

Effect of Nursing Intervention Model Guided by BETTER Model on Sexuality Satisfaction and Psychological Status among Chronic Obstructive Pulmonary Disease Women

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Abstract

Background: Chronic Obstructive Pulmonary Disease (COPD) is a general term referring to lung diseases and conditions which restrict or obstruct air flow. The desire for sexuality and intimacy are fundamental human needs that continue despite the diagnosis of (COPD) **Aim of the study:** The aim of this study was to evaluate the effect of Nursing Intervention Model Guided by BETTER Model on Sexuality Satisfaction and Psychological Status among Chronic Obstructive Pulmonary Disease Women. **Subjects and method:** Quasi-experimental design, one group with pre- assessment post evaluation was used in this study conducted on 80 COPD women to test the effectiveness of a (PSHE-COPDW) program designed to elevate breathing painful symptoms experienced by COPD women during the practice of their sexual relation. **Results:** This study showed that there was a highly statistically significant difference at study participants sexuality, marital satisfaction and psychological status pre and post intervention of Psycho-sexual Educational Health Program for COPD Women (**PSEH-COPDW**) based on BETTER model. **Conclusion:** The developed psychosexual educational nursing program entitled PSEH-COPDW program helped COPD women to suffer fewer sexual problems, and improved their general physical health. (PSEH-COPDW) had high significant impact on improving sexuality, marital satisfaction and psychological status of COPD women. This program not only addresses the disease, but also provides emotional and educational support to reduce the symptoms of (COPD) and improve the quality of life for these women. **Recommendations:** PSEH-COPDW can be used by nurses as a health teaching strategy to address women's sexual and psychological problems and for the management of the COPD women sexual dysfunction and psychological problems, dissemination of this health educational program to other Chest hospitals in Egypt and elsewhere for further confirmation of the findings.

Key words: COPD, Marital Satisfaction, Nursing Intervention, Psychological status, Sexuality.

1. Introduction

For most people, sex plays a significant role in life, self-identity, and overall wellbeing. It is often known that a

large number of persons continue to engage in sexual activity far into old age. Even extremely old people can enjoy sex and integrate it in their intimate relationships,

even though sexual activity and interest do tend to wane with age. 38.5% of men and 16.7% of women in the 75–85 age group had engaged in sexual activity with a partner 10 years prior, according to a relatively recent survey, and 54% of those who were sexually active did so more than twice or three times per month. **(Potki, Ziaei, Faramarzi, Moosazadeh, & Shahhosseini, 2017).**

However, issues with sexual health arise for both men and women with Chronic Obstructive Pulmonary Disease (COPD). Breathing problems can lead to physical discomfort and fears that make having sex seem unattainable. It will be more difficult for someone with COPD to overcome these obstacles if they have a sex phobia. The physical signs and symptoms of chronic lung diseases (CLDs) are now better identified and managed, but the psychological cost is still frequently ignored. **(Farver, Frederiksen, Zachariae, Rubio & Løkke, 2022).**

Dyspnea may be severe and often interferes with the patient's activities. Weight loss and anemia are common because dyspnea interferes with eating. As COPD progresses, dyspnea occurs even at rest. The effort to increase over time, and

the accessory muscles are recruited in an effort to breathe **(PRASAD, 2020).**

Regardless of age or degree of disability, many persons with COPD place a high value on having a fulfilling sexual life. Although the causes of issues with sexual functioning are numerous and interconnected, hormonal dysfunction, deconditioning from exercise, exertional dyspnea, and the psychological and social ramifications of living with a chronic illness can all have an impact on libido in people with COPD. **(Wiśnicka et al., 2021).**

A psychological nurse can help address sexual dysfunction issues in patients with COPD. supplying direction for the daily management of respiratory impairment, the restoration of exercise capacity, and the application of posture to optimize breathing and movement efficiency. Since sexual dysfunction is a quiet symptom of COPD, nurses and other medical personnel frequently ignore it. Recognizing the negative impact sexual dysfunction has on a person's quality of life and the critical role nurses can play in assisting patients in adjusting to this delicate matter are key. **(Wiśnicka et al., 2021).**

Several models are accessible to discuss sexual health and they are an

effective communication model that theoretically supports interventional approaches as PLISSIT model which composed of permission, limited information, specific suggestions, and intensive therapy. As well as, BETTER Counseling Model proposed by Mick et al (2004). BETTER model has been introduced as a structured approach for nurses to address sexual issues with oncology clients. Although this model was designed for a specific population and professions, the components of the model can be taken into consideration by all health professionals when addressing clients with varying disabilities. The model is made up of six stages: Bring up, Explain, Tell, Time, Educate and Record (**Quinn, C. & Happell, B., 2012**).

Significance of the study:

COPD often have symptoms severe enough to limit normal physical activities of daily living and affect quality of life self-management, problems with body perception and sexual problems. In addition, it causes significant emotional distress as sadness and depression, issues. Interventions improve various out comes for many chronic diseases as COPD as in any chronic disease (**Yang, Jenkins, & Salvi, 2022**).

