COPING STRATEGIES: PREDICTORS OF PAIN CATASTROPHIZING AMONG WOMEN WITH DYSPAREUNIA

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Abstract

Objectives: The aim of this study was to determine the predictors of pain catastrophizing among women with dyspareunia in Sari city on winter 2011.
Methods: In a population-based cross sectional study of 43 women with dyspareunia aged between 20 to 57 years (Mean=32.6, SD=7.9) recruited from public sector gynecology clinics, using purposive non-random sampling. Subjects were asked to complete the Ways of Coping Questionnaire (WOCQ) and The Pain Catastrophizing Scale (PCS). In addition, demographics data were collected.

Results: There was positive correlation between Pain catastrophizing and dyspareunia ($p < 0.05$). Also no significant association was found among coping strategies and dyspareunia ($p > 0.05$).

Conclusion: This study provided critical information for professionals and gynecologists about dyspareunia and associated psychological factors for example coping strategies and pain catastrophizing that may effect on the sexual interactions. It is important to notice the possible impressions of cultural and local characteristics on results in this study.

Keywords: Catastrophizing, Coping strategies, Dyspareunia, Pain, Predictor

MAIN TEXT

American College of Obstetricians and Gynecologists (ACOG) (1) described dyspareunia as genital pain before, during or after sexual intercourse. The world Health Organization indicated that the prevalence of dyspareunia is varying from1% in Sweden to 45% in US (2,3).

Since pain is a multidimensional experience it is important to deliberate it in all aspects of the health (e.g. biological, psychological and social features) (4). Also it has been indicated that among vast population of patients with pain, biomedical variables such as the intensity of disorder cannot explain the level of pain and psychological adjustment adequately (5). It is assumed that coping strategies change the perception of pain and ability to control or endure the pain. Individual differences in pain coping strategies have a significant impact on the everyday pain and quality of life in a non-clinical sample (6).

Some coping strategies such as catastrophizing are as a mediator factor that impact on the pain behaviors. Catastrophizing originally explained by Beck (7) to define maladaptive coping strategies that used by people with anxiety and depression. Moreover, pain catasrophizing is a significant factor in short/long term pain and has consistent relation with high level pain (8).

Among people with and without pain it is shown that the high level of catastrophizing is associated with more musculoskeletal tenderness and sensibility to pain (9).

Based on existing evidences, more ecologically valid studies are needed to further explicate the relation between pain and coping strategies. This research was designed to help us better delineate whether: 1) there is a positive correlation between pain catastrophizing and dyspareunia? 2) Coping strategies play as predictors of pain catastrophizing in women with dyspareunia.

1. MATERIAL & METHODS

1.1. Participants and procedure

After consenting, forty three volunteer women with dyspareunia aged 20 to 57 years (Mean = 32.6, SD = 7.9) were recruited from public gynecology clinics in Sari (Sari-Iran), using purposive non-random sampling.

Based on Standard Deviation with 95% Confidence Interval, 1.96 Type I Error and 84 % Test Power for forty subjects employed firstly, the sample size of forty three participants was obtained. Forty three of the subjects had received a clinical diagnosis of Dyspareunia through history taking, clinical examination and diagnostic by a gynecologist or an obstetrician and enrolled to the group with Dyspareunia.

Based on dyspareunia criteria and an examination by a gynecologist, married women with organic abnormalities such as recurrent ruptures of posterior vaginal fourchette, congenital anomalies, tight hymen ring, episiotomy's scar, vaginal septum, vaginitis, vulvitis, endometriosis and pelvic diseases, were excluded. Furthermore, women with dyspareunia (≥ 6 months) and who not to be in breastfeeding period, not to use tricyclic antidepressant, antihistamines and anticholinergic medications were enrolled in the study. After that two groups (examination and control) were matched for age and education (10).

