

Research Article

Women's Chronic Pelvic Pain, Quality of Life and Sexual Health: A Self-Care Instructional Guideline

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Abstract: Background: Chronic pelvic pain (CPP) is one of the most common gynecological disorders that negatively affect quality of woman's life and sexual health. Well understanding of CPP in the perspective of care to those women and involving those vulnerable women in caring themselves is highly required. **Aim:** the present study aimed to evaluate the effect of self-care instructional guideline on quality of life and sexual health among chronic pelvic pain women. **Setting:** the current study was conducted at the outpatient gynecological clinic at Benha University Hospital. **Research Design:** A Quasi-experimental design was used. **Sample:** Purposive sample included 133 women diagnosed with chronic pelvic pain. **Tools:** Six tools were utilized for data collection; A structured interviewing questionnaire, knowledge assessment sheet, self-care practice assessment, pelvic pain severity assessment tool, quality of life and sexual health assessment tools. **Results:** the present study revealed a highly statistical significant improvement knowledge mean score increased from 11.69 to 36.13 at post intervention. In addition self-care practice was satisfactory improved, as practice mean score was increased from 12.89 to 29.59 at post intervention phase which subsequently affect improvement of both studied women quality of life and sexual health. **Conclusion:** Self-care instructional guideline is effectively improving quality of life and sexual health among women with chronic pelvic pain **Recommendation:** self-care instructional guideline regarding management of chronic pelvic pain should be considered for chronic pelvic pain women during treatment.

Keywords: Self-care, instructional Guideline, quality of life, sexual health, chronic pelvic pain.

INTRODUCTION

Chronic pelvic pain (CPP) can be demarcated as nonmalignant pain occurs mainly in structures connected to the pelvis and can be displayed as intermittent (come and go) or constant pain in the lower abdomen or pelvis for a minimal duration of six months, and not entirely occur with menstruation or intercourse. Moreover, CPP may occur while urinating, or during sex (American College of Obstetricians and Gynecologists. 2019). It is caused by various causes, some causes may be related to gynecological disorders and other causes including urinary tract, gastrointestinal, neuromuscular or psychological. On the other hand, this pain may be occurred related to several causes or sometimes without any cause (Singh, 2018).

Estimating the prevalence of chronic pelvic pain ranged from 15–25% of adult females worldwide. Prevalence varied by ethnicity and age as other studies estimated the range to be from 4% to 40%. Actually the prevalence of CPP is challenging owing to lack of agreement in the clarity of CPP definition among health care providers and limiting of medical seeking care among women vulnerable with this condition. Chronic pelvic pain may represent 10% of indications for hysterectomy, in addition, it is the reason for 20–30% of all laparoscopies in adults. American College of Obstetricians and Gynecologists (2019) & (Helen *et al.*, 2016). In spite of the variance in the prevalence of CPP among women, still limited guidelines and few expert medical practitioners are accessible to manage the complex range of symptoms related CPP. (Sandhu and Tu, 2017) In Egypt, a recent systematic review study

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done by Alebtekin (2014) emphasized that the prevalence rate of CPP are ranging between 5.7% to 26.6%, this percent including countries as Ghana, Egypt, Austria, Australia and Brazil, these countries seldom published population-based studies concerning the prevalence of CPP.

Previous studies have established that those women who encountered with chronic pelvic pain were mostly in mid-thirties which may be related to the hormonal changes during the reproductive years, the more active sexual activity and fertility during these ages and this common problem may have a devastating effect on their quality of life that prejudice them to physical, psychological and social problems. Kevser *et al.*, (2015)

Quality of life (QOL) can be defined as a subjective feeling that woman's life is changing entirely for the better and also can be described as how woman perceives her state within the culture and value system. Several studies indicated that chronic pelvic pain is negatively affecting woman's QoL, with a great worse effect on their physical abilities, psychosocial state and sexual function. Most of those affected women perceive their chronic pelvic pain as persistent and devastating, and the most miserable aspect is that it impends their capability to practice normal and usual activities, feel powerless, and unfortunately they fight to recognize the real cause and the underlying pathology behind this pain (Ozdemir, 2015).

The nurse has a pivotal role to encounter the vulnerable women complain of chronic pelvic pain and equip them with the self-care needs, facilitate and increase the self-care abilities to perform self-care activities. Self-care is a new and imperative approach to women's health constitutes health promotion and health protection throughout their life span. Women's care now receives total assessment, planning, treatment, education, counseling and support from nurse. Furthermore, nurse promotes comfort, provide patient teaching and equips the women with the necessary information in order to recognize the signs and symptoms of urinary tract infection to facilitate early detection and treatment of future infection that may lead to or aggravate pelvic pain (Ahmed, 2015).

Significance of the Research:

Chronic pelvic pain (CPP) has a great challenge to health care professionals as it is poorly understood and accordingly, poorly managed owing to its wide symptomatology in terms of its unclear etiology, multifaceted history, and consequently poor response to therapy. Unfortunately it has a negative effect on millions of people across the world as it affects many aspects of a woman's life, including but not limited to her ability to complete minor tasks of the usual daily activities to the extent that affects her sexual functioning, and emotional well-being (Yosef A, 2016).

Although a range of new medical and surgical treatments are available, they are often ineffective. Therefore, using educational approach and involving women in caring themselves is too important to improve the lives of individuals living with CPP and to help them to cope with their pain. Therefore the present study was conducted to increase women's knowledge regarding CPP and improving their QOL (Fishbain *et al.*, 2015).

Aim of the research

The aim of the current study was to evaluate the effect of self-care instructional guideline on quality of life and sexual health among chronic pelvic pain women.

Research Objectives:

1. Assess effect of self-care instructional guideline on knowledge, self-care practice, pelvic pain, sexual health, quality of life among women with CPP.
2. Validate the designed self-care instructional guideline for women with chronic pelvic pain.
3. Evaluate effect of self-care instructional guideline on knowledge, self-care practice, pelvic pain, sexual health, quality of life among women with CPP.