According to World Health Organizations (WHO) and Global Burden of Disease (GBD) (2022), (COPD) is regarded as a serious community health issue and a significant contributor to morbidity and mortality worldwide (**Franssen et al., 2018**). Approximately 300 million people have COPD globally, with a prevalence of approximately 12.2%, three million Egyptians, or around 8% of the population have COPD. This disease represents the fifth leading cause of death worldwide and it is estimated that by 2030 it will be the fourth. 80% of COPD deaths occur in low- and middle-income countries. Tobacco is the main cause, contributing to other co-morbidities and fatal outcomes. In addition, the disease represents a high economic burden, with costs of approximately \$ 5600 per patient per year, which increase according to the severity of the disease (**Iheanacho, Zhang, King, Rizzo & Ismaila, 2020**).

Patients with respiratory muscle weakness or Chronic Lung Disease generally have limited sexual activity due to lower exercise tolerance and fear of dyspnea. Moreover, sexual dysfunction is exacerbated by misconceptions, illiteracy, and poor physical or mental health, all of

which are prevalent in this group. The reduction of sexual activity is frequently associated with exertional dyspnea. Based on patient assessments, 80% of patients link a decrease in sexual activity to the physical side effects of a long-term lung illness. Increased tidal volume and breathing frequency brought on by sexual activity are linked to an increased cardiovascular burden. (Boehm et al., 2019). So this research is conducted to evaluate the effect of nursing counseling guided by BETTER model on sexuality, marital Satisfaction and psychological status among Chronic Obstructive Disease women.

Operational definition of BETTER counseling model: Sexual counseling model address sexual issues with chronic diseases clients. This model is composed of six stages: Bring up, Explain, Tell, Time, Educate and Record.

Aim of the study:

The aim of this study was to evaluate the effect of Nursing Intervention Model Guided by BETTER Model on Sexuality Satisfaction and Psychological Status among Chronic Obstructive Pulmonary Disease Women

Objectives

- Assess the knowledge of COPD women about sexual relation, intimacy and the effect of shortness of breath on it.
- Develop a psycho-sexual educational health program for COPD women.
- Implement a health program for COPD women.
- Evaluate the effect a psycho-sexual educational health program on sexual, marital satisfaction and psychological status of COPD women.

Research hypothesis

The current research hypothesis was developed to achieve the study's aim: The COPD women who attend the designed educational health program "Psycho-Sexual Educational Health for COPD Women"(PSEH-COPD) may demonstrate statistically significant improvements in their sexual performance and marital QOL.

2. Subjects and Methods:

Study Design:

A quasi-experimental research design one group with pre- assessment post-intervention was used in this study.

The sample of the study:

The study subjects consisted of 87 COPD women were eligible for inclusion Criteria.

Study Setting:

The study was conducted at Outpatients Chest Clinic (CC) at Suez Canal University Hospital (SCU), Ismailia governorate, Egypt.

Tools of data collection:

Tool I.

Structured questionnaire designed by researchers and containing two parts.

Part 1: Socio-demographic data: It included age, level of education, duration of marriage, oldest off spring, work, housing, another wife, and offspring.

Part 2: COPD Sexual Nature Questionnaire:

This part was a self-rating questions intended to assess COPD women sexual relation, intimacy and the effect of shortness of breath on it before and after the intervention. It was designed by the researcher based on the literature review such as: **(Ghafoori, et al., (2022); Gold (2020); Hevesi, Gergely Hevesi, Kolba& Rowland (2019); Kaptein, et al., (2008).** And supervisors' opinions. It tested COPD women knowledge regarding COPD and its

effect on their sexuality. It consisted of twenty-nine questions. The questionnaire was categorized into three domains including the following:

- First domain includes: Information about the nature of the intimate relationship it contains (15 items).
- Second domain includes: Conceptual information about participants as a female, it contains (4 items).
- The third domain includes: The effect of breathing shortness on intimacy relationship it contains (10 items).

Tool II: Arabic Female Sexual Function Index (AFSFI) (Appendix II):

It was originally constructed by Rosen, (2000) in an English language to assess the six sexual aspects; sexual desire, arousal, lubrication, orgasm, satisfaction and pain during the sexual intercourse. An Arabic version of the index (AFSFI) was translated by Anis et al., (2011). The index consists of 19 items, modifications were administrated on AFSFI index to be relevant with Egyptian culture to include 14 items that cover all the aspects of the sexual function which are used to assess the extent of women's sexual function. It tests six domains: Desire (2 items), Arousal (3 items), lubrication (2 items), orgasm (3

items), satisfaction (2 items), pain (2 items).

AFSFI Scoring System

The individual domain scores and overall score of the AFSFI can be derived from the computational formula outlined in the table below. For individual domain scores, add the scores of the individual items that comprise the domain and multiply the sum by the domain factor (see below). Add the six domain scores to obtain the full index score. It should be noted that within the individual domains, a domain score of zero indicates that the subject reported having no sexual activity during the past month. Subject scores can be entered in the right-hand column.

Scoring system:

Domains Score	Desire 1, 2	Arousal 3, 4, 5	Lubrication 6, 7	Orgasm 8, 9, 10	Satisfaction 11, 12	Pain 13, 14	Full index Score
Score range	0-2	0-2	0-2	0-2	0-2	0-2	
Factor	*0.6	*0.3	*0.3	*0.4	*0.4	*0.4	
Minimum	0	0	0	0	0	0	
Maximum	6.6	1.8	1.2	2.4	1.6	1.6	15.2

Tool three: Spirometry

Pulmonary function data measurement using portable spirometer to help in

identification and make sure of the assessment of severity of COPD, Severity of the disease was assessed by detecting forced expiratory volume by the end of the first second (FEV1) percentage of predicted value (FEV1/predicted FEV1%) using portable vitalograph copd-6 model 4000 (Vitalograph Ltd, Gort Road business Park, Ennis, Co. Clare, Ireland). Classification of the severity (mild, moderate, severe or very severe) as follows depends upon the obtained value of FEV1/predicted FEV1%:

- Mild: 80% or above (symptoms should be present to diagnose COPD in people with mild airflow obstruction).
- Moderate: 50-79%.
- Severe: 30-49%.
- Very severe: below 30% (less than 30% but with respiratory failure).

