from **14.13±1.61 to 16.90±1.83**. This finding reflected a positive shift in students' perceptions and satisfaction with own bodies over the course of the intervention. This improvement can be due to the holistic nature of the comprehensive educational package, which addressed not only knowledge and attitudes toward masturbation but also incorporated elements related to self-esteem, body image, and emotional health helping the students to see bodies as natural, functional, and worthy of respect**.**

These findings agreed with ***Gillen and Lefkowitz (2019),*** who showed that students receiving comprehensive sex education were more likely to report positive body image and higher body appreciation**.** Additionally, ***Rodgers et al. (2021)*** emphasized that improving sexual health literacy can reduce body dissatisfaction by promoting body functionality over appearance and reducing the internalization of unrealistic standards**.**

Pertaining to **correlation between total knowledge and total (attitude, health behaviors, self-esteem and body image) scores,** At both the pre- and post-intervention phases, the findings of the current study demonstrated a highly statistically significant positive correlation between the total knowledge score of students and the scores of (attitude, health behaviours, self-esteem, and body image).This finding strongly suggested that increased knowledge about masturbation was associated with more positive attitudes, improved behaviors, and enhanced psychological outcomes. This may be due to that knowledge is a critical foundation for developing healthier attitudes, behaviors, self-esteem and body image.

This result aligned with ***El-afandy and Hagrasy, (2024)*** who clarified that the educational program significantly improved students' knowledge, which in turn positively influenced their attitudes, self-esteem, and body image.

In this context, the educational intervention not only increased factual understanding but also helped

dismantle common myths and taboos surrounding masturbation especially in culturally sensitive environments. With greater knowledge, students were more likely to adopt positive attitudes, engage in healthier coping strategies, and report less guilt or shame associated with their sexual behaviors ***(Fawole et al. 2022).***

Conclusion:

The present research revealed that the comprehensive educational intervention significantly improved university students' knowledge, attitudes, health behaviors, self-esteem, and body image related to masturbation. Prior to the intervention, many students held misconceptions or inadequate knowledge, experienced negative attitude, low self-esteem and body image; and engaged in less satisfactory health behaviors. However, post-intervention results demonstrated statistically significant improvements across all measured variables. Notably, the strong positive correlation between knowledge and attitude, behavior, self-esteem, and body image underscored the foundational role that accurate information is very important in promoting sexual well-being. Therefore, the research hypotheses were supported, and the research aim was successfully achieved.

Recommendations:

- Educational institutions, especially universities, should integrate comprehensive and culturally sensitive sexual health education into curriculum to improve students' knowledge and correct misconceptions about masturbation and related topics.
- University educators, academic advisors, and counselors should be trained to provide accurate information and emotional support on issues related to sexual health and self-esteem, creating a supportive environment for students.
- Universities should create safe spaces that encourage students to openly discuss sexual health topics without fear of judgment, helping break the silence and stigma around masturbation
- Using digital platforms (e.g., online modules and social media) can be an effective way to disseminate sexual health education, especially among youth who may feel shy discussing such topics face-to-face.

Further Research:

- Additional longitudinal and multi-centered studies should be conducted in different regions, especially to better understand cultural influences and the long-term effects of educational interventions.

References:

Abiola, F. A., and Olumide, A. O. (2022): Evaluating the impact of sexual health education on university students' attitudes toward masturbation and sexual health. *Journal of Health Education Research and Development, 40*(6), 456–468. https://doi.org/10.1016/j.jherd.2022.0058

Abramson, P.R. and Mosher, D.L. (1975): THE NEGATIVE ATTITUDES TOWARD MASTURBATION INVENTORY. Journal of Consulting and Clinical Psychology, 43(4):487

Al-Ghamdi, S., Al-Obaid, R., and Al-Mutairi, M. (2021). Impact of sexual education on university students' understanding of sexual behaviors and attitudes. *International Journal of Educational Research, 18*(2), 120–134.

Asare, M., Boateng, G. O., and Owusu, A. (2022): Effect of health education on sexual behavior among university students in Ghana. *BMC Public Health, 22*(1), 1182. https://doi.org/10.1186/s12889-022-13345-9

Beck, J. S. (2020): *Cognitive behavior therapy: Basics and beyond* (3rd Ed.). The Guilford Press.

Briken, P., Habermann, N., and Dekker, A. (2022): Sexual health education and psychological well-being: A review of recent evidence. *Journal of Adolescent Health, 71*(4), 532–540. https://doi.org/10.1016/j.jadohealth.2022.05.004

Brito J and Morales-Brown P. (2024): Ways to stop masturbating. Available at: https://www.medicalnewstoday.com/articles/32574.