Firstly, details about the study were given to the participants. Secondly, all of the participants were asked to complete the Ways of Coping Questionnaire (WOCQ) and the Pain Catastrophising Scale (PCS). Moreover, general records, including demographic and socioeconomic information (e.g., age, education level, job status, and marital status, type of delivery, duration of pain and history of sexual abuse) and also medical and pharmacological profiles of the participants were reviewed. Additionally, participants provided informed consent prior to participation Measures Ways of Coping Questionnaire (WOCQ) This questionnaire consists of 66 items and 8 subscales including direct confrontation, distance, self-control, seeking social support, accepting responsibility, escape - avoidance, planned problem solving and positive re-evaluation. There are 16 diversion words and 50 other phrases evaluate coping strategies.

The validity of the Persian version of this questionnaire was 0.8. Furthermore the reliability of the questionnaire was significant (11).

Pain Catastrophising Scale (PCS)

This instrument consists of 13 questions and each question has five options. Patients based on their mental conflicts can choose one of the options. Finally, a total score of the questionnaire. Three subscales of rumination, magnification and helplessness can be measured. Scores of more than 30 are clinically valuable.

The English version (the original) of this instrument was developed by Sullivan (12). The validity and reliability of the Persian version were evaluated by using the internal consistency (Cronbach's alpha = 0.96) and content reliability (0.93) respectively (11).

2. STATISTICAL ANALYSIS

Preliminary analyses were performed for all variables to ensure that there is no violation of the assumption of normality. Descriptive data for general records were reported (Mean± SD). Firstly, associations among pain catastrophizing, coping strategies and dyspareunia were examined using Pearson's correlations coefficients. Secondly, multivariate linear regression analysis was conducted to determine coping strategies as predictors of pain catastrophizing in women with dyspareunia.

The significant level 0.05 were used to consider outcome meaningful. Analyses were performed using the SPSS software version 17 for Windows. (SPSS Inc. ®headquarters, Chicago, IL, USA).

3. RESULTS

Table 1: shows descriptive information of subjects. Furthermore, Pearson correlation coefficients were conducted.

Descriptive Statistics				
	N	Mean	Std. Deviation	
birthday	86	1.3584E3	7.90574	
sibling	66	1.7727	.94128	
delivery type	69	1.4783	.50319	
education level	86	2.0581	1.14125	
job status	84	1.2738	.60820	
marriage year	83	11.1807	8.08061	
suffering from pain (year)	36	5.5278	5.87239	
Specific disability	57	1.5263	.50375	
childhood abuse	83	1.9277	.26054	

1. Determination of impact of coping strategies on mental rumination component of pain catastrophizing:

The multivariate linear regression used for determination of impact of coping strategies on mental rumination component of pain catastrophizing. The one way ANOVA showed that the regression model including eight predictor variables and one test variable is an appropriate model for considering the variables. Besides, the coping strategies can predict the variations of pain catastrophizing components ($F = 3.249$, $p = 0.003$).

Table2. The coefficients of pivotal components of coping strategies on mental rumination

Model	Unstandardized coefficients		Standardized coefficients	t	p
	B	SD.	Beta		
Constant	1/461	0/466		3/132	**0/002**
Direct opposition	-0/105	0/227	-0/056	-0/461	**0/646**
distance	-0/143	0/214	-0/081	-0/670	**0/505**
Self- control	0/776	0/253	0/403	3/026	**0/003**
Social support seeking	-0/046	0/187	-0/028	-0/245	**0/807**
responsibility	-0/196	0/238	-0/106	-0/821	**0/414**
Scape- avoidance	0/691	0/274	0/289	2/520	**0/014**
Structured problem solving	0/124	0/313	0/060	0/397	**0/692**
reassessment	-0/382	0/272	-0/193	-1/403	**0/165**

Table 2 shows the findings of the impact of coping strategies in the regression model. Based on the B coefficients, just the self- control and scape- avoidance components can predict the mental rumination variations ($p < 0.05$).

1. Determination of impact of coping strategies on magnification component of pain catastrophizing:

The multivariate linear regression used for determination of impact of coping strategies on magnification component of pain catastrophizing. The one way ANOVA showed that the regression model including eight predictor variables and one test variable, is an appropriate model also the coping strategies can predict the variations of pain catastrophizing components ($F = 4.477$, $p = 0.000$).

