Psychosocial aspects of chronic pelvic pain, with special reference to sexual abuse. A study of 164 women

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Summary: Patients with chronic pelvic pain attending a tertiary referral centre show certain social, developmental and psychological characteristics. Specifically, they appear to have fewer children and to report more paternal overprotection, and a trend towards low maternal care compared to normals. They also show more depression, free-floating anxiety and somatic anxiety than such populations. The levels are similar to those found in other outpatient populations presenting with migraine or irritable bowel syndrome. Hostility levels are greater than those in normal subjects. Overall the present patient population reports the same degree of childhood sexual abuse as do many other female clinic and community sample populations. Sexual abuse is unlikely to be a specific aetiological factor in the development of chronic pelvic pain though it may yet be found to be important in subsets of the population.

Introduction

Chronic pelvic pain (CPP) may be defined as a general symptom of persistent pain located in the pelvis, of at least 6 months duration. It can be a major problem, in terms of the degree of suffering and distress for the person concerned, the large number of patients presenting to health services with it as a complaint, and the difficulties in terms of diagnosis and effective treatment. Attempts to establish it as a clinical entity are long standing.^{1,2}

In 1978 over 10,000 laparoscopies were carried out in the UK to investigate unexplained pelvic pain.³ It remains one of the commonest reasons for presentation at gynaecological outpatient clinics: Morris and O'Neil,⁴ found that over 1/3 of women in a random series of 60 gynaecological outpatients were presenting with pain as their primary symptom, and this pain did not have an identifiable cause in 75%. More recent reviews of laparoscopic findings⁵ confirm that in at least 2/3 of women with CPP there is no obvious identifiable pathology. Reiter and Gambone⁶ reviewing the literature state that the frequency with which identifiable pelvic pathology is diagnosed in women with chronic pelvic pain varies from 8% to 80%.

Such findings have led clinicians into separating the syndrome into a category with an apparent 'organic' cause, implying that clear pathology (for example, seen down a laparoscope) has been identified, and the rest, where the patients come to be categorized as having pain of 'psychogenic'

origin. Such categorization is likely to be premature since cause and effect relationships remain to be clarified.

Clinical research in other fields where chronic pain is the presenting symptom and related organic pathology can sometimes be found, has left workers with an open mind about aetiology and subclassification since the production and perception of pain, a subjective experience, is itself a multifactorial phenomenon.⁷ This probably remains a good starting point from which to continue to study CPP whilst modern techniques allow increasingly sophisticated means for searches to be made for subcategories of such syndromes.

The role of psychological factors in CPP has long been debated. There is a strand of research wherein patients with CPP have been studied exclusively psychologically, either without controls^{2,8,9} or else compared with control groups often characterized by being pain-free.^{6,10} The problem with the latter approach has been to know whether the pain itself was contributing to psychological status. There is another tradition that has sought to delineate 'profiles' that are reliably associated with 'psychogenic' pain, and an assumption that socio-psychological factors are of less importance in those with 'organic' pain.^{11–15} This assumption is questionable for the reasons outlined above. This, and the difficulties surrounding case definition within this field in general have led to conflicting results in the past, and have made it difficult to know whether different studies of CPP have been investigating similar patient groups. This uncertainty continues despite recent more rigorous

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attempts to control for the presence of pathology,¹⁶ or the presence of pain¹⁷ in the comparison groups, and attempts to clarify the case definition of CPP.¹⁸ For example, some researchers searching for specific social developmental influences have more recently implicated histories of sexual abuse as a precursor of the syndrome^{6,16,19,20} whilst others have cast some doubt on the specificity of child sexual abuse as opposed to, say, physical abuse in these patients.¹⁷

In line with the view outlined above which appreciates the possible role of multifactorial causation and the need for clear case definition, the present study attempts to assess a range of somatic, historical and current social and psychological characteristics of a group of patients presenting with the syndrome described. In the course of this investigation subgroups within the syndrome were compared; these results are to be reported elsewhere (Fry *et al.*, in preparation). The study does not compare the pain patients with another control group, since this introduces the problems referred to above.²¹ Notwithstanding, in order to further characterize this population, data for the whole group were also compared to available normative data. It is these results that form the subject of this paper.

The somatic measures included pathology identified by laparoscopy. The historical and social measures included sociodemographic measures, history of sexual abuse, parental bonding and quality of relationships. Psychological measures focused on current personality/psychoneurotic status including level of self-esteem and level of hostility.