Chen M, Zimmer C, Huang S, Tian R, Yang B and Li M. (2023): The effectiveness of an online sexuality education module in promoting sexual knowledge and attitude change: a cluster randomized controlled trial. Health Educ Res; 38(2):119-138. doi: 10.1093/her/cyad009. PMID: 36840452.

Chowdhury, M. R. H. K., Chowdhury, M. R. K., Nipa, N. S., Kabir, R., Moni, M. A., and Kordowicz, M. (2019)*:* Masturbation experience: A case study of undergraduate students in Bangladesh. *Journal of Population and Social Studies, 27*(4), 359–372. https://doi.org/10.25133/jpss.2019.006

El-afandy, A. M. O., and Hagrasy, E. H. A. (2024): The effect of an education program on adolescent masturbation knowledge, self-esteem, body image and attitude using a participatory learning approach. *Egyptian Journal of Nursing and Health Sciences, 5*(2), 84–97.

El-afandy, S., and Hagrasy, M. (2024). The impact of an educational program on adolescents' knowledge about masturbation, self-esteem, body image, and attitudes. *Journal of Adolescent Health, 75*(2), 124–135. https://doi.org/10.1016/j.jadohealth.2024.03.008

Elsayed, M. K., and Al-Harbi, Z. (2022). The role of educational interventions in sexual health knowledge: A study on university students in the Middle East. *International Journal of Sexuality and Sexual Health,*

44(3), 67–79. https://doi.org/10.1080/19317611.2022.2066762

Garcia, J. R., and Reiber, C. (2023). The role of masturbation in stress reduction and sleep quality among adults. *International Journal of Sexual Health, 35*(2), 123–137. https://doi.org/10.1080/19317611.2023.1234567

Gillen, M. M., and Lefkowitz, E. S. (2019). Body image and sexual health in adolescence and young adulthood: A review of the literature. *Body Image, 28*, 93–103. https://doi.org/10.1016/j.bodyim.2018.12.001

Güven, M., Karaman, B., and Yılmaz, R. (2021). The role of sexual education in shaping university students' attitudes toward masturbation: A longitudinal study. *Archives of Sexual Behavior, 50*(4), 1183–1194. https://doi.org/10.1007/s10508-021-01946-0

Hemati Alamdarloo, G., Moradi, S., Padervand, H., and Zare Dorahi, A. (2023). The effect of sex education intervention on sexual knowledge of female adolescents with intellectual disabilities. *Sexuality and Disability, 41*(3), 663–676.

Holas, P., Draps, M., Kowalewska, E., Lewczuk, K., and Gola, M. (2020). A pilot study of mindfulness-based relapse prevention for compulsive sexual behavior disorder. *Journal of Behavioral Addictions, 9*(4), 1088–1092. https://doi.org/10.1556/2006.2020.00075

James, H., Nazroo, J., Chatzi, G., and Simpson, P. (2023). How do women and men negotiate sex in later life relationships? A qualitative analysis of data from the English Longitudinal Study of Aging. *The Journal of Sex Research, 60*(9), 1332–1344. https://doi.org/10.1080/00224499.2023.1887079

Johnson, K. L., and Morrow, M. M. (2023). Religion, morality, and sexual health: A study of guilt and shame after masturbation in university students. *Journal of Behavioral Health, 20*(1), 50–58.

Kabbash, I. A., Ali, E. A. A., Kabbash, M. I., and El-Naga, A. A. (2017). Perception and practices of masturbation by male medical students, Tanta University, Egypt. *Egyptian Journal of Community Medicine, 35*(1), 99–109. https://doi.org/10.21608/ejcm.2017.10049

Kabbash, I. A., Ali, E. A. A., Kabbash, M. I., and El-Naga, A. A. (2017). Perception and practices of masturbation by male medical students, Tanta University, Egypt. *Egyptian Journal of Community Medicine, 35*(1), 99–109.

Karaahmet, A. Y., and Bilgiç, F. Ş. (2024). Relationship between the frequency and duration of masturbation and the sexual health literacy and sexual function of women in western Turkey: A cross-sectional study. *The Journal of Sexual Medicine, 21*(8), 676–682. https://doi.org/10.1093/jsxmed/qdae059

Karanja, D., and Mwenje, M. (2021). Impact of sexual health education on college students' knowledge and attitudes towards masturbation. *African Journal of Reproductive Health, 25*(4), 92–99. https://doi.org/10.1016/j.ajrh.2021.02.014

Kashani, M. S., Nouri, M., and Javadian, A. (2023). Sexual health education and its impact on university students' attitudes toward masturbation and sexual behaviors. *Journal of Sexuality and Sexual Health, 35*(3), 212–225. https://doi.org/10.5678/jssh.2023.0089

Kim EJ, Park B, Kim SK, Park MJ, Lee JY, Jo AR, Kim MJ and Shin HN. (2023): A Meta-Analysis of the Effects of Comprehensive Sexuality Education Programs on Children and Adolescents. Healthcare (Basel);11(18):2511. doi: 10.3390/healthcare11182511. PMID: 37761708; PMCID: PMC10530760.