Research Hypothesis:

H0. Self-care instructional guideline doesn't exhibit improvement in knowledge, self-care practice, quality of life and sexual health among women with chronic pelvic pain.

H1. Self-care instructional guideline displays improvement in knowledge and self-care practice among women with chronic pelvic pain.

H2. Self-care instructional guideline exhibits reduction in severity of pelvic pain among women with chronic pelvic pain.

SUBJECTS AND METHOD

Research Design

A quasi-experimental research design was used (time series design) pre/post-test, one group was studied to achieve the aim of the current study.

Setting

This research was conducted at Obstetrics & Gynecological outpatient clinic affiliated to Benha University Hospital. This clinic provides Gynecologic services, family planning and counseling. Outpatient clinic started from 9 am. to 12 pm. and care at this clinic provided 3 day per week (Sunday, Tuesday, Thursday).

Sampling:

A purposive sample of (133) women out of total 200 women diagnosed with chronic pelvic pain among those attending the above mentioned setting for a period of six months.

Inclusion criteria:

Eligible women with constant or intermittent pelvic pain, free from any medical and gynecological disorders, able to read and write and approved to participate were included in the study.

Sample:

The sample size was calculated based on previous six months census report of outpatient clinic affiliated at obstetrics and gynecology department at Benha University Hospital, where total number of women with chronic pelvic pain, who admitted to the previous setting (200)/ half a year. Sample size was calculated utilizing the following formula.

n =	N
	$1+N(e^2)$

Where:

n= sample size (133)

N= total population number (200).

e= margin error (0.05)

Tools of Data Collection

Data were collected through six main tools.

Tool I: A structured Self-administered Questionnaire:

It was designed by the researchers after reviewing related literature and was written in simple Arabic language. It was consisted of three parts:

Part 1: Personal characteristics of women, it consisted of age, residence, level of education, marital status, and BMI (weight (kg)/ height² (m).

Part 2: Obstetrical and menstrual history of women, it included gravidity, parity, methods of contraception, menstrual flow etc

Part 3: Characteristics of pelvic pain, it consisted of site, severity and continuity of pain.

Tool II: Women's Knowledge Questionnaire

Maternal knowledge questionnaire was designed and translated into Arabic language by the researchers after reviewing the related literatures. The 38- close-ended items questionnaire designed to measure women's knowledge regarding chronic pelvic pain (CPP) and consisted of (6) sections. Section (1) general knowledge regarding definition of pelvic pain (3 items), section (2) signs and symptoms of CPP (8 items), section (3) knowledge about risk factors of CPP (7 items), section (4) knowledge about complication of CPP (5 items), section (5) knowledge about treatment of CPP (8 items), and section (6) knowledge about healthy practice for reducing CPP (7 items).

Scoring system

Each item was assigned a score of (1) given when the answer was correct, a score (0) was given when the answer was incorrect or (I don't know). In addition, women's total knowledge score was converted into total percent and graded as the following:

- Poor < 60% of the total score.
- Average 60% < 75% of the total score.
- Good refers 75% -100% of the total score.

Tool III: This tool was designed by the researchers after reviewing the related literatures to assess women's healthy practice that reduce pelvic pain, including nutritional practice (12 items), hygienic practice (12 items), and (physical activity practice items). For each item a Likert scale of three points was used, as (0) for never done, (1) for sometimes done and (2) for usually done. The total possible score ranged from (0 to 64 marks) and means and standard deviations were calculated. The higher scores reflect higher healthy practice of women.

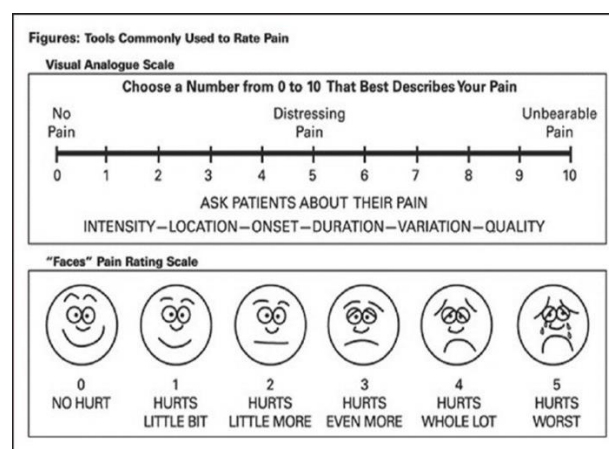
The total practice score was calculated as the following:

Satisfactory practice: ≥ 60% of total recorded healthy practice score.

Unsatisfactory practice: < 60% of total recorded healthy practice score.

Tool IV: Visual Analogical Scale (VAS) for pain severity: (pre- posttest)

This tool was adopted from (*Carroll & Browsher 2000*) to assess severity of pain. It can be used to monitor the pain over time and to determine the effectiveness of any intervention. It is a standard tool with ratings from 0 to 10 for evaluating severity of pain. 0 means no pain, 1- < 4 means mild pain, 4- <7 means moderate pain and 7-10 means severe pain in this scale. Women were instructed on how to use the scale.



Carroll and Browsher (2000)

Tool V: Quality of life questionnaire: (pre- posttest)

It was used to evaluate the quality of life of the studied women; it was adopted by *Feng Yet la (2015)*. The scale included 5 dimensions (mobility, self-care, usual activity, pain, discomfort and anxiety & depression). Each dimension in the EQ-5D-5L has five response levels: no problems score as (5); slight (4); moderate (3); severe (2); and extreme problems (1).

Scoring system

Total quality of life was scored by the researcher as

- High >75% of total scale score
- Moderate 60-75% of total scale score
- Low quality <60% of total scale score

Tool VI: Modified Female Sexual Function Index (FSFI): (pre- posttest)

The Female Sexual Function Index (FSFI), it was adapted from Rozen, *et al.*, (2000). It is a 19-item questionnaire, has been slightly modified by the researchers for its scoring system. It provides scores on six domains of sexual function (desire, arousal, lubrication, orgasm, satisfaction, and pain) as well as a total score.