This last was included because of the long-standing psychosomatic view that a high level of hostility or anger accompanied by an inability to effectively discharge it is a possible determinant of psychopathology which can then express itself in a variety of symptoms dependent on somatic predispositions.²² Examples include Type A personality and coronary artery disease²³ and a possible role in breast cancer.²⁴

Method

In this study the subjects were consecutive referrals presenting to the pelvic pain clinic at the Samaritan Hospital for Women, London, during the period January 1989 to April 1990 with a complaint of pelvic pain of at least 6 months duration. This clinic receives a mixture of referrals, from local general practitioners, from other consultant gynaecologists within the hospital, and from other hospitals countrywide.

Subjects were recruited at initial consultation in the gynaecology clinic, and returned within 14 days

for the research interview. This comprised structured and semi-structured interviews, interspersed with questionnaire measures. The duration of this assessment ranged from 1 to 2 hours. The interviewer was blind to diagnosis, and the results of any investigations. Subjects were at liberty to terminate the interview at any point with the clear understanding that this would have no effect on any further investigation or treatment they might receive in the clinic. At the conclusion of the interview sufficient time was routinely made available for discussion of any issues arising out of the questions, and if the subject required it, referral to a counselling facility within the clinic for further discussion or guidance was offered.

Variables assessed included: (a) duration and intensity of pain – at worst and usual levels in previous 4 weeks (visual analogue scales); (b) the presence or absence of pathology – by ultrasound and laparoscopy (where not carried out within last 18 months); (c) a semi-structured interview for sociodemographic data, and personal historical details; and (d) Russell's interview for sexual abuse.²⁵

The following questionnaire measures were also used: (1) Parental Bonding Index²⁶ – to assess quality of parenting received; (2) Golombok–Rust Inventory of Marital State;²⁷ (3) Robson's self-esteem questionnaire (12-item version);²⁸ (4) Crown–Crisp Experiential Index (CCEI)²⁹ – for psychoneurotic profile; and (5) Fould's Hostility and Direction of Hostility Questionnaire (HDHQ).³⁰

Results

There were 170 consecutive referrals to the clinic over the 15 months study period. Of the referrals 17.7% came from general practitioners (GPs) (primary referrals); 36% from GPs where the patient had already been seen at another hospital; and 43.9% from other hospitals (tertiary referrals); 2.4% had no information available on this. Of the total population, five did not attend the interview with the psychiatrist and one declined to complete the interview, leaving a total of 164 subjects (96.5%) for the study. For some of the measures this fell to 154 (93.9%) because the related questionnaires were completed at the time of further physical investigations and did not include 10 subjects.

The breakdown of the laparoscopy findings is shown in Table I. Seven patients who did not fulfil the criterion of having had a recent laparoscopy at presentation did not have a laparoscopy: four declined or failed to attend the investigation, in one the clinician concerned did not feel it was clinically indicated, in one due to error, and one died between the interview and the investigations.

Table I Allocation to groups on the basis of laparoscopy findings of pathology other than pelvic congestion

Total (fully assessed by psychiatrist)	164
No other pathology identified at laparoscopy ('none')	110
Other pathology observed – may possibly contribute to the pain ('borderline')	10
Other pathology observed that might well contribute to the pain ('definite')	6
Other pathology observed but not likely to be the cause of the pain	31
Not laparoscoped	7

The mean pain duration for the total population was 62.9 months with a range from 6 months to 24 years (median = 42 months). Age of the subjects ranged from 18 to 49 years (median 30 years, mean 31 years).

The socioeconomic class (SEC) distributions (General Household Survey 1988³¹ data in brackets for comparison), figures rounded, were: SEC I and II, 41% (29%); III, 46% (44%); IV and V, 6% (22%); other, 7% (5%). Ethnic groupings were: white, 86%; Black UK, 8%; West Indian, 3%; African, 1%; others, 2%.

Household structure (General Household Survey 1988³¹ data in brackets for comparison), figures rounded, were: lives alone 11% (10.2%); cohabits/married 24.4% (22.4%); cohabits/married + children 40.2% (42.2%); divorced/separated + children 4.3% (5.8%); other 20.1% (19.4%). Numbers of children (General Household Survey 1988 data in brackets for comparison³¹), figures rounded, were: 0, 49% (32%); 1, 17% (15%); 2, 26% (29%); 3, 5% (15%); 4, 2% (5%); 5 +, 1% (4%). Numbers of terminations were: 0, 69%; 1, 24%; 2, 5%; 3 or more, 2%. Numbers of miscarriages were: 0, 81%; 1, 15%; 2, 4%; 3 or more, 1%.

Sexual abuse

The sexual abuse data are presented in some detail because of the widely differing findings and opinions in this area in respect of CPP. Overall it can be seen (Table II) that around 30% of this sample report significant child sexual abuse, depending on which definition is selected (Table III).