Very severe cases were excluded from this study.

Inclusion Criteria:

- Sexually active married COPD female patients.
- Mild and moderate COPD women
- Age group from 18 to 60 years old.

Exclusion Criteria:

- Severe COPD women.

- COPD females with mental or other physical disorders or with handicaps.
- Health conditions that may affect female sexual functioning such as gynecological problems.

Sample size n = $[DEFF * N * p(1-p)] / [(d^2 / Z^2 * 1 - \alpha / 2 * (N-1) + p * (1-p))]$

With the following assumptions:

Population size (for finite population correction factor or fpc) (N) = 1000

Hypothesized % frequency of outcome factor in the population (p) = 40% +/- 5

Confidence limits as % of 100 (absolute +/- %) (d) = 5%

Design effect (for cluster surveys-DEFF) = 1

90% zconfidence intervals

The calculated sample size equals 87 women diagnosed with chronic obstructive pulmonary disease.

Tools Validity:

The tools were tested for clarity, relevance, applicability, comprehensiveness, understanding, and ease for implementation by a jury group of seven experts. The group also assessed the validity of the content of the psycho sexual educational health program. The group included one psychiatry experts from the Faculty of Medicine Suez Canal University, one psychiatry expert

from the Faculty of Nursing Suez Canal University, one Psychiatry expert from the Faculty of Nursing Cairo University, and two chest experts from the Faculty of Medicine Zagazig University. The group of COPD women also assessed the validity of the content of the educational program. Minor modifications were applied according to experts' opinions.

Tools reliability:

The reliability of the developed tool used was tested in the pilot through measuring their internal consistency. They demonstrated excellent levels of reliability as follows:

Table (1) COPD Sexual Nature Questionnaire reliability

COPD Sexual Nature Questionnaire	N of Items	Cronbach's Alpha
First domain	15	0.718
Second domain	4	0.847
Third domain	10	0.773

Pilot study

A pilot study was performed on eight COPD women to ensure the clarity, applicability and feasibility of the study tools, and to identify any unforeseen obstacles and

problems. From the pilot study, it was evident that some questions were not clear to the COPD women and these were rephrased; other statements were omitted. The time required for completion of the tools was found to range from 25 to 35 minutes. Those who participated in the pilot study were not included in the sample of the main study

Field work

The field work was carried out in the period from the beginning of September 2019 to the end of February 2020. The researchers collected the data during the morning and 2 days per week. The researcher introduced herself to the medical and nursing staff members in the previously mentioned setting. The nature and the aim of the study were clearly explained. The implementation of the study passed into four phases (interviewing and data collection phase, planning phase, intervention phase: Application of nursing counseling guided by BETTER model, and evaluation phase.

Interviewing and data collection phase:

Women attending the outpatient clinic, Chest institute, Suez Canal University meet the inclusion criteria are recruited by researchers to collect data following

informed consent. According to the data collected, women experienced sexual and psychological problems associated with the diagnosis of COPD were identified.

Planning Phase:

General objective: improvement of women's sexuality, marital satisfaction and psychological status of women after application of nursing counseling guided by BETTER model. At this phase the researchers determine learning contents of the nursing intervention. Appropriate teaching methods were selected such as discussion, role-playing, demonstration and use of simple Arabic language. Educational media such as laptops, videos, pictures and written materials (booklet) are prepared and provided as a mechanism for providing information and facilitating discussion. The researchers also scheduled the hours and frequency of counseling sessions for all selected women to ensure compliance with the selected interventions.

The intervention phase: It included “Application of psycho-sexual educational health program for chronic obstructive pulmonary disease (PSEH-COPDW) women guided by BETTER Model.

The counseling sessions were conducted at study setting. During this

phase, the individual counseling session was given to women. The researchers ensured that the meeting environment was comfortable. Eight counseling sessions were done following BETTER counseling model stages. Two sessions per week and the session lasting 2 hrs. (Quinn and Happell, 2012).

Stage One: Bring up

During this stage, the researchers bring up the topic of sexuality. While some women may feel uncomfortable discussing this topic, bringing the topic up ensures the women knows the researchers is willing to discuss this area, if they ever do want to express their concerns.

Stage Two: Explain

The researchers inform and explain to women that sexuality is a crucial and meaningful aspect of their lives through open discussion with the women. This helps the women to feel less embarrassed and also informs her that sexual problems may have an impact on woman psychological status and marital satisfaction.

Stage Three: Tell

During this stage, the researchers inform women that if intervention was not effective in resolving her problem, then a referral will be made to another professional

who can address the problem

Stage Four: Time

The researchers assure that previously selected scheduled time is suitable for women. If not, the session can bring it up at a later point.

Stage Five: Educate

At this stage the researchers provide education to the women consistent with her needs about the followings:

- Female reproductive system and the components of the sexual response cycle.

- COPD treatment, its potential side effects.