Scoring system

Total score for every domain:

Domains of sexual function	Questions	Score Range	Minimum Score	Maximum Score
Desire	1, 2	1 – 5	2	10
Arousal	3, 4, 5, 6	0 – 5	0	20
Lubrication	7, 8, 9, 10	0 – 5	0	20
Orgasm	11, 12, 13	0 – 5	0	15
Satisfaction	14, 15, 16	0 (or 1) – 5	2	15
Pain	17, 18, 19	0 – 5	0	15
Full Scale Score Range			4	95

Total sexual health was scored by the researcher as

- Better health >75% of total scale score
- Much the same 60-75% of total scale score
- Worse <60% of total scale score

Validity

The tools of data collection were submitted to a panel of five nursing experts in the field of obstetrics and gynecology to test the content validity, modification were carried out according to the panel' judgments on clarity of sentences and the appropriateness of content. The result of content validity index (CVI) delineated strongly accepting tools, it measured (0.87). In addition, the content of self-care instructional guideline was reviewed by the panel of expertise in maternity nursing and Obstetrics & Gynaecology medicine and they approved and validated its contents.

Reliability

The reliability was done by Cronbach's Alpha test which revealed that each of the five tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool, it was (0.86) for knowledge tool, (0.854) for practice tool, (0.945) for visual analog scale, (0.879) for quality of life tool and (0.894) for female sexual function index .

Ethical Considerations

An official permission was granted from director of Benha University Hospital, to facilitate data collection process. Written Informed consents were obtained from women before data collection and after explaining the purpose of the research. Anonymity was assured as the filled questionnaire sheets were given a code number. The researchers informed women that the information obtained will be confidential. The research maneuvers do not entail any harmful effects on participants. The women who participated in the research were informed about having the right to withdraw at any time without giving any reason.

A Pilot Study:

The pilot study was carried out on 10% of the total sample (13 women) which was taken in 10 % of the estimated total duration to collect the data (18 days). It is mainly established to test the simplicity, clarity and applicability, ascertain the relevance and content validity of the tools, detect any problem unusual to the statements such as sequence and clarity that might interfere with the process of data collection as well as estimation of the time needed to fill the questionnaire. According to the results of the pilot study, the tools were clear and applicable, relevant and valid; however, few words were modified and no problem interfered with the process of data collection. Following this pilot study the tools were made ready for use. Women involved in the pilot excluded from the study to avoid contamination of the sample.

Field Work:

Data of the current study was collected during a period of 6 months from the beginning October 2018 and completed at the end of March, 2019 covering six months. The researcher visited the previously mentioned setting three days/week (Sunday, Tuesday, Thursday), from 9.00 am to 12.00 pm. To fulfill the aim of this research, the following phases were adopted, preparatory phase, interviewing and assessment phase, planning phase, implementation of the self-care instructional guideline phase and evaluation phase.

A-Preparatory phase:

The researchers conducted this phase through reviewing local and international related literature concerning the various aspects of the research problem. This phase helped the researchers to be familiar with the seriousness of the problem, and the researchers be

directed by ample information help them to prepare adequately the required data collection tools.

B-Interviewing and assessment phase:

In this phase the researcher interviewed the women to collect baseline data. At the beginning of the interview, the researchers welcomed the participating women, introduced her to them, explained the purpose of the research and familiarized them with all information about the research (purpose, duration, and activities) and obtained their oral consent to participate in the research. Data were collected by the researchers through administration of the sixth tools. Average time for the completion of each woman interview was around (35-45 minutes) divided as (10 minutes) for tool I, (15 minutes) for tool II, (5-10 minutes) for tool III and (10-15 minutes) for tool VI. A number of interviewed women per week ranged from (3-5) women. The data obtained during this phase constituted the base line for further comparison to evaluate the effect of the instructional package.

C- Planning phase:

Based on results obtained from study group during assessment phase, the self-care instructional guideline was developed by the researchers in a form of printed Arabic booklet to satisfy the studied women's deficit knowledge regarding CPP and to improve their quality of life and sexual health. Sessions number and contents, different methods of teaching, and instructional media were determined accordingly to studied women. Objectives of instructional package were constructed and included the following:

General Objectives aimed to equip the study subjects with the essential required knowledge and self-care practice concerning CPP that subsequently improve their quality of life and sexual health.

Specific Objectives aimed to familiarize the study subjects with abundant information concerning chronic pelvic pain in terms of; its definition, prevalence, signs and symptoms, characteristics, causes, its complications, etc....

D-Implementation of the instructional package phase:

Implementation of the self-care instructional guideline took (24) weeks period. Data were collected 3 days /week by the researchers. The women were gathered in the waiting room of outpatient clinic. Women in the studied sample received routine care and treatment by hospital staff, the self-care instructional guideline was provided through four scheduled sessions (3 sessions/week). These sessions were repeated to each subgroup of (3-5) women. Each session took about 45-60 minutes. The researchers telephoned women to remind them of the group appointment. At the beginning of the first session women were oriented with the self-care guideline contents. During different

session the studied women were instructed regarding healthy diet including decrease salty, increase fluid intake, and decrease spicy food. Regarding hygienic care, women were instructed about perineal care, menstrual hygiene and how to keep perineal area clean and dry. Concerning physical activity women were instructed to practice exercise and avoid stress that precipitate the pelvic pain to become worse. An illustrative pictures concerning the different practice that should be adopted by those with CPP were portrayed to them during the educational interactive sessions and further handed to them in the booklet to be reminded constantly. At the end of the session each woman was informed about the time of the next sessions. The subsequent session started by a feedback about the previous session and the objectives of the new session, simple Arabic language was used to suit women' level of understanding. At the end of each session, women' questions were discussed to correct any misunderstanding.

