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ORIGINAL RESEARCH

Predictors of Depression, Anxiety and Stress Indicators in a Cohort of Women with Chronic Pelvic Pain

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Objective: Establishing predictors of mental health outcomes is a crucial precursor to the development and assessment of psychological interventions for women with chronic pelvic pain (CPP). The objective of this study was to identify predictors of depression, anxiety and stress in a cohort of women with CPP.

Design: Cross-sectional analytic study.

Methods: Pre-treatment questionnaires were collected from 212 women with CPP, who had attended a private specialist pelvic pain clinic over a period of 18 months. Multivariate linear regression with backwards elimination was used to determine the best joint predictors of depression, anxiety and stress scores on the Depression, Anxiety and Stress Scale-21 item (DASS 21).

Results: Of 19 potential predictor variables, seven key predictors of depression, anxiety and stress indicators were identified. Higher depression scores were associated with higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, having experienced pain as a child, and never having been pregnant before. Higher anxiety scores were associated with higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, younger age of menarche, and younger age. Predictors of high-stress scores were higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, and being younger.

Conclusion: We have identified several important predictors of mental health in women with CPP. Using this information, psychological assessment and treatment for these women may be better tailored to client needs.

Keywords: pelvic, pain, women, psychology, predictors, health

Plain Language Summary

1. Psychology treatment has been shown to be an effective addition to treatment for people with chronic pain conditions, such as low back and neck pain.
2. However, we do not know whether psychology treatment can help women with Chronic Pelvic Pain conditions.
3. In order to know what we should include in psychological therapy for women with Chronic Pelvic Pain conditions, we first need to know what factors impact on their mental health.
4. This project looked at whether any of the factors collected on a clinic questionnaire impacted on depression, anxiety and stress scores for a group of women with Chronic Pelvic Pain conditions.
5. This project found that a number of factors listed in the clinic questionnaire predicted depression, anxiety and stress scores for women with Chronic Pelvic Pain and reported these results.

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6. This information can be used to make and test psychological treatments for women with Chronic Pelvic Pain conditions, which can be used as an addition to their medical treatment.

Introduction

Around 22% of Australian women have experienced Chronic Pelvic Pain (CPP).[1] CPP is defined as pain in the pelvic region that has persisted almost daily for at least 3 months.[2,3] Although CPP can occur in both sexes, it is predominantly experienced by women. Many diseases may contribute to CPP, though in many cases no direct biological cause is found. There are 69 diseases which are commonly associated with CPP in the research literature, with endometriosis and interstitial cystitis being reported as the most common.[4] Expenses associated with CPP are high. CPP costs the Australian economy approximately 6 billion dollars per annum in direct healthcare costs.[3] This is in addition to costs attributed to productivity loss, absenteeism, loss of income and out of pocket costs for sufferers.[1,5-8]

CPP has a large impact on the quality of life and well-being of women with these conditions.[9–11] CPP can lead to impaired social interactions, relationships, treatment compliance, quality of life, independence and autonomy.[12–16] Furthermore, CPP has been shown to significantly impact on this psychological well-being of women, with elevated distress, hopelessness, depression, anxiety seen across CPP samples in the research literature.[4,7,9,10,12,15,17]

Despite the demonstrated psychological impact of CPP, there is no strong evidence to advocate the use of psychological interventions as an adjunct to medical intervention for women with these conditions. This is concerning, as psychological interventions may have the potential to manage and treat the CPP related concerns. The research literature strongly supports the use of psychological interventions as valuable additions to multi-disciplinary treatment for other chronic pain conditions as part of the biopsychosocial model.

The biopsychosocial model of chronic pain is widely accepted as the theoretical base for effective treatment of chronic pain conditions.[18] According to this approach, biology, psychological states and social contexts impact how a person may perceive and respond in relation to their pain. Although biology and disease can have a role in chronic pain, it is the interactions between biological, psychological and social aspects which creates the complexities seen in chronic pain conditions and makes them difficult to treat. According to the biopsychosocial approach, aspects of chronic pain conditions such as pain, disability and mental health can all be mediated by psychosocial aspects. These psychological aspects can include emotional distress, beliefs, expectations, severity and type of pain.[18] This is why psychological interventions, which have the potential to address psychological and social aspects, are regarded as an essential part of treatment in other chronic pain conditions, such as lower back pain, according to the biopsychosocial model. Although emerging research shows that chronic pain conditions may share common features, such as central sensitization, these symptoms manifest differently across chronic pain conditions. Therefore, it is necessary to establish precise and sensitive predictors of unique features seen in specific chronic pain conditions, such as CPP, in order to develop targeted treatment.[19]