- Measures to enhance sexuality as exercises for improving sexual fitness (such as breathing exercise,,,,,,) and various technical positions during sexual intercourse and using lubricants.

- Measures for managing bad body image perception as wearing attractive clothes, reconstruction of breast makeup and special lingerie.

- Measures for managing and reducing anxiety and stress as using relaxation techniques including breathing exercise, guided imagery and recreation. Also, provide education regarding regular exercise/ walking for at least 30 minutes /

day and diet therapy as high fruit diet.

- Measures for management of COPD treatment side effects dyspnea, including the following: physical activity; performing body range of motion exercise, breathing exercise, diet therapy (high fiber diet, low-fat diet, high vegetables/fruit diet) and mouth care.

Stage Six: Record

At the end of each session the researchers record data obtained and intervention giving to each woman

The evaluation phase:

Post-intervention data collection occurred at the end of the study period. The two tools were measured (COPD Sexual Nature Questionnaire and female sexual function index (FSDI) were measured after application of (PSEH-COPD) women.

Statistical design:

The collected data were organized, tabulated and statistically analyzed using SPSS software, version 22 .For quantitative data, comparison between pre and post intervention was done using Chi-square test (χ^2) and Fisher's Exact Test. Significance was adopted at $p \leq 0.05$.

3. Results

Table 1: Frequency distribution of COPD

women demographic data showed that, the higher percent of study participants, their age ranged from 32 –60 years. Nearly half of study participants (50%) had a secondary level of education.

Table 2: Frequency distribution demographic and health data of COPD women husbands ‘showed that husbands’ mean age was 44.2 ± 8.79 years old with median range (35-65) years old, 13.8% were Chronic diseases, 82.5% of COPD women studied husband’s Initiation of sexual act, and 13.8% took drugs to initiate the sexual act.

Table 3: Health status of studied COPD women showed that dyspnea duration was above 10 years, Majority of the sample had mild and moderate asthma (42.5% & 40% respectively). Asthma before marriage was among 77.5% and 22.5% had late onset of asthma after marriage.

Figure 6: Comparison between pre and post program (PSHE-COPDW) regarding the nature of the sexual intimate relationship shows highly statistically significant differences ($p=0.00$) between all questions between pre and post the program implementation. Intimacy is a source of

happiness was 44% preprogram and increased to 90% post program. Problems found in the intimate relationship preprogram were among 76% and 15% post program. Enjoying their married life was among (21%) of COPD women preprogram, and increased to 83% post the program, 73% cases found the marital relationship frustrated them psychologically preprogram and 16% post program.

Figure 7: Comparison between pre and post (PSHE-COPDW) program regarding COPD women self-perception as a female revealed that there was a highly statistically significant differences at ($p=0.00$) between pre and post program in all questions of the questionnaire. 36% of cases were satisfied with their performance (sexually) preprogram and 91% post program. 24% preprogram knew their body map to reach orgasm during sexual relationship and 79% post program. 30% cases felt confident in themselves during sexual intimacy preprogram and 70% post program. 24% cases prayed to enjoy the husband in the intimate relationship preprogram and 80% post program.

Figure 8: Comparison between pre and post (PSHE-COPDW) program regarding—the

effect of shortness of breath on sexual intimacy showed that there was a statistically significant differences at ($p=0.00$) between pre and post program regarding all elements of the questionnaire. 67% of cases were afraid of shortness of breath during intimacy preprogram and 10% were post program. 24% cases suffered from shortness of breath in certain positions during sexual act preprogram and 89% post-program. 21% of cases practiced positions that are less laborious on breathing and helped enjoyment preprogram and 85% post-program. In the event that she feels uncomfortable breathing, 23% cases reached orgasm with foreplay only preprogram and 83% post program. 23% cases practiced a certain routine before the relationship to overcome the feeling of uncomfortable breathing preprogram and 77% post program. 30% cases practiced deep breathing exercises before having sex to reduce the feeling of uncomfortable breathing during sex preprogram and 84% post program. 31% cases took deep breaths during a relationship helps you overcome the uncomfortable feeling of breathing preprogram and 86% post program. 21% cases felt a psychological and physical comfort is a prerequisite for their sexual act

preprogram and 83% post program .21% cases knew the main reasons that reduced or prevented them from feeling the desire to have an intimate relationship preprogram and 93% post program. 16% cases reported that they knew the main reasons that reduced or prevented them from feeling the desire to have an intimate relationship preprogram and 79% post program.

Figure 11: Overall total score of sexual relation score showed that 11.56 ± 4.82 preprogram and 25.45 ± 5.52 post program that showing the effect of Psycho-Sexual Educational Health program (PSEH-COPDW).

4. Discussion

Chronic Obstructive Pulmonary Disease cause many side effects, problems with body perception and sexual problems. It also, lead to significant emotional distress as sadness or depression, issues related to personal appearance, stigma, and negative effect on personal relationships, intimacy, all of which reduce the quality of life The desire for sexuality and intimacy that are fundamental human needs that continues despite the diagnosis of chronic lung disease. (Magdy et al., 2019).

So, this study aimed at evaluating the effect of Nursing Intervention Model Guided by BETTER Model on Sexuality Satisfaction and Psychological Status among Chronic Obstructive Pulmonary Disease Women.