E- Evaluation phase:

The effectiveness of the self-care instructional guideline was evaluated one month after implementation using the same format of tools, which used before implementation of the instructional package for studied women.

III- Statistical Design:

Data analysis was performed using IBM SPSS statistical software version 22. The data were explored. Descriptive statistics was used for continuous variables [mean and standard deviation (SD)] and frequency for categorical variables. Qualitative variables were compared using chi square test (χ^2) as the test of significance, paired (t) test was used to compare mean score between pre and post intervention for the same group respectively. Correlation coefficient (r) Pearson was used to evaluate association between studied variables. A significant level value was considered when p -value ≤ 0.05 .

IV.Results

Table (1): shows that, the highest percentage (44.4%) of the studied women was aged (25-35) years, with mean of 28.87 ± 6.98 (52.6%) of them had secondary education. In addition it was observed that, more than half (61.7%) of the studied sample was housewives. Concerning residence, slightly more than half (51.9%) of them resided in urban setting. Moreover, the majority of the studied women were overweight and obese.

Concerning the obstetric and menstrual history of the studied women. **Table (2)** illustrates that, more than two thirds of them had a (3-4 times) of pregnancy and labor, more than three fourths (78.2%) of them had a cesarean delivery. In addition, 82.0% of them had sexual health problems. With nearly half had excessive amount of menstrual blood flow and irregular

menstruation (51.1% & 54.1%), and approximately one-half (48.9%) of them had intrauterine contraceptive device.

Table (3) indicates that, (72.2%) of the studied women had a bilateral pelvic pain, (67.7%) of them had a severe pain, (48.8%) of them had a superficial and deep pain, (44.4%) had continues pelvic pain.

Table (4): reveals that, there was a highly statistical significant difference between mean scores of pelvic pain related knowledge among the studied women at pre-intervention & post-intervention phases ($p < 0.001^{**}$).

Figure (1) portrays that (62.4 %) of studied women had a good level of knowledge at post-intervention phase.

Table (5): reveals a highly statistical significant difference between mean scores of chronic pelvic pain related healthy practices among the studied women at pre-intervention & post-intervention phases ($p < 0.001^{**}$).

Figure (2): illustrates distribution of total healthy practices score of the studied women regarding chronic pelvic pain at pre-intervention & post-intervention phases. It was indicated that 78.9 % of studied women had unsatisfactory healthy practices at pre-intervention phase. As compared to 74.4 % of studied women had a satisfactory healthy practices at post-intervention phase.

Table (6) reveals a highly statistically significant difference between chronic pelvic pain severity score among the studied women at pre-intervention & post-intervention phases ($p < 0.001$).

Table (7) indicates a highly statistically significant difference between mean scores quality of life among the studied women at pre-intervention & post-intervention phases ($p < 0.001$).

Figure (3): illustrates that (55.6%) of the studied women had a high quality of life at post intervention phase.

Table (8) portrays a highly statistically significant difference between mean scores of female sexual function index (FSFI) among the studied women at pre-intervention & post-intervention phases ($p < 0.001$).

Figure (4) delineates that the majority of studied women (83.5%) had worse sexual function at pre-intervention phase. While, more than three quarters (75.2 %) of them had a better sexual function at post-intervention phase.

Table (9) indicates a positive association between studied women total quality of life score and sexual health and their knowledge and practice score at the pre-intervention phase, also there was a highly positive association between studied nurses total quality of life score and their knowledge and practice score at the post-intervention phase. However, on other hand there was a highly negative association between severity of pelvic pain and their knowledge and self-care practice at post intervention phase.

Table (1): Personnel characteristics of the studied women (N=133)

Personnel characteristics	No	%
Age in years		
<25 years	20	15.0
25-<35	59	44.4
35-<45	54	40.6
Mean \pmSD	28.8677 \pm 6.98741	
Educational level		
Read and write	16	12.0
Secondary education	70	52.6
University education	47	35.3
Residence		
Rural	64	48.1
Urban	69	51.9
Occupation		
Yes	51	38.3
No	82	61.7
BMI		
Normal body weight	13	9.8
Over weight	31	23.3
Obese	89	66.9

Table (2): obstetric history of the studied women (N=133)

Obstetric history	No	%
Gravida		
1-2 times	24	18.0
3-4 times	83	62.4
>4 times	26	19.6
Parity		
1-2 times	28	21.1
3-4 times	91	68.4
>4 times	14	10.5
Mode of previous delivery		
Normal vaginal delivery	29	21.8
Cesarean delivery	104	78.2
Sexual health problems		
Yes	109	82.0
No	24	18.0
Duration of menstrual flow		
1-3 days	12	9.0
4-7 days	77	57.9
> 7 days	44	33.1
Amount of menstruation		
Normal	61	45.9
Excessive	72	54.1
Regularity of menstrual cycle		
Regular	65	48.9
Irregular	68	51.1
Contraceptive Methods:		
Intrauterine Device	65	48.9
Hormonal	49	36.8
Chemical	12	9.0
Natural	7	5.3

Table (3): Characteristics of pelvic pain among studied women (N=133)

Pain characteristics	No	%
Site of pain		
Unilateral	37	27.8
Bilateral	96	72.2
Severity of pain		
Mild	0	0.0%
Moderate	38	28.6%
Sever	95	71.4%
Nature of pain		
Superficial	5	3.8
Deep	63	47.4
Both	65	48.8
Continuity of pain		
Continuous	59	44.4
Interrupted	56	42.1
Temporary	18	13.5

Table (4): Mean score of pelvic related knowledge among the studied women (N= 133)