This information on predictors of mental health, a crucial precursor to the development of psychological interventions for women with CPP, is presently missing from the literature. Research on predictors of mental health outcomes was highlighted as a top tier research need and essential precursor to the development of cost-effective psychological interventions from women with CPP, by the most recent Cochrane review on interventions for non-cyclic pelvic pain in women.[20,21] Without information detailing specific predictors of common mental health concerns for women with CPP, such as depression and anxiety, it is difficult to know what to include in psychological interventions for them. This information also has the potential to provide the framework for clinical decision making, improving quality of care and future research directions.[21,22]

Although some studies have investigated predictors and risk factors for pain associated with CPP, very few have looked into predictors of psychological variables in this group.[23,24] Our study aimed to address this major gap in the literature by identifying predictors of depression, anxiety and stress indicators in a cohort of women with CPP.

Methods

Design

This study utilized a cross-sectional analytic design. The data reported by this study are based on the results of the paper format Pelvic Pain SA initial pre-treatment questionnaire. This questionnaire was provided to all clients referred to a specialist pelvic pain clinic in South Australia.

Target Population

The target population were women who presented for assessment of the clinic with CPP conditions.

Inclusion and Exclusion Criteria

Participants were included in the analysis if they provided consent and reported experiencing pelvic pain. Questionnaires that were predominantly incomplete were excluded. Participants who reported pain solely related to their menstrual cycle or sexual intercourse were also excluded, as these groups are regarded as different subtypes of pelvic pain in the research literature.[25]

Data Collection

Prior to data collection for this study, potential participants had provided their copies of the initial survey to the clinic. Potential participants who were referred to the clinic had been mailed the questionnaire in paper format, and were asked to complete it and then bring it with them to their first appointment. Those potential participants who lost or forgot to fill in their questionnaire were provided with a copy to complete in the waiting area, prior to attending their initial appointment. After ethics approval was granted, we retrospectively collected survey results in a certain date range. The date range that applicable survey results were collected was across the 18 months from the 1st of January 2015 up until the 31st of June 2016.

Questionnaire

The questionnaire was nine pages in length and asked patients a series of self-reported questions in reference to pelvic pain and related concerns. The questionnaire was developed by multiple specialist clinicians working at the clinic, in order to obtain factual information from their clients across a variety of health and mental health topics prior to assessing them.

The top sheet of the questionnaire requested contact and demographic information from the referred potential participant and provided information about the clinic and their appointment. It also informed potential participants that they could leave any questions blank if they were unsure how to answer or were not comfortable providing a response. This top sheet was removed from the questionnaires in order to de-identify them prior to data entry and analysis. Information pertaining to age and date of birth that was contained on the removed first page was entered into a separate Microsoft Excel data file next to the corresponding survey number by clinic staff.

The questionnaire then proceeded to ask potential participants whether their primary complaint was relevant to period pain, pelvic pain, multiple pelvic pains, not pelvic pain related or another concern other than pelvic pain. It then asked them to approximate how many days they experienced pelvic pain each month. Participants were asked to rate their pain severity on most days on average and the age that their periods started. The participants were then asked if they had experienced allergies, menopause, stabbing pains, bowel problems, dietary triggers, headaches, migraines, bladder problems and pain during sexual intercourse. They were also asked whether they had ever been pregnant, smoked, experienced pain in childhood or experienced a sexually distressing event.

Following these questions, clients were presented with a copy of the Depression, Anxiety and Stress Scale (DASS-21)[26] at the end of the questionnaire. The DASS21 is widely used and has been established as reliable and valid in the assessment of depression, anxiety and stress indicators in adult samples.[27,28] Each question has four response options ranging from 0 (did not apply to me at all) to 3 (applied to me most of the time). There are three subscales including depression, anxiety and stress, with seven questions on the scale corresponding to each. Minimum and maximum scores on each subscale therefore range from 0 to 21, respectively.

Acknowledgement of consent was obtained with a tick box located at the end of the questionnaire. Potential participants were asked to indicate yes or no, as to whether they were comfortable with their responses being used anonymously for research purposes. If a participant was under 18, signed and informed consent from a legal caregiver was required.