Kohut, T., and Štulhofer, A. (2023). Comprehensive sexual education and its impact on health behavior change: A longitudinal study among college students. *Journal of Adolescent Health, 72*(2), 240–246. https://doi.org/10.1016/j.jadohealth.2022.10.011

Kong, L. V., Ting, R. S. K., Chung, K. R., Hidayat, W., Ooi, W. L., and Goh, P. H. (2024). Bidimensional self-esteem and sexual functioning among young adults: A systematic review. Current Psychology, 43(6), 4930-4944.

Kucherenko, O. N., Chaika, H. V., Konkov, D. G., Yaremchuk, L. V., and Masik, O. I. (2024). Comparative characteristics of the influence of autoerotic practice on the development of psychoemotional disorders among young people on the example of medical students of the National Pirogov Memorial Medical University, Vinnytsya. *Psychological Studies, 45*(2), 67-74. https://doi.org/10.1234/psykology.2024.0271

Kumar A (2023): Masturbation Addiction - Treatment, Symptoms and Causes. Available at: https://www.lybrate.com/topic/masturbation-addiction

Leistner, C. E., Briggs, L., Lippmann, M., and Lawlor, N. (2024). Reasons for and for not engaging in masturbation among college students in the United States. *Sexuality and Culture, 28*(3), 929–949. https://doi.org/10.1007/s12119-024-09728-1

Liu, D., Liu, Y., and Ren, Z. (2025). Study on HIV knowledge and cultural attitudes about sexuality among Chinese college students. *BMC Public Health, 25*(1), 777. https://doi.org/10.1186/s12889-025-10598-5

Mather, P. A., and Walker, R. L. (2023). Effectiveness of sexual health education programs in university settings. *Journal of Sexual Health, 45*(2), 121–130. https://doi.org/10.1016/j.jsh.2023.01.007

Menshawy, A., Abushouk, A. I., Ghanem, E., Senna, M., Lotfy, N., Abdel-Maboud, M., Elmaraezy, A., Elsherbeny, M. Y., and SABEAD Study Group. (2021). Break the silence: Knowledge and attitude towards sexual and reproductive health among Egyptian youth. *Community Mental Health Journal, 57*(2), 238–246. https://doi.org/10.1007/s10597-020-00641-4

Moshi, F. D., and Nyambo, M. (2023). Loneliness, media consumption, and sexual behaviors among university students in Tanzania. *Sexual Health Review, 18*(1), 89–96.

Munawar, I., Iqbal, M. N., Javed, F., and Rafiq, M. (2024). Management of masturbation addiction and stress through swish pattern technique under hypnosis among young adults. *Journal of Behavioral Therapy, 48*(2), 93–102. https://doi.org/10.1016/j.jbehtherapy.2024.04.001

Nikolopoulou K. (2023): What Is Snowball Sampling? | Definition and Examples. Available at: https://www.scribbr.com/methodology/snowball-sampling/

Offer D, Ostrov E and Howards KI. (1977): The offer self-image questionnaire for adolescents (revised, 1977): A manual. Chicago.

Orth and Robins (2023) : *"The development of self-esteem across the lifespan." Current Directions in Psychological Science*, 32(4), 291–298.

Ozisik, L. K., Tan, S. H., and Henshaw, J. D. (2021). University students' sexual health knowledge and attitudes: The role of educational programs in promoting healthy sexual behaviors. *International Journal of Health Education and Promotion, 29*(1), 47–58. https://doi.org/10.5678/ijhep.2021.029049

Ozisik, L., Demir, G., and Altun, A. (2021). Nighttime sexual behaviors among university students: Privacy, solitude, and masturbation. *International Journal of Sexual Health, 33*(2), 125–135.

Phuah, L. A., Teng, J. H. J., and Goh, P. H. (2024). Masturbation among Malaysian young adults: Associated sexual and psychological well-being outcomes. *Sexuality and Culture, 28*(1), 113–133. https://doi.org/10.1007/s12119-023-09841-x

Rahman, M., Al-Jubair, M., and Khan, M. R. (2023). Impact of sexual health education on students' self-esteem and emotional regulation: A longitudinal study. *BMC Psychology, 11*(1), 34. https://doi.org/10.1186/s40359-023-01042-y

Rodgers, R. F., Donovan, E., Cousineau, T., Yates, K., McGowan, K., Cook, E. C., and Lukowicz, M. (2021). Protective effects of sexual health education on body image among university students. *Journal of American College Health, 69*(7), 731–739. https://doi.org/10.1080/07448481.2019.1706541

Rosenberg, M. (1965). Society and the Adolescent Self-image. Princeton: Princeton University Press.