Knowledge	No of items	Pre-intervention	Post intervention	Paired t-test	P value
		Mean ±SD	Mean ±SD		
Definition of chronic pelvic pain	3	1.1278±.63262	2.6316±.55696	-18.891	<00.001**
Signs and symptoms of chronic pelvic pain	8	1.4962±1.11887	7.4436±.91630	-44.008	<00.001**
Risk factors of chronic pelvic pain	7	1.8647±1.17281	6.7143±.59761	-40.722	<00.001**
Complication of chronic pelvic pain	5	1.9323±1.20098	4.8947±.37463	-27.427	<00.001**
Treatment of chronic pelvic pain	8	3.1128±1.44418	7.7594±.42906	-35.059	<00.001**
Healthy practice for reducing chronic pelvic pain	7	2.1579±1.13379	6.6917±.46352	-41.152	<00.001**
Total knowledge	38	11.6917±4.96836	36.1353±2.66794	-46.627	<00.001**

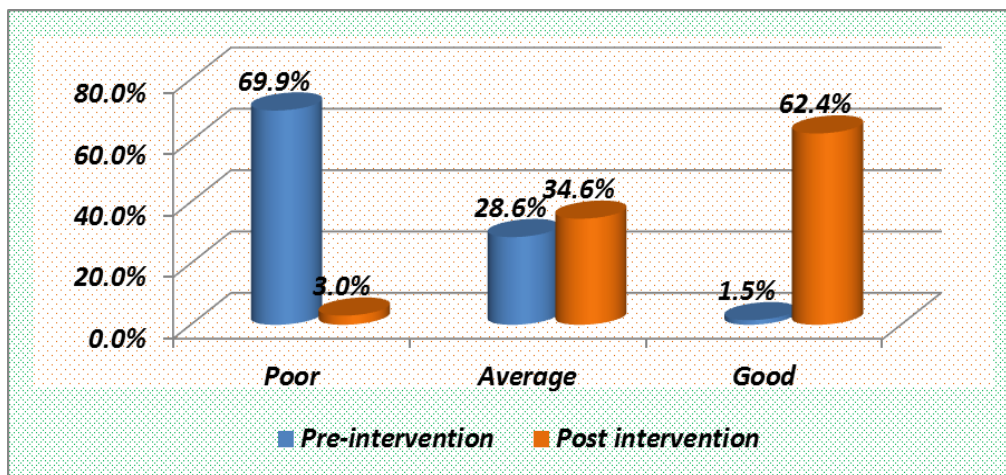


Figure (1): Distribution of chronic pelvic pain total knowledge score among the studied women (N=133)

Table (5): Mean score of pelvic pain related healthy practice among the studied women (N= 133)

Healthy Practice	Score	Pre-intervention	Post intervention	Paired t test	P value
		Mean ±SD	Mean ±SD		
Nutritional healthy practice (6 items)	12	5.8647±2.09177	10.3534±.67639	-22.922	<00.001**
Hygienic practice (6 items)	12	5.1729±3.10061	11.6541±.75924	-22.621	<00.001**
Physical healthy practice (4 items)	8	1.8571±1.44675	7.6391±.77203	-44.181	<00.001**
Total practice (16 items)	32	12.8947±5.60339	29.5940±1.01532	-34.598	<00.001**

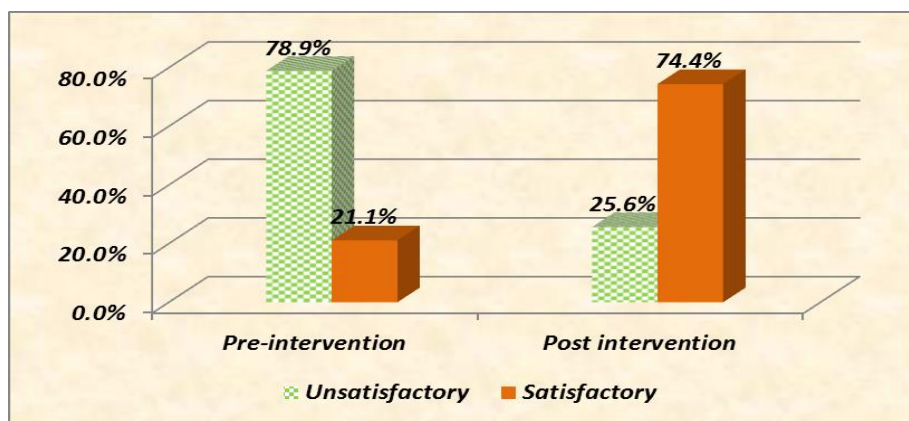


Figure (2): Distribution of pelvic pain self-care total practice score among the studied women (N=133)

Table (6): Severity of pelvic pain among the studied women (N= 133)

Variable	Score	Pre-intervention		Post intervention		Chi square test	P value
		No	%	No	%		
Severity of pelvic pain	Mild	0	0.0%	82	61.7%	172.55	<0.001**
	Moderate	38	28.6%	49	36.8%		
	Sever	95	71.4%	2	1.5%		

Table (7): Mean score of quality of life among the studied women (N= 133)

Quality domains	Score	Pre-intervention		Post intervention		P value	Chi square test
		No	%	No	%		
(physical activity) mobility	I have no problems in walking	0	0.0%	55	41.4%	182.39	<0.001**
	I have slight problems in walking	5	3.8%	47	35.3%		
	I have moderate problems in walking	17	12.8%	24	18.0%		
	I have severe problems in walking	79	59.4%	7	5.3%		
	I am unable to walk	32	24.1%	0	0.0%		
Self-Care	I have no problems washing or dressing myself	0	0.0%	54	40.6%	204.22	<0.001**
	I have slight problems washing or dressing myself	0	0.0%	49	36.8%		
	I have moderate problems washing or dressing myself	21	15.8%	26	19.5%		
	I have severe problems washing or dressing myself	89	66.9%	4	3.0%		
	I am unable to wash or dress myself	23	17.3%	0	0.0%		
Usual Activities	I have no problems doing my usual activities	0	0.0%	62	46.6%	221.57	<0.001**
	I have slight problems doing my usual activities	0	0.0%	42	31.6%		
	I have moderate problems doing my usual activities	18	13.5%	29	21.8%		
	I have severe problems doing my usual activities	86	64.7%	0	0.0%		
	I am unable to do my usual activities	29	21.8%	0	0.0%		
Pain/Discomfort	I have no pain or discomfort	0	0.0%	54	40.6%	236.00	<0.001**
	I have slight pain or discomfort	0	0.0%	64	48.1%		
	I have moderate pain or discomfort	15	11.3%	15	11.3%		
	I have severe pain or discomfort	90	67.7%	0	0.0%		
	I have extreme pain or discomfort	28	21.1%	0	0.0%		
Anxiety/Depression	I am not anxious or depressed	0	0.0%	58	43.6%	245.53	<0.001**
	I am slightly anxious or depressed	0	0.0%	56	42.1%		
	I am moderately anxious or depressed	7	5.3%	19	14.3%		
	I am severely anxious or depressed	98	73.7%	0	0.0%		
	I am extremely anxious or depressed	28	21.1%	0	0.0%		