Participant Characteristics

Participants were referred from multiple professions including General Practitioners and other specialist medical services. The age of participants included in this study ranged from 13 to 84 years (M=33.32, SD=12.97). On average, participants reported experiencing pain on 19 days per calendar month (M=19.46, SD=8.65) and an average pain severity of 4 (M=3.97, SD=2.73) out of a possible severity rating of 10 at the point they completed the questionnaire. Out of the 207 respondents who completed the question on medical conditions associated with their CPP, approximately half (N=114, 54.5%) had no

previously diagnosed medical condition. Where the respondent reported a diagnosed condition, the most common were endometriosis (N=36, 17.2%), ovarian cysts (N=9, 4.3%), polycystic ovary syndrome (PCOS) (N=7, 3.3%) and both endometriosis and PCOS (N=9, 4.3%).

Of those surveyed, 66 (31.1%) reported that they had previously received a mental health diagnosis. The most common diagnoses were depression (N=13, 6.1%), anxiety (N=13, 6.1%), and depression and anxiety combined (N=30, 14.2%). Current mental health diagnoses were reported by 66 (31.1%) participants, with depression (N=15, 7.1%) anxiety (N=15, 7.1%) and depression and anxiety combined (N=12.5%) again being the most common diagnoses.

Mean scores recorded on the DASS21 subscales for our participants for depression (M=4.85, SD=5.39), anxiety (M=4.38, SD=4.49) and stress (M=7.41, SD=5.30) in this study were higher than those seen in the Australian general population. A study by Crawford et al[29] reported the means for the depression, anxiety and stress scores as 2.57, 1.74 and 3.99, respectively. However, the study did not separate data by genders as they reported no statistically significant differences in scoring across males and females.

Data Analysis

Responses from the questionnaire and excel data file were entered into a Stata 14[30] data file for analysis. For nearly all variables, less than 5% of data were missing, with the exception of the variable "Ever experienced sexual distressing events," which had 20% missing. The three outcome measures, Depression, Anxiety and Stress each had 6% data missing. Multiple imputation was used to impute the missing values. Multiple imputation has increasingly been used to improve the validity of results in chronic pain and psychology research.[31,32] Multiple imputation was undertaken using Stata's multiple imputation by chained equations (mice) procedure. A multivariate normal (mvn) approach was used for continuous variables, and logistic regression for the dichotomous variable 'Ever experienced sexual distressing events.' The multiple imputation procedure produced 10 complete datasets for each analysis.

For each of the outcome measures, in turn, multivariable linear regression with backwards elimination was used to determine the best joint predictors. Although stepwise procedures are not considered ideal, more appropriate analyses are not yet available for imputed datasets. PASS-15[33] software indicated that a sample size of 120 would achieve 90% power to detect an r-squared of 0.15 attributed to 8 independent variables when the significance level is 0.05.

Ethics

This study was approved by the University of South Australia Human Research Ethics Committee on 26/05/2017 Application ID: 0000036598. Retrospective data collection was conducted following ethics approval.

Results

By the end of the survey data collection period, 212 usable surveys had been identified and completed.

Variables Used for Predicting Depression, Anxiety and Stress

Nineteen potential predictor variables were available for inclusion in the initial model, and these along with the three outcome measures are outlined in Table 1.

Participant responses for each of these variables are provided in Table 2.

The results of the multivariable linear regression with backwards elimination used to determine the best joint predictors from the 10 data sets can be seen in Table 3. Of 19 potential predictor variables, seven key predictors of depression, anxiety and stress indicators were identified. Higher depression scores were associated with higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, having experienced pain as a child, and never having been pregnant before. Higher anxiety scores were associated with higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, younger age of menarche, and younger age. Predictors of high-stress scores were higher current pain severity, a history of stabbing pains, prior experience of a sexually distressing event, and being younger.

Discussion

This study investigated the predictors of mental health indicators in a cohort of women with chronic pelvic pain. The participants reported higher indicators of depression, anxiety and stress indicators on the DASS21 in comparison to the general population. These results are consistent with studies which have suggested that women with CPP conditions have higher rates of depression and anxiety in comparison to general population samples.[10,17]