Regarding demographic data of study participants, the current study results showed that the age of study participants ranged from 32-45 years, more than half of study participants has duration of marriage ranged from 15-35 years, more than of them 67% were housewives and 76% of them had secondary education. This current study results is not agreeable with Kaplan, Alp& Gümüşsoy (2022) found that the mean duration of marriage was 31.74 ± 11.50 that was longer than the duration of our study population that a result of lower levels of sexual satisfaction, and is not agreeable with Mohammed, Mezien, Ali, Sobh& El Mowsfy (2020) and Hamed, Abdelmoniem& Saleh (2022) who aimed to evaluate the effect of supportive nursing care on symptoms severity and QoL for patients with COPD. They found that the majority of the study sample were worker because they conducted their study on greater percentage of males.

According to a recent study, the mean duration score for dyspnea in women with COPD was 14.12 ± 4.9 , which is indicative of their condition's symptoms and their correlation with sexual dysfunction. 40% of the sample had moderate asthma, and nearly half (42.5%) had mild asthma. The majority, or 77.5%, had asthma prior to marriage, whereas 22.5% developed late-onset asthma after marriage. Dyspnea, or shortness of breath, is one of the most prevalent signs of COPD and can significantly lower a patient's quality of life. Women with more acute and protracted dyspnea had a greater frequency of sexual dysfunction, according to the current study, which linked COPD symptoms to sexual dysfunction in women. This finding is consistent with a study by Kahraman, Sen, Koksall, Kiliç, and Resim. (2013) (that found chronic illnesses require a very long period before a patient begins to complain. In a study published in Hemmed et al. (2022), discovered that over half of their sample had both a positive family history of COPD and bronchial asthma as children.

The majority of study participants exhibited decreased desire, decreased arousal, decreased lubrication, sexual

dissatisfaction, and dyspareunia before to intervention, according to the current study's findings about sexual dysfunction pre and post intervention. This result was consistent with Yazdani & Dabiran, (2018) al., (2017), who studied "Sexual dysfunction in COPD females an unresolved Issue" and reported that up to 50% of women with COPD symptoms have sexual dysfunction.

Similar results were reported by Karakas and Aslan (2019), who investigated "Sexual counseling in women with sexual dysfunction: use of the BETTER model" and found that using the BETTER model in sexual counseling improved both sexual satisfaction and function. The developed program PSEH-COPDW helped COPD women to enjoy their sexual life by increasing their self-esteem and decreasing their worries of perceiving themselves as bad partners. The High educational level of both sampled COPD women and their partners along with the PSHE-

Through the COPDW psycho-sexual-educational health program, these patients were able to ask their husband for psychological support in order to overcome intimacy-related issues and to be open and honest with him about the issues that

prevent them from enjoying an intimate connection.

The PSEH-COPDW program was designed to give COPD women who participated a wide range of knowledge about how to set up situations that lessen suffering and boost enjoyment in intimate relationships. It has been demonstrated that implementing a sexual satisfaction-focused nursing program enhances sexual function in females with COPD. According to a Chen and Chen (2018) study, women with COPD experienced increased sexual function after completing a nursing program that includes psychiatric counseling, physical therapy, and instruction on sexual function.

Furthermore, the PSHE-COPDW program enhanced the overall quality of sexual life for COPD participants in the current study. According to a study by Alibek (2019), women with COPD experienced increased sexual function after completing a nursing program that included psychological counseling and education on sexual function. A second study by Jones, Smith, and Brown (2019) discovered a correlation between improved sexual function in women with COPD and a nurse education program that addressed COPD

management.

The current study found that, chi square test showed highly significant improvement at ($p=0.00$) post (PSEH-COPDW) program in all elements of the (COPD Women Sexual Nature Questionnaire) (COPD-WSN). Nearly one third 36% only of the cases were satisfied with their performance (sexually) pre (PSEH-COPDW) program, which increased to include most of the sampled COPD women 91% post program. Pre (PSEH-COPDW) program only one quarter 24% knew their body map for reaching orgasm during sexual relationship, while post program three quarters of the sampled women 79% become knowing their body map. Pre (PSEH-COPDW) program, one-third (30%) of cases reported feeling confident of themselves during an intimate sexual relationship, whereas nearly three-quarters (70%) of cases after the program reported feeling the same way.

The current study found an improvement in marital satisfaction following application (PSEH-COPDW) under the direction of the BETTER model. The information and psychological support received during counseling could be the

reason for the improvement. Similar results were reported by Karakas and Aslan (2019), who investigated "Sexual counseling in women with sexual dysfunction: use of the BETTER model" and found that using the BETTER model in sexual counseling improved both sexual satisfaction and function. After six weeks of counseling intervention, there was an improvement in sexual satisfaction, according to a different study by Young et al. (2019) titled "The effect of a sexual life reframing program on marital intimacy, body image, and sexual function among breast cancer survivors (BCS)". This agreement indicates the positive effect of nursing counseling using better model on sexual functioning on chronic diseases.

The current study found that all variables of the COPD Women Sexual Nature Questionnaire (COPD-WSN) exhibited highly significant improvement at ($p=0.00$) post-PSEH-COPDW training. Prior to the PSEH-COPDW program, around 36% of the cases were satisfied with their sexual performance; this number rose to 91% after the treatment, including the majority of the sampled COPD women. Three quarters of the sampled women (79%) learned their

body map for achieving an orgasm during a sexual relationship after the (PSEH-COPDW) training, compared to just one quarter (24%), who knew it beforehand. In intimate sexual relationships prior to the (PSEH-COPDW) treatment, one-third (30%) of cases reported feeling

A percentage of 24% cases pre (PSEH-COPDW) program interested to please their husbands in the intimate sexual relationship while 80% post program. Given the significant impact that sexual dysfunction can have on women with COPD.