P < 0.001** highly statistical difference

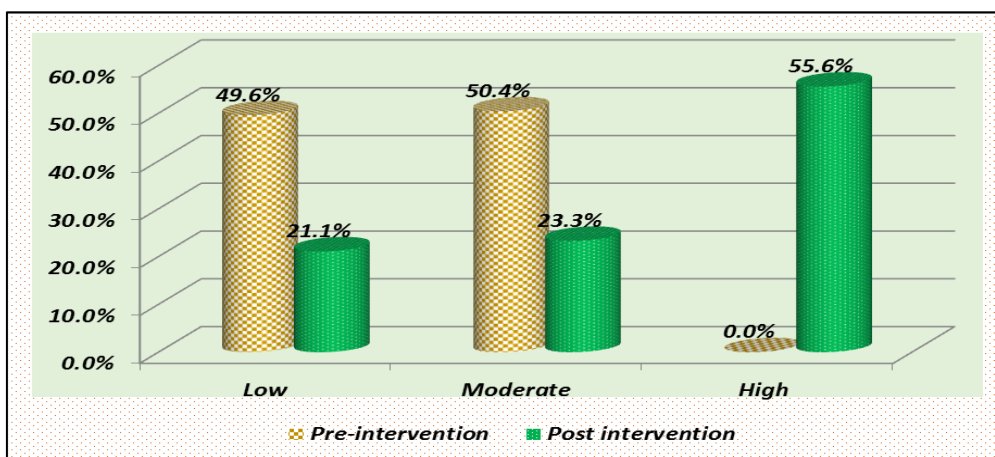


Figure (3): Distribution of total quality of life score among the studied women (N=133)

Table (8): Mean score of sexual health among the studied women (N= 133)

Domain	Pre-intervention	Post intervention	Paired t test	P value
	Mean ±SD	Mean ±SD		
Desire				
Feel sexual desire	1.9850±.696	3.3985±.968	-13.578	<0.001**
Rate of sexual Desire	1.8797±.707	3.4060±1.05	-13.917	<0.001**
Total desire	3.8647±1.34	6.8045±1.948	-14.285	<0.001**
Arousal (during sexual activity)				
Feel sexually aroused ("turned on")	1.4436±.528	2.6617±1.14	-10.815	<0.001**
Rate of sexual arousal ("Turn on")	1.6692±2.45	2.5789±1.29	-3.985	<0.001**
Confident about sexually aroused	1.7218±.772	2.8571±1.231	-8.634	<0.001**
Satisfied with arousal (excitement)	1.4586±.570	2.7293±1.256	-9.951	<0.001**
Total arousal	6.2932±2.87	10.8271±4.56	-9.947	<0.001**
Lubrication(during sexual activity)				
Lubricated ("wet")	1.8722±.667	3.0677±1.02	-10.805	<0.001**
Difficult to become lubricated ("wet ")	2.0301±.991	3.1504±1.04	-9.204	<0.001**
Maintain lubrication ("Wetness") until completion of sexual activity	1.4662±.530	2.9173±1.05	-13.771	<0.001**
Difficult to maintain your lubrication ("wetness") until completion of sexual activity	1.7068±.814	3.0226±1.040	-11.331	<0.001**
Total lubrication	7.0752±2.50	12.1579±3.91	-12.295	<0.001**
Orgasm(during sexual activity)				
Reach orgasm (climax)	1.0902±.287	2.1654±1.06	-11.289	<0.001**
Difficult to reach orgasm (climax)	1.1654±.372	2.5414±1.34	-11.195	<0.001**
Total orgasm	2.2556±.57	4.7068±2.33	-11.622	<0.001**
Satisfaction(during sexual activity)				
Satisfied with ability to reach orgasm	1.1654±.372	2.5714±1.43	-10.614	<0.001**
Satisfied with emotional closeness with husband	2.0226±.722	3.3459±1.00	-11.584	<0.001**
Satisfied with your sexual relationship with husband	1.8120±.760	2.9925±1.05	-10.061	<0.001**
Satisfied with your overall sexual life	1.6391±.594	3.1278±1.23	-12.396	<0.001**
Total satisfaction	6.6391±1.89	12.0376±4.23	-12.991	<0.001**
Pain (during vaginal penetration)				
Experience discomfort or pain	4.2556±.849	2.7519±1.14	12.620	<0.001**
Experience discomfort or pain following penetration	4.4511±.783	2.6241±1.33	14.339	<0.001**
Rate your degree of discomfort or pain during or following penetration	4.3910±.649	2.7594±1.30	13.231	<0.001**
Total pain	13.0977±1.2	8.1353±3.44	16.740	<0.001**