Table 1 Variables Used in the Analysis

Variable	Variable Description
Age	Age of participant
MonthPain	How many days each month do you experience pain? (0–30)
TodayPainSev	Pain severity rating for today (0–10)
Allergies	Do you have any allergies?
PeriodStartAge	How old were you when your period started?
Menopausal	Are you menopausal?
StabPain	Do you experience stabbing pains in your pelvic region?
BowelProblems	Do you have problems with your bowel?
DietFoods	Are there foods that do not suit you?
BladderProblems	Do you have bladder problems?
Headaches	Do you get headaches?
HeadMigraine	Have you been diagnosed as having migraines?
VulvaPain	Do you experience vulval pain?
SexPain	Do you experience pain or discomfort during sexual activity?
SexAssault	Have you experienced distressing sexual events, including sexual assault?
PregnantEver	Have you ever been pregnant?
GHSmoke	Do you smoke cigarettes?
GHAutoimm	Do you have an autoimmune disorder?
PainChild	Did you have any painful conditions as a child prior to starting periods?
DdassDep	DASS-21 Depression subscale score (0–21)
DASSAnx	DASS-21 Anxiety subscale score (0–21)
DASSStress	DASS-21 Stress subscale score (0–21)

Depression

Depression was found to be higher in participants with increased pain severity, presence of stabbing pain, pain as a child and a prior experience of distressing sexual events. The findings support the results of Yosef et al[24] who found that increased depression scores on the PHQ-9 were associated with higher pain severity. Long-term pain as a child has been demonstrated to predict depression outcomes in adults with other chronic pain conditions, including chronic back pain.[34–37] It has been suggested that the

Table 2 Participant Responses to Each Variable in the Data Set

Variable	Category	N	%
Age	<20	26	12.3
	20–29	61	28.8
	30–39	67	31.6
	40+	58	27.4
	Total	212	100.0
MonthPain	0–10	45	22.5
	11–20	71	35.5
	21–30	84	42.0
	Total	200	100.0
TodayPainSev	0–2	61	32.1
	3–5	75	39.5
	6+	54	28.4
	Total	190	100.0
Allergies	No	108	48.8
	Yes	103	51.2
	Total	211	100.0
PeriodStartAge	<12	44	21.4
	12	41	19.9
	13	65	31.6
	14	31	15.0
	15+	25	12.1
	Total	206	100.0
Menopausal	No	184	87.2
	Yes	27	12.8
	Total	211	100.0
StabPain	No	72	34.4
	Yes	137	65.6
	Total	209	100
BowelProblems	No	104	49.1
	Yes	107	50.5
	Total	211	100.0
DietFoods	No	76	35.8
	Yes	130	63.1
	Total	206	100.0
BladderProblems	No	108	52.2
	Yes	99	47.8
	Total	207	100.0
Headaches	No	24	11.3
	Yes	188	88.7
	Total	212	100.0
HeadMigraine	No	158	77.1
	Yes	47	22.9
	Total	205	100.0
VulvaPain	No	111	55.8
	Yes	88	44.2
	Total	199	100.0

(*Continued*)

Table 2 (Continued).

Variable	Category	N	%
SexPain	No	63	29.7
	Yes	149	70.3
	Total	212	100.0
SexAssault	No	141	83.4
	Yes	28	16.6
	Total	169	100.0
PregnantEver	No	115	54.8
	Yes	95	45.2
	Total	210	100.0
GHSmoke	No	182	87.5
	Yes	26	12.5
	Total	208	100.0
GHAutoimm	No	189	90.9
	Yes	19	9.1
	Total	208	100.0
PainChild	No	103	50.0
	Yes	103	50.0
	Total	206	100.0
DASSDep	Normal	120	60.0
	Mild	24	12.0
	Moderate	25	12.5
	Severe	10	5.0
	Extremely severe	21	10.5
	Total	200	100.0
DASSAnx	Normal	115	57.5
	Mild	25	12.5
	Moderate	17	8.5
	Severe	13	6.5
	Extremely severe	30	15.0
	Total	200	100.0
DASSStress	Normal	118	59.0
	Mild	18	9.0
	Moderate	27	13.5
	Severe	23	11.5
	Extremely severe	14	7.0
	Total	200	100.0

Note: N=sample size; %=frequency percentage.

Table 3 Results of Multivariable Linear Regression with Multiple Imputation for Significant Predictors of Depression, Anxiety and Stress Scores on the DASS21