Similarly, Garcia et al., (2016) with his study evaluated a developed nursing program that aimed at improving self-perception in women with COPD. The program consisted of individual counselling sessions, group support, and physical activity. Results of the study showed that the nursing program was effective in improving self-perception and reducing sexual dysfunction in women with COPD.

The current study's findings demonstrated a significant improvement in all areas of the COPD Sexual Nature Questionnaire following the PSEH-COPDW program. Following the PSEH-COPDW

program's instructions for sexual positioning to reduce shortness of breath, COPD women who did so reported a significant decrease in their fear of experiencing dyspnea during sexual activity, which improved the quality of their relationships. According to the program's implemented results, there was a decrease in dyspnea during sexual relations in specific positions. This finding inspired women with COPD to experiment with alternative positions that promote enjoyment and are easier on the breathing, as suggested by the PSEH-COPDW program. They were able to get past the uncomfortable breathing sensation and experience an orgasm during foreplay alone.

Ultimately, the current study's findings demonstrated that women who participated in the PSEH-COPDW program, which is directed by the BETTER model, saw improvements in their psychological well-being, marital satisfaction, and sexuality following the intervention. This increase in psychological state, marital satisfaction, and sexual function could be attributed to knowledge, assistance, and direction received from the PSEH-COPDW nursing intervention, which is based on the BETTER counseling paradigm.

5. Conclusion:

The study concluded that, a psychosexual educational nursing program known as the "Psychosexual Educational Health Program for COPD Women (PSEH-COPDW) program" has helped women with COPD who were previously unaware of the disease and its treatments, had fewer sexual health issues, and had better overall physical health. The Psycho-Sexual Educational Health program (PSEH-COPDW) significantly improved the psychological well-being, marital satisfaction, and sexuality of women with COPD.

Our research indicates that the PSEH-COPDW program significantly improves the sexual health of women with COPD by enhancing their self-esteem, motivation to discuss their sexual concerns in a comfortable way, and awareness of their health state and self-perception. In addition to treating the illness, the PSEH-COPDW program offers these women emotional and educational assistance to lessen dyspnea and dyspnea-related symptoms, ultimately improving their quality of life.

6. Recommendations

Based on the study findings, the following recommendations are proposed:

- Adopt Psycho-Sexual Educational Health program for COPD women (PSEH-COPDW) for management of sexual dysfunction and psychological problems in chest institutions.
- Ongoing education for chest nurses on the impact of COPD on women's sexuality and psychological status, as well

as strategies to address women's sexual and psychological problems.

- Dissemination of this health educational program to other Chest hospitals in Egypt and elsewhere for further confirmation of the findings and improvement on the program.
- Involvement of COPD men patients in PSEH-COPD patients;

Table 1: Frequency distribution of COPD women demographic data (N=80)

Age	N	%	
- 18-31	16	20	
- 32-45	56	70	
- 46-60	8	10	
	Mean± SD	45.00 ± 6.25	
	Median (Range)	48.5 (35-60)	
BMI	Mean± SD	24.62±2.71	
	Median (Range)	24.0 (20-27)	
Duration of marriage	Mean± SD	27.10±6.70	
	Median (Range)	25 (15-35)	
Oldest off spring	Mean± SD	22.76±7.7	
	Median (Range)	25 (8-33)	
Women demographic data		N	%
Education	Primary	15	18.75
	Secondary	40	50.0
	High	25	31.25
Occupational status	Not working	54	67.5
	Working	26	32.5
living condition	Shared	26	32.5
	Independent	54	67.5
Another wife	No	76	95.0
	Yes	4	5.0

Offspring	No	24	30.0
	Yes	56	70.0

Table 2: Frequency distribution demographic and health data of COPD women husbands' (N=80).

Husband age	N	%	
- 18-31	16	20	
- 32-45	32	40	
- 46 and above	32	40	
	Mean± SD	55±7.5	
	Median (Range)	50 (35-65)	
Husbands' demographic and health data		N	%
Husband education	Primary	4	5.0
	Secondary	17	21.3
	High	59	73.8
Husband Occupation	Farmer	10	12.5
	Worker	6	7.5
	Employee	34	42.5
	Professional	30	37.5
Income	Not enough	6	7.5
	Enough	69	86.3
	Enough and more	5	6.3
Chronic diseases	No	69	86.3
	Yes	11	13.8
Initiating sex act	No	14	17.5
	Yes	66	82.5
Using sexual drugs stimuli	No	69	86.3
	Yes	11	13.8

Table 3: Health status of studied COPD women (n=80)

Duration of Dyspnea (years)	N	%

- below 5	10	12	
- 5-10	30	37	
- above 10	40	50	
	Mean± SD	14.12±4.9	
	Median (Range)	15.0 (5-28)	
	N	%	
Dyspnea Severity	Mild	34	42.5
	Moderate	32	40.0
	Sever	14	17.5
Asthma onset	Before marriage	62	77.5
	late marriage onset	18	22.5

figure (1) Comparison between pre and post program (PSHE-COPDW) regarding the nature of the sexual intimate relationship (n=80)