This analysis shows that although there were differences in the totals using different definitions, the differences, for example, Walker *et al.*'s¹⁶ definition (2) and a similar but UK-adjusted definition with a higher age limit (5) were small.

Having established this, for the purposes of further analysis the UK-adjusted definition was employed. In line with the approach employed in other studies,¹⁶ abuse positive incidents were divided into 'mild' (severity levels 1–4) and 'severe' (severity levels 5 and 6).

Table II Prevalence of reported sexual abuse (*N* = 164)

	Definition					
	1	2*	3	4	5	6
Total abused						
<i>N</i>	79	76	80	65	74	62
%	48	46	49	40	45	38
Child abused						
<i>N</i>	61	50	65	42	53	35
%	37	30	40	26	32	21
Adult abused						
<i>N</i>	40	43	41	38	40	38
%	24	26	25	23	24	23
Both (adult and child)						
<i>N</i>	22	17	26	15	19	11
%	13	10	16	9	12	7

% figures are rounded and are of whole group; *definition used in Walker *et al.*'s study.¹⁶ N.B. the categories 'child abused' and 'adult abused' are not mutually exclusive.

Table III Sexual abuse: definitions and severity levels used

Definition	
1	Age < 16, severity > 1
2*	Age < 15, severity > 1, ≥ 5 year age difference between victim and abuser
3	Age < 16, severity 1 or more
4	Age < 16, severity > 2 (that is, contact experiences)
5	Age < 16, severity > 1, 5 year gap (as for 2)
6	Age < 16, severity > 2 (as for 4), 5 year gap
Severity	
1	Talking about sexual matters, showing sexual literature/pictures, making suggestions
2	Exhibitionism
3	Petting, touching of breasts/genitals
4	Attempts at intercourse, unsuccessful/aborted
5	Completed intercourse/rape
6	Oral sex

*Definition used in Walker *et al.*'s study¹⁶

Details of the data for the whole group in respect of the nature of the child sexual abuse and of adult sexual abuse are shown in Tables IV and V.

Comparative psychometric data

In all cases the normative data shown are taken from those supplied with the instruments. The unpaired *t*-test was used to compare the study and normative groups. These are not ideal for what are essentially non-parametric data, but are the only method available because of the way the normative data on the instruments were supplied (means and s.d.s). Such comparisons are worth making if treated with appropriate caution.

Parental bonding

Comparison of the results for the parental bonding index was made with normative data given by

Parker,³² drawn from general practice patients of both sexes sampled in Oxford (ages not given). High scores for care indicate high care, high scores for overprotection indicate a high degree of over-

Table IV Details of child sexual abuse (N = 53)

<i>Frequency of abuse</i>		
Single incident:	29 (54.7%)	
Multiple incidents:	24 (45.3%)	
	8 (15.1%) with 1 abuser	
	16 (30.2%) with > 1 abuser	
<i>Setting of abuse</i>		
Of the single incidents		
Intra-familial:	6 (11.3% of total)	(20.7% of this category)
Extra-familial:	23 (43.4%)	(79.3%)
Of the multiple incidents		
Intra-familial:	8 (15.1%)	(33.3%)
Extra-familial:	11 (20.8%)	(45.8%)
Both:	5 (9.4%)	(20.8%)
that is, 19 (35.8%) of all abuse incidents had intra-familial components, 34 (64.2%) were exclusively extra-familial		
<i>Severity of abuse</i>		
Of the single incidents		
Mild:	29 (54.7%)	(100%)
Severe:	0	
Of the multiple incidents		
Mild:	18 (34%)	(75%)
Severe (ever):	6 (11.3%)	(25%)
that is, 47 (88.7%) of all abuse incidents were mild, six (11.3%) were severe		

Table V Details of adult sexual abuse (N = 40)

<i>Frequency of abuse</i>		
Single incident:	25 (62.5%)	
Multiple incidents:	15 (37.5%)	
	1 (2.5%) with 1 abuser	
	14 (35%) with > 1 abuser	
<i>Setting of abuse</i>		
Of the single incidents		
Extra-familial:	25 (62.5% of total)	(100% of this category)
Of the multiple incidents		
Extra-familial:	14 (35%)	(93.3%)
Both:	1 (2.5%)	(6.7%)
that is, intra-familial abuse in adulthood is rare		
<i>Severity of abuse</i>		
Of the single incidents		
Mild:	14 (35%)	(56%)
Severe:	11 (27.5%)	(44%)
Of the multiple incidents		
Mild:	5 