Variable	B	SE B	t	Sig.
Depression				
Constant	0.34	0.85	0.40	0.69
Pain severity today	0.54	1.48	3.65	<0.01
Stabbing pain	2.01	0.69	2.92	<0.01
Experienced sexually distressing events	4.91	1.09	4.51	<0.01
Pregnant ever	−1.29	0.65	−1.99	0.48
Pain as a child	1.97	0.67	2.94	<0.01
Anxiety				
Constant	8.95	2.14	3.70	<0.01
Pain severity today	0.44	0.11	3.70	<0.01
Age period started	−0.46	0.19	−2.39	0.02
Stabbing pain	1.83	0.62	2.98	<0.01
Experienced sexually distressing events	3.24	0.92	3.53	<0.01
Age	−0.64	0.25	−2.55	0.01
Stress				
Constant	6.82	1.22	5.61	<0.01
Pain severity today	0.40	0.16	2.58	0.01
Stabbing pain	1.59	0.76	2.10	0.03
Experienced sexual distressing events	3.61	1.03	3.52	<0.01
Age	−0.08	0.03	−2.66	<0.01

Notes: B=coefficient; SE B=standard error of coefficient; *t*=*t*-test statistic; Sig=significance.

connection between reported childhood pain and depression scale scores may be mediated by thinking styles and interpretations of pain shared by the family unit, such as catastrophic thinking and coping styles.[38–41]

Anxiety

We found that pain severity, stabbing pain and having experienced a distressing event of a sexual nature also predicted increased scores on the DASS21 anxiety subscale. Increased age and period start age predicted decreased scores on the DASS21 anxiety subscale. These results support findings from Yosef et al[24] who found that increased pain severity predicted higher anxiety scores as measured on the GAD-7[42] measure of generalized anxiety. Anxiety has also been shown to mediate the relationship between childhood sexual abuse and pelvic pain in adolescent females.[43] Interestingly, pain duration was not a predictor of anxiety indicators in this group, which is in contrast to findings from other studies demonstrating that a longer history of pain was associated with higher anxiety levels in adults with chronic pain conditions.[34–37]

Stress

We found that decreased age, having stabbing pain, increased pain severity and having experienced a distressing event of a sexual nature predicted increased scores on the DASS21's stress subscale. The study results support prior research which found that greater use of coping skills, experience, perceived control over emotions and emotional responding meant that people got better at managing stress with age.[44]

The Role of Stabbing Pain

In our sample, 65.6% of participants reported stabbing pain. Interestingly, stabbing pain was associated with all three DASS21 subscales. Asmundson et al[45] suggested that stabbing pain may be perceived as a threat demanding immediate attention by the brain, therefore leading to more anxiety and stress symptoms for sufferers. Furthermore, previous studies have also shown that intense and intermittent pain described as "stabbing" is linked to higher levels of global distress and lower quality of life when compared to other pain experiences.[46]

Pain Severity

In this study, pain intensity showed significant correlation with the stress subscale of the DASS21, but not the depression and anxiety subscales. The depression subscale of the DASS21 assesses depressive symptoms, while the anxiety subscale assesses panic-like anxiety and the stress subscale assesses more generalised anxiety.[47,48] The present finding that pain severity predicted scores on the DASS21 stress subscale only is consistent with previous studies demonstrating the association between generalised anxiety and pain severity.[49,50] According to Sullivan et al[51] catastrophizing is the mechanism that may underlie the association between more generalised anxiety and pain intensity.

Distressing Sexual Events

Having an experience of a distressing sexual event predicted higher scores across all three outcomes of interest. Depression symptoms, anxiety symptoms and elevated stress levels have each been shown to be correlated with prior sexual assault.[52,53] A recent study by Yosef et al[24] found that increased pain severity was associated with sexual assault. Depression, anxiety and stress in sexual assault victims can be mediated by and occur co-morbidly with Post-Traumatic Stress Disorder symptoms (PTSD).[54–58] PTSD can also impact on a person's experience of pain and functioning.[52,59,60] As this survey did not contain an assessment scale for PTSD symptomology, it was not possible to tell whether this mediated the prediction of depression, anxiety or stress by history of sexual assault. It is also difficult to determine whether reports of sexual assault and consequent results are accurate, as some women do not feel comfortable reporting that they have previously experienced sexual abuse or may avoid participating in research discussing abuse. These difficulties along with the use of varied definitions of abuse, have made research and comparisons across studies difficult in the wider sexual abuse literature.

Implications for Clinical Practice

Our findings have a number of clinical and practice improvement implications. The identification of factors that influence psychological outcomes in this group of women with CPP, allow targeted psychological interventions to be developed. This will increase the likelihood that these interventions are effective. These results will inform future research and allow targeted interventions to be tested in high quality randomised control trials, with the ultimate goal of improving psychological outcomes for women with CPP.[20,22] This process has also led to the development of effective targeted psychological interventions that have been demonstrated to have improved mood and quality of life for Inflammatory Bowel Diseases (IBS).[61]

Information about predictors of psychological outcomes has the potential to inform clinical assessment, therapy directions and decision making. The findings provide a guide for clinicians when completing client history and assessments with women who have CPP conditions. For instance, we found that women with CPP who experienced severe period pain, pain during sex or had pain as a child, were more likely to report depression symptoms. Therefore, when taking a background history during a clinical interview, clinicians may wish to ask questions with reference to these areas and depression, and may consider evidence-based treatments for depression with women who present with these symptoms.