P < 0.001** highly statistical difference

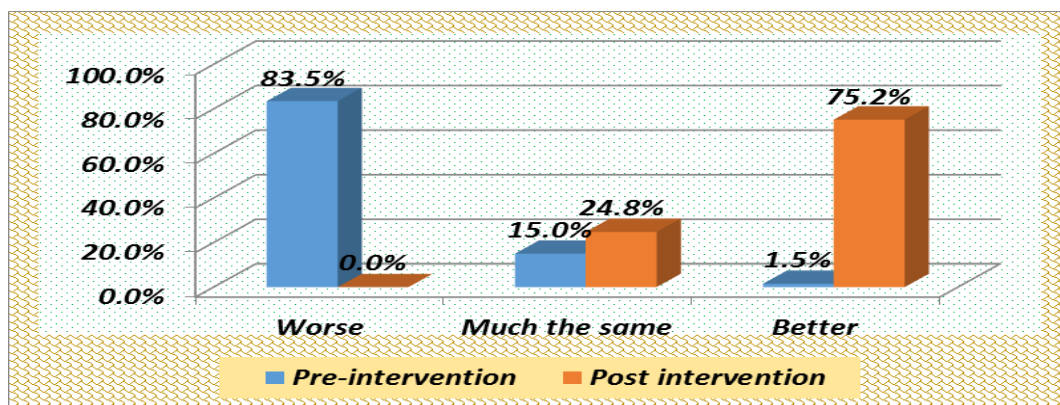


Figure (4): Distribution of total sexual health score among the studied women (N=133).

Table (9): correlation between studied women total knowledge and self-care practice and their quality of life score, sexual health and degree of pelvic pain

Variable	Times of assessment	Quality of life score		Sexual health		Pelvic Pain	
		r	p	r	p	r	p
Knowledge	Pre-intervention	0.034	>0.05	0.127	>0.05	-0.036	>0.05
	Post -intervention	0.253	<0.05*	0.264	<0.05*	-0.283	<0.05*
Self-care practice	Pre-intervention	0.056	>0.05	0.005	>0.05	-0.023	>0.05
	Post -intervention	0.375	<0.001**	0.376	<0.001**	-0.461	<0.001**

P < 0.001** highly statistical correlation

DISCUSSION

Chronic Pelvic Pain (CPP) is commonly defined as continuous or intermittent pain located in the lower abdomen and in the pelvic area with cyclical or noncyclical emergence, which often causes functional limitations in daily activities and a reduction of women quality of life (QOL), in spite of pain catastrophizing among those women still limited number seeking medical care. *Caruso et al.*, (2015). In this respect, *Kevser et al.*, (2015) emphasized on the necessity of raising the awareness concerning the need to overcome this problem.

Obstetrics and Gynecology nurse with an interest in this area is in a good position to effectively care and educate the majority of women with chronic pelvic pain through equipping them with knowledge and healthy practices to alleviate their suffering and improve their quality of life and sexual functions. *Gillett and Jones* (2015) So, the present study aimed to investigate the efficacy of self-care instructional guideline on quality of life and sexual function among chronic pelvic pain women.

The findings of the current study supported the stated hypothesis that self-care instructional guideline improved studied women knowledge, self-care practice that subsequently contribute to improve their quality of life, sexual health and reduce the severity of pelvic pain.

As an overview of the studied women characteristics, the results revealed that half of the studied women were aged (25-35) years, with mean age of (28.87 ± 6.98), more than half of them had a secondary education. In addition it was observed that,

about two thirds of them were housewives, slightly more than half of them resided in rural setting. These results are nearly similar to (*Kevser et al.*, 2015) who studied chronic pelvic pain and quality of life among women of childbearing age, and declared that the ages of the women in the study group were similarly within the reproductive age ranged between (15-49) years, with a mean age of (31.51±9.50) years, and added that the incidence CPP was higher among the unemployed, which also matched our findings as nearly two thirds (61.7%) of them had no occupation

As regards body mass index of the studied women, the majority of them were overweight and obese. These results are in accordance with (*Kevser et al.*, 2015), who illustrated that the obesity were significantly associated with the incidence of chronic pelvic pain (p>0.05). This may be due to the fact that the studies involved different populations with different general characteristics, as reflected in the current study in which more than two thirds and more than half of them were housewives and resided in rural area respectively. Moreover, this finding highlighted the eagerness of this purposive sample to follow the instructional guideline.

One of the most common drawbacks of CPP is its link to the use of IUD as a contraceptive methods. In this respect, the current study delineated that nearly half of the studied women had intrauterine contraceptive device which may explain that approximately half of them had both superficial and deep pain and continuous pelvic pain. This result is in congruent with (*Grunloh et al.*, 2013) who conducted a study concerning the characteristics associated with discontinuation of long-

acting reversible contraception within the first 6 months of use and concluded that pelvic pain is the most frequent side effect of any IUDs, as approximately 27% of copper IUD users complain of CPP.

Moreover, concerning characteristics of chronic pelvic pain among studied women, nearly three quarters of them had a severe and bilateral pelvic pain. This result was matched with (Nygaard *et al.*, 2019), who conducted a cross sectional study to assess characteristics of women with chronic pelvic pain and reported that (42%) of them had CPP with a pain duration for more than 10 years.

As regards the first stated hypothesis concerning the effect of the instructional guideline on knowledge of women about CPP. The finding proved that self-care instructional guideline improved significantly the studied women knowledge concerning all aspects of chronic pelvic pain in terms of definition, signs and symptoms, risk factors, complication, treatment and healthy practices for reducing chronic pelvic pain at post-intervention phases compared to the pre-intervention phase ($p < 0.001^{**}$). This improvement might be due to women's active participation and good communication with the researchers who helped them to acquire knowledge (Brawn, *et al.*, 2014).

These results are in accordance with (Nygaard *et al.*, 2019), who mentioned that 'to ensure best possible assessment and treatment of these women it is important to bring about more knowledge of the special CPP features', and they highlighted the need of health professionals to be equipped with specialized knowledge about the possible features of this condition to empower those suffering from CPP to overcome the intensity of chronic pelvic pain.