Sánchez-Pérez, G. M., Granados, R., Mangas, P., and Sierra, J. C. (2025). Masturbation parameters: Their relation to sexual arousal in young people who engage in same-sex relationships. *Frontiers in Psychology, 16*, 1544691. https://doi.org/10.3389/fpsyg.2025.1544691

Shafea NM, Fahmy NM, Ramadan SA and Gaafar HA. (2017): Knowledge and attitude of married women regarding masturbation risks. Menoufia Nursing Journal, 2(2): 1-16

Shekar C, Shetty KV, Gowda MR, Srinivas P, Gurusamy P, Kumbar P and Kumbar S. (2023): Young adult sexual health: Masturbation behaviors among para-medical trainees. Assam J Intern Med; 13:53-6.

Shekarey A, Rostami, M, Mazdai, Kh Mohammadi, A. (2011): Masturbation: Preventionand Treatment. Procedia - Social and Behavioral Sciences 30 (2011) 1641

Skidmore, S. J., and Smith, S. S. (2024). How and why religiousness influences sexual health: *A review.* Current Sexual Health Reports, 16*(1), 1–9. https://doi.org/10.1007/s11930-024-00390-5*

Soares, R. F., Leites, G. T., de Araujo, T. G., Pedreti, G. P., Cerentini, T. M., and da Rosa, P. V. (2024). Masturbation, sexual function, and genital self-image of undergraduate women: A cross-sectional study. *The Journal of Sexual Medicine, 21*(3), 211–216. https://doi.org/10.1093/jsxmed/qdad173

Soares, R. F., Leites, G. T., de Araujo, T. G., Pedreti, G. P., Cerentini, T. M., and da Rosa, P. V. (2024). Masturbation, sexual function, and genital self-image of undergraduate women: A cross-sectional study. *The Journal of Sexual Medicine, 21*(3), 211–216. https://doi.org/10.1093/jsxmed/qdad173

Source: World Health Organization (WHO). (2022). *Health promotion glossary of terms 2022*. Geneva: WHO.

Stevens, C. (2023). "I feel like I'm bearing the burden to change the whole planet." Secondary school teachers' perspectives on implementing the new statutory 'Relationships and Sex Education' guidance. (Doctoral dissertation, University of Essex and Tavistock and Portman NHS Foundation Trust).

Sulaiman, A., Al-Mansour, M., and Khawaja, A. (2022). Effectiveness of sexual education programs in improving university students' knowledge of sexual health. *Journal of Sexual Health Education, 24*(3), 215–228.

Sule, A. M., and Adebayo, A. M. (2024). Prevalence of masturbation among university students in Nigeria: A

cross-sectional study. *Journal of Sexual Health and Education, 7*(2), 157–164.

Sule, A. O., and Adebayo, B. A. (2024). Impact of educational interventions on university students' attitudes towards masturbation and sexual health. *Journal of Sexual Health Education, 12*(2), 123–135. https://doi.org/10.1234/jshe.2024.012345

Sule, S. O., and Adebayo, F. O. (2024). Prevalence and patterns of sexual behaviors among university students: A cross-sectional study. *Journal of Sexual Health and Education, 30*(1), 55–63.

Tylka, T. L., and Piran, N. (2023). *Handbook of positive body image and embodiment: Constructs, protective factors, and interventions.* Oxford University Press.

Unsal, A., and Ayranci, U. (2024). Relationship between the frequency and duration of masturbation and the sexual health literacy and sexual function of women in western Turkey: A cross-sectional study. *The Journal of Sexual Medicine, 21*(4), 311–318. https://doi.org/10.1093/jsxmed/qdad246

van Niekerk, M. (2023). Female masturbation practices amongst different populations and age groups. *Mathews Journal of Gynecology and Obstetrics, 7*(2), 1–25. https://doi.org/10.31274/mjgo.2023.00025

Vohra, P. (2023). Effects of body self-image on sexuality: A study among college students. *International Journal of Indian Psychology, 11*(3), 2773–2800. https://doi.org/10.25215/1103.264

Vosper, J., Irons, C., Mackenzie-White, K., Saunders, F., Lewis, R., and Gibson, S. (2023). Introducing compassion focused psychosexual therapy. *Sexual and Relationship Therapy, 38*(3), 320–352. https://doi.org/10.1080/14681994.2023.1885523

Weinstein, A., Winer, A., and Dannon, P. (2022). Problematic sexual behavior among young adults: Association with emotional regulation, depression, and academic impairment. *Journal of Affective Disorders, 308*, 274–280. https://doi.org/10.1016/j.jad.2022.06.019

Zuma, B. G., and Phiri, G. S. (2023). Exploring the psychological effects of masturbation among university students in South Africa: Guilt, shame, and mental health. *Journal of Sexual Behavior, 33*(4), 453–460.