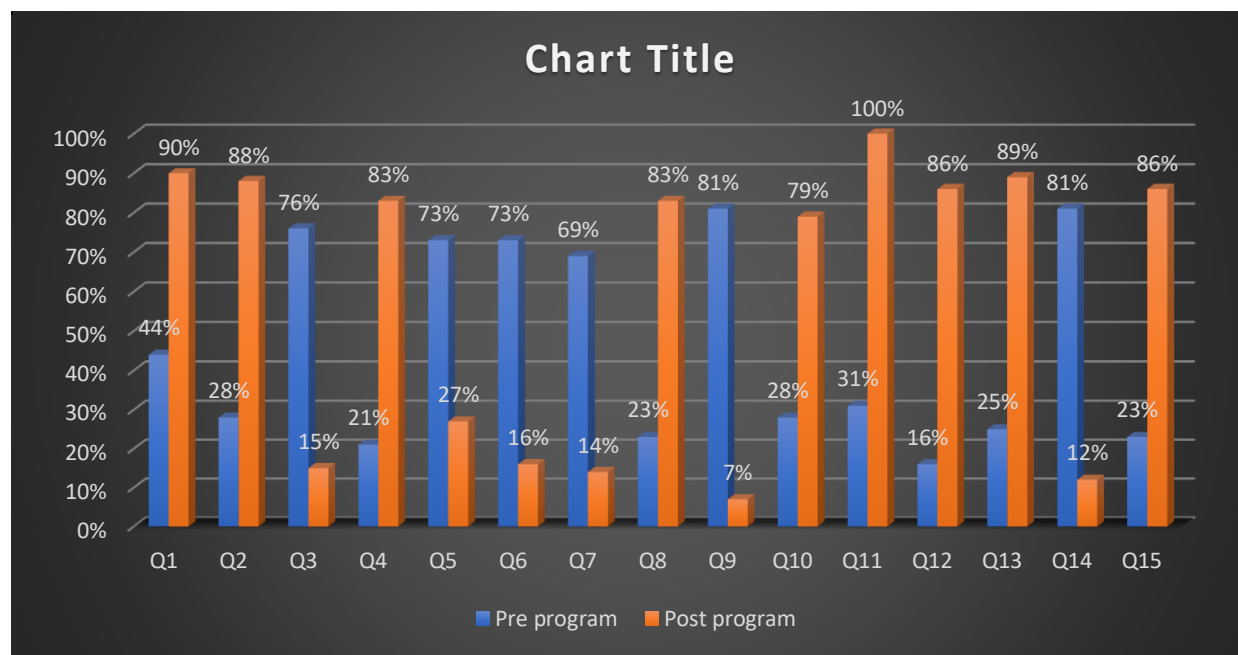


Figure (2): Comparison between pre and post (PSHE-COPDW) program regarding COPD women self-perception as a female

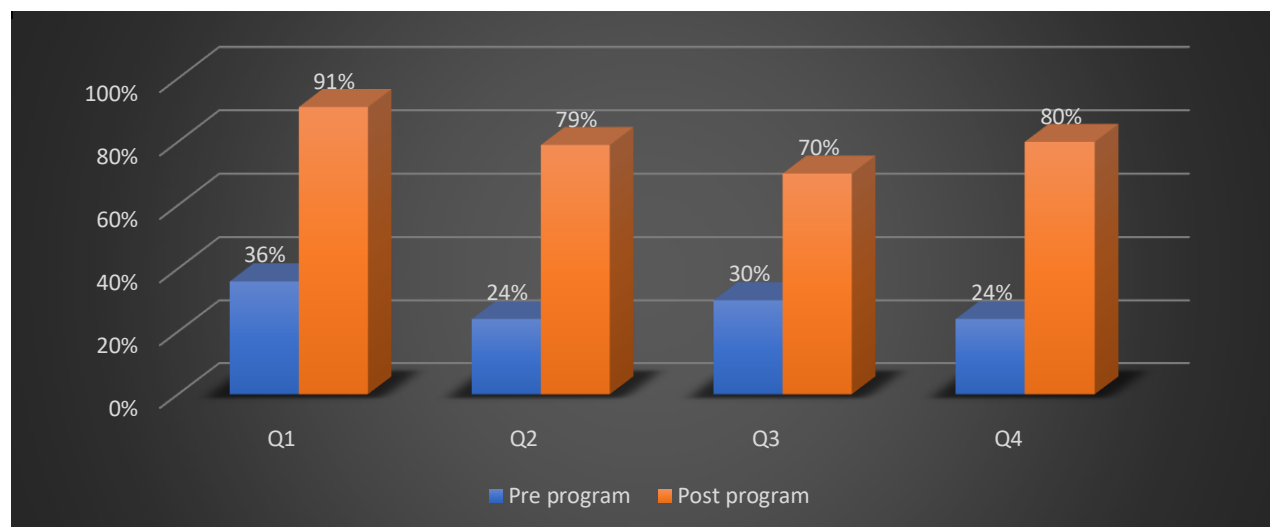


Figure (3): Comparison between pre and post (PSHE-COPDW) program regarding the effect of shortness of breath on intimacy.