Table 3.The coefficients of pivotal components of coping strategies on magnification

Model	Unstandardized coefficients		Standardized coefficients	t	p
	B	SD	Beta		
Constant	0/845	0/506		1/671	0/099
Direct opposition	-0/058	0/246	-0/028	-0/236	0/814
distance	0/009	0/232	0/004	0/039	0/969
Self-control	0/610	0/274	0/282	2/222	0/029
Social support seeking	-0/377	0/203	-0/205	-1/857	0/067
responsibility	-0/320	0/258	-0/152	-1/237	0/220
Scape-avoidance	1/081	0/297	0/398	3/637	0/000

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Structured problem solving	0/497	0/339	0/213	1/468	0/146
reassessment	-0/523	0/295	-0/232	-1/772	0/080

Table 3 shows the findings of the impact of coping strategies in the regression model. Based on the B coefficients, just the self- control and scape- avoidance components can predict magnification variations ($p < 0.05$).

1. Determination of impact of coping strategies on inability component of pain catastrophizing:

The multivariate linear regression used for determination of impact of coping strategies on inability component of pain catastrophizing. The one way ANOVA showed that the regression model including eight predictor variables and one test variable, is an appropriate model also the coping strategies can predict the variations of pain catastrophizing components ($F = 4.983$, $p = 0.000$).

Table 4.The coefficients of pivotal components of coping strategies on inability

Model	**Unstandardized coefficients**		**standardized coefficients**	**t**	**p**
	B	SD	Beta		
Constant	0/953	0/453		2/104	**0/039**
Direct opposition	0/038	0/220	0/020	0/174	**0/863**
Distance	-0/181	0/208	-0/099	-0/872	**0/386**
Self-control	0/635	0/246	0/323	2/584	**0/012**
Social support seeking	-0/418	0/182	-0/250	-2/299	**0/024**
responsibility	-0/371	0/231	-0/195	-1/605	**0/113**
Scape-avoidance	1/095	0/266	0/443	4/111	**0/000**
Structured problem solving	0/176	0/303	0/083	0/581	**0/563**
reassessment	-0/252	0/264	-0/123	-0/953	**0/344**

Table 4 shows the findings of the impact of coping strategies in the regression model. Based on the B coefficients, just the self- control, scape- avoidance and social support seeking components can predict inability component of pain catastrophizing variations ($p < 0.05$). The social support seeking coefficient is negative so the raising of social support seeking cause to decrease inability.

Based on the findings of mentioned three regression model one can conclude that all three components of pain catastrophizing can impact by self- control and scape- avoidance components furthermore just inability component impact by social support seeking with negative direction.

Table 5. Correlation matrix of coping strategies and mental rumination

		Mental rumination	Direct opposition	distance	Self-control	Social support seeking	responsibility	Scape-avoidance	Structured problem solving	reassessment
coefficient	agrandisman	1	0/113	0/126	0/307	-0/040	0/017	0/485	0/139	**-0/076**
agrandisman	p		0/151	0/124	0/002	0/358	0/440	0/000	0/101	**0/245**

Table 6. Correlation matrix of coping strategies and magnification

		Mental rumination	Direct opposition	distance	Self-control	Social support seeking	responsibility	Scape-avoidance	Structured problem solving	reassessment
coefficient	Mental rumination	1	0/092	0/076	0/356	0/085	0/035	0/377	0/111	-0/056
Mental rumination	p		0/201	0/244	0/000	0/218	0/374	0/000	0/155	0/304

Table7. Correlation matrix of coping strategies and inability

		Mental rumination	Direct opposition	distance	Self-control	Social support seeking	responsibility	Scape-avoidance	Structured problem solving	reassessment
coefficient	inability	1	0/104	0/053	0/281	-0/105	-0/035	0/436	0/049	-0/091
inability	p		0/170	0/315	0/004	0/168	0/373	0/000	0/327	0/202

4. DISCUSSION

Pelvic pain during intercourse is a common and debilitating problem among women that is described as a persistent or recurrent pain during sexual processes and includes painful penetration of the vagina or sensory stimulation of atrium area. Recently published studies have shown that social and psychological factors may it is different from the one was mentioned in the introduction part be involved in the onset of genital pain problems (13).