This study has also highlighted the importance of considering trauma and the overlap between physical and psychological aspects of chronic pain. Research and treatment considering the overlap between psychological and physical symptoms have been identified as a key need with reference to abdominal pain in people with IBS and visceral pain.[62] The findings of the present study support previous research that has highlighted the need to consider life experiences and physical aspects of CPP, along with psychological aspects and consequent treatments such as Cognitive Behavioural Therapy (CBT).[63,64]

Limitations

The study results must be considered with reference to methodological limitations. The DASS21 is accessible and widely used but not regarded as diagnostic. However, scores on the depression, anxiety and stress subscales of the DASS21 have

been shown to have good concurrent validity with diagnostic measures which are diagnostic, such as the Beck Depression Inventory (BDI),[65] Beck Anxiety Inventory (BAI),[66] and State-Trait Anxiety Inventory (STAI)[67,68] Trait component.

As this study utilized a pre-existing questionnaire designed for clinical use, which did not lend itself to investigating other predictors that could have potentially influenced mental health outcomes, such as other mental health concerns, learning disorders, response bias.[69]

Stabbing pain was measured on a dichotomous scale, and therefore it was not possible to determine a severity rating for this type of pain or whether it was persistent or only with movement. In future, measuring the severity of stabbing pain and more information as to when it occurs would be a more sensitive predictor. Interestingly, the type of pelvic pain condition did not have a significant impact on depression, anxiety or stress indicators. This may suggest common experiences in reference to pain and mental health across chronic pelvic pain conditions.[70] Alternatively, this might be due to shared-method variance.

The results reflect the responses of a particular cohort of women with CPP who accessed a private clinic, and therefore may not be reflective of other cohorts.[21] This study also collected no information on cultural background or Socio-Economic Status. This is a concern, as different SES and cultural groups report different chronic pain responses and rates of mental illness, which may impact results.[70] Therefore, future research is required to see if these results are reflective of other cohorts of women with CPP and to establish if any other predictors of mental health outcomes are relevant for this group.

Conclusions

Tailored psychological interventions need to consider potential predictors of psychological outcomes for women with CPP and how to work with these in order to be successful. The results of this study have highlighted the importance of considering pain, life experiences and psychological aspects of CPP with reference to psychological and medical assessment and intervention according to the biopsychosocial model. Such research has the potential to improve the understanding and treatment of pelvic pain conditions in women across disciplines. Tailored psychological interventions for women with CPP informed by research into predictors remain to be tested, due to a distinct lack of quality Randomized Control Trials in this area.

Abbreviations

BADS, Behavioural Activation for Depression Scale; BAI, Beck Anxiety Inventory; CPP, chronic pelvic pain; DASS21, Depression, Anxiety and Stress Scale – 21 item; GADS-7, Generalised Anxiety Disorder Scale – 7 item; PCOS, Polycystic Ovary Syndrome; PHQ-9, Patient Health Questionnaire – 9 item; STAI, State-Trait Anxiety Inventory.

Data Sharing Statement

De-identified data will be available at the Zenodo (2018) data provider website, available through OpenAire (2018). All individual participant data collected during the study after de-identification are available. The study protocol, statistics plans, and Pelvic Pain SA questionnaire with consent form are available from this site. A code book is also accessible, which contains coding for missing data, means for continuous variables, frequencies for categorical variables and numbers for valid cases. This information is accessible to anyone who would like the data for any purpose, with no end date. The data and study materials are available through the following links: https://zenodo.org/record/1307278#.W0J-adVKjIU, https://zenodo.org/record/1307254#.W0J-nNVKjIU https://zenodo.org/record/1307252#.W0J-stVKjIU.

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Disclosure

Susan Evans is the chair for Pelvic Pain Foundation of Australia. Dr Susan Evans is the founder and contributes to the Dr Susan Evans Pty Ltd and Alyra Biotech Pty Ltd companies. Dr Susan Evans has patent Alryra Biotech Pty Ltd pending. The authors report no other conflicts of interest in this work.

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