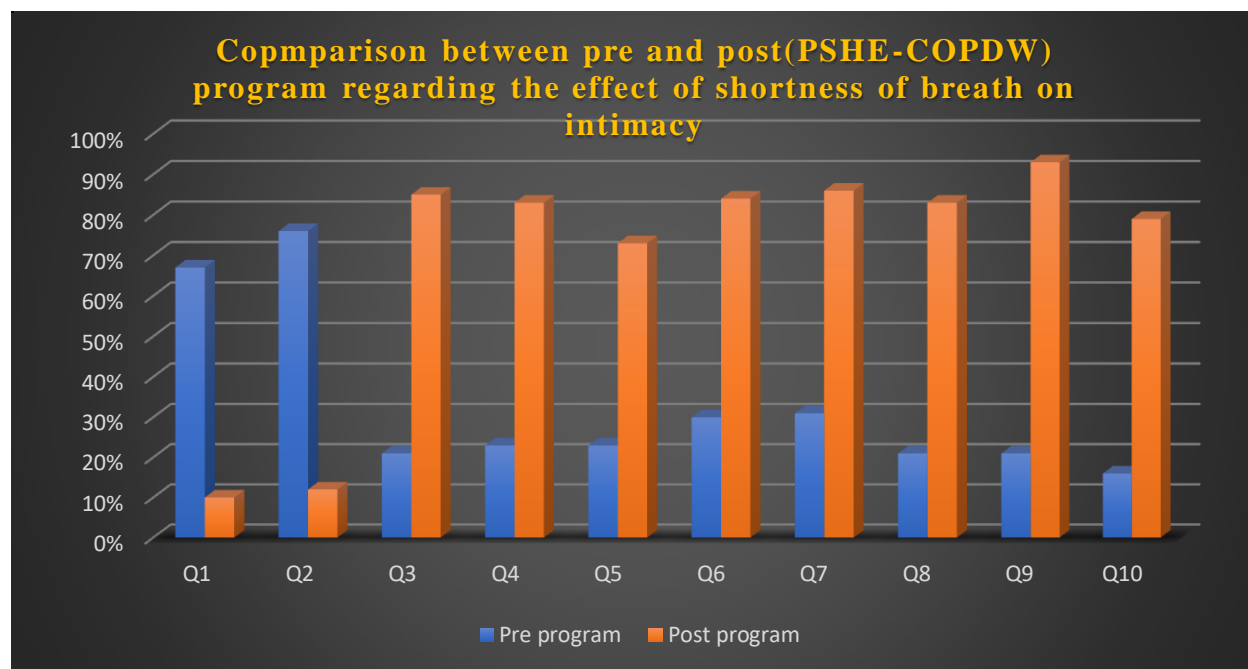
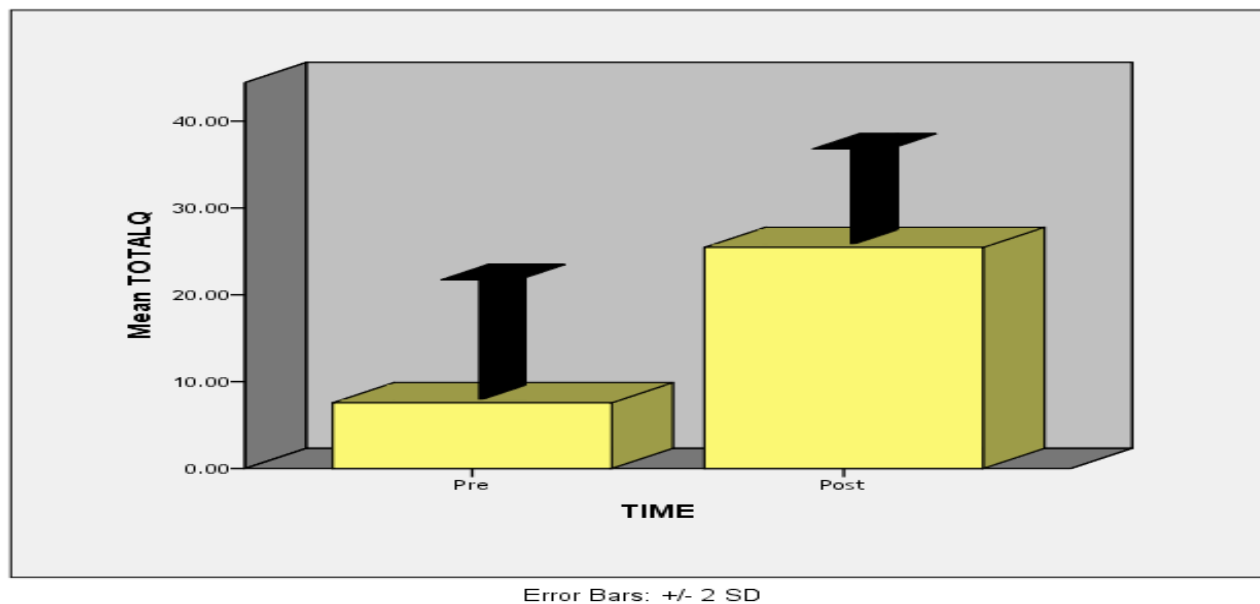


Table 4: Comparison between pre and post program regarding total mean scores of (PSEH-COPDW) domains (N=80).

	Pre	Post	Paired t	P Value
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Total Mean score of natural of the intimate sexual relation	5.8±2.12	13.52±3.31	16.635	0.00**
Total Mean score of women self-perception as a female	2.13±0.75	3.35±0.89	10.921	0.00**
Total Mean score of impact of shortness of breath on sexual intimacy	4.42±1.46	8.67±1.92	17.132	0.00**
Overall total	11.56±4.82	25.45±5.52	18.043	0.00**

Figure (4): The overall total score of sexual relation pre and post (PSHE-COPDW) program



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