Furthermore, it has shown that women with pain during intercourse due to pain avoid from sexual intercourse and it can cause anxiety and chronic pain in the long term. However some women continue sexual activities. As the psychologists play valuable role in developing ways to reduce anxiety and provide services to patients suffering from pelvic pain, we have tried to identify the psychological characteristics of people who have not physically painful intercourse. In this study we aimed to determine the predictors of pain catastrophizing among women with dyspareunia (4).

As mentioned above, there was a significant positive correlation between pain catastrophizing and dyspareunia in the studied group. This finding is in concent with some studies (12-15) and in contrast with another research by Bonawer et al. (6).

Moreover, the results have shown that there is not significant association between coping strategies and dyspareunia generally, but just reassessment had negative significant relationship with dyspareunia. Furthermore, another result of this study was that three types of coping strategies including self-control, scape-avoidance and social support seeking play as predictors of pain catastrophizing components.

These results can be interpreted by following statements:

A certain number of studies have shown that healthy people and individuals with dyspareunia are different in terms of a few variables such as individual differences in catastrophizing (16). Moreover, It has shown that anxiety is an important and core factor in developing sexual dysfunctions specially dyspareunia (17) by impairing sexual arousal. Beck (7) in his anxiety cognitional theory indicated that fearful individuals are more likely to be negative emotionally and evaluate stimuli as threatening that interfere by information processing model. Based on this theory, it can be hypothesized that when attention is focused on threatening stimuli during sexual intercourse, lower cognitive resources are available to concentrate on sexual arousal. Additionally, the lack of sexual arousal lead to vaginal dryness and higher tension of pelvic floor muscles that are such variables of dyspareunia (17, 18). Because of the sensory and affective aspects of pain experience, the emotional and cognitive responses of a woman may exacerbate the pain by increasing the tension of pelvic muscles and distraction of attention to threatening stimuli (16). Other findings have shown that pain catastrophizing cause to develop and continue chronic pain (19). Furthermore, Individual differences in strategies against pain have significant impact on daily pain and quality of life in non-clinical sample (6).

In women with pain catastrophizing and dyspareunia these strategies are different. Copings describe either as behavioral effort or as cognitive effort that control internal and external demands (20).

Cognitive- behavioral strategies are the most important factors determining the control of chronic pain. Because the intimacy plays as an important motive in matrimony relation and it can be reach by a good reciprocal relation, therefore future researches should focus on a community based view that aimed to relief the problems of the sexual pain (4).

Based on explanations mentioned above one can conclude that anxiety and fear of pain in women with dyspareunia, can cause to feel frustration. Also due to the pain-induced stress, the woman exaggerated pain. Furthermore, catastrophizing is involved in the development and persistence of pain that causes more anxiety. Also anxiety leads to cognitive distortions associated with catastrophizing thus this invalid cycle is repeated. In the PSC scoring, those who scored higher than 30 points need to psychological interventions that in this study, patients were about twice more than those of inpatients. Because of the cognitive distortion associated with pain, women think they cannot solve their problem so they try to use emotion-oriented strategies included escape - avoidance, distancing and distracting, responsibility and so on.

This study had some limitations that restrict the generalization of the findings are listed following. The short time and unstructured interviews, incomplete information about the partners of the subjects, being in Moharram and Ramazan month (all the subjects were Muslims), cultural views and beliefs, the frustration induced by the long time that patients spend in the waiting room and during taking physical examinations, no control conditions like privacy in marital relations or how to prevent pregnancy, educational problems and feelings of shame (cultural views).

5. IMPLICATIONS

Based on the findings of the current study the following directions and implications are recommended.

1. Spending more attention to psychological dimensions of dyspareunia and to refer the individuals with dyspareunia to psychologists and psychiatrics.

2. Premarital education about sexual manners for young couples.

3. Determining and establishing training, diagnostic and therapeutic programs coordinate with different cultural and religious beliefs.

4. More research to detect the cause of dyspareunia and inadequate coping strategies in different cultures.

5. Taking care about husband demographic, characteristics and psychological information to discover the cause of dyspareunia.

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