Healthy practices are defined as the observable actions of the women that could affect their quality of life, sexual function and healthy lifestyle. Regarding women's health practices related CPP, the present study revealed a highly statistical significant difference between mean scores of all items of chronic pelvic pain related healthy practices among the studied women at pre-intervention compared to post-intervention phases ($p < 0.001^{**}$). This improvement in women's practices might reflect the fact that the women recognized the importance and availability of carrying out all the recommended instructions in the instructional guideline and further highlighted the keenness of both the researcher to follow the participants and be sure of applying the instructional guideline and the participants who were selected purposively to benefited from the guideline to alleviate their complains concerning CPP and its drawbacks. These results are in line with Ambrose & Golightly (2015), who studied physical exercise as non-pharmacological treatment of chronic pelvic pain and reported that nutritional regimen, physical activity and hygienic health practices improve

general health, disease risk and progression of chronic pain. For chronic pain, unfortunately it's a neglected issue and have limited interest among health care providers which explains the low publicity of guidelines for physical activity. This in turn encourages the health profession to put great emphasize in prescribing physical activity treatments, frequent movement which proved its success on individual basis especially for sedentary behavior. Ambrose & Golightly (2015)

Based on the previous assumption, alleviating chronic pelvic pain of women seeking help is one of the most essential qualitative guides of health care provision. As regards severity of chronic pelvic pain, the current study revealed a highly statistical significant difference between chronic pelvic pain severity score among the studied women at pre-intervention compared to post-intervention phases ($p < 0.001$). The reduction of pain at post-intervention phase clarified a distinctiveness elaboration of instructional guideline which satisfied women's knowledge and help them to use different alleviating methods of pain and thus their needs and expectations were achieved.

Limited physical activities, mobilities, being depressed, have a high level of anxiety and sleep disturbance constitute the worst characteristics of chronic pelvic pain As-Sanie *et al.*, (2014) Concerning QOL of women with CPP, the present study delineated a significant improvement in mean scores of quality of life among the studied women recorded at post-intervention phases compared to pre-intervention ($p < 0.001$). This may be due to their improved knowledge regarding CPP. So, the instructional guideline has been of value in helping them to realize properly QOL-related issues and CPP self-care measures. Moreover, this finding may shade the light on the crucial role of familiarizing those vulnerable women about the nature of CPP and how to overcome it, this information let those women to acquire a positive self-concept and positive self-practices towards CPP-related symptoms, which are necessary for the subsequent adoption of self-care measures to improve QOL and general well-being. The result of the present study is in line with (Latorre *et al.*, 2013) who conducted a 24-week physical training program (3 sessions/week, of which 2 sessions are in water and 1 session is on land) and assessed its effect on pain, functional capacity, body composition and quality of life in women with fibromyalgia, they concluded that the program reduces pain and disease impact and improves functional capacity and quality of life in women with chronic pain.

Moreover, in this respect, the previously mentioned results was emphasized by (Sewell *et al.*, 2018) who studied chronic pelvic pain, pain catastrophizing and quality of life among Australian female norms and reported a significantly lower QOL scores in terms of the physical and psychological domains for those aged <30 and 30-40 years. Their

findings portrayed the significant negative association in which increased catastrophizing scores associated with reduced odds of good QOL. In other words, it was concluded that those who have apparent significant CPP, their pain catastrophizing is more prevalent at all domains.

Concerning the sexual health among the studied group, the results of the current study clarified a highly statistical significant improvement when comparing the mean scores of six domains of female sexual function index (FSFI) (including sexual desire, sexual arousal, orgasm, satisfaction, sexual pain and vaginal lubrication) among the studied women at pre-intervention compared to post-intervention phases ($p < 0.001$). This finding clearly reflected the positive effect of the instructional guideline on women's sexual function which previously impaired due to CPP and deficit knowledge of studied women before implementing instructional guideline.

These results were congruent with (Peterson *et al.*, 2013) who examined the impact of chronic pelvic pain on female sexual function and found that the vast majority (94.4%) of women with CPP complained from sexual dysfunction. For comparison of FSFI scores, their results showed that the domains of sexual function, such as orgasm, lubrication and pain differed significantly between women with and without CPP.

Concerning correlation between studied women's (total knowledge and self-care practices) and their quality of life score, sexual function and degree of chronic pelvic pain. The results of the present study declared a positive association between studied women's total quality of life score and sexual function and their knowledge and practices score at the pre-intervention phase. Moreover, a positive association between studied women total quality of life score and sexual function and self-care practices score at the post-intervention phase. However, a significant negative association between severity of pelvic pain and their knowledge and self-care practice at post intervention phase were apparent and reflected how they benefited from the self-care instructional guideline. These findings are in line and also supported by Kevser *et al.*, (2015), who studied CPP and QOF among women of childbearing age and reported significant negative correlation between the pain scale scores and QOL domain scores in the study group.

Since the nurse devotes more time caring the patient than other members of the health profession team, being mostly familiarized with the patient's pain and in a position able to learn the patient how to cope with this pain, provide direction, administer the planned treatments and evaluate the outcomes, and to establish an empathic approach and she is the one can convince those vulnerable women and encourage them to seek medical care and support to overcome this pain.

Accordingly a high need for clear instructional guideline should be available with them Eti & Badir (2015)

CONCLUSION:

Self-care instructional guideline is effectively improving studied chronic pelvic pain women knowledge and self-care practice that subsequently improved their quality of life and sexual health among women with chronic pelvic pain.

Recommendation:

Based on the findings of the present study the following should be recommended:

1. Self-care instructional guideline regarding management of chronic pelvic pain should be provided for women during treatment of pelvic pain.
2. The midwives and nurses should be familiar with the nature of CPP, and the self-care instructional guideline properly to help in managing CPP and improve its sequel.
3. More researches should be conducted considering the demographic and obstetric factors that have a crucial role in precipitating pelvic pain.

Limitation of the Research

The current research study has some limitations, as follow: Firstly, the lack of national and international researches that study the current research topic. Secondly, some women were shamed for being assessed in the outpatient waiting room, so few women withdrawn from the study. Thirdly, sometimes the sessions were protracted due to noise and other individuals' interruption and lastly, challenging to facilitate group place and sessions.

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Conflict of Interest:

The authors declared no conflict of interest of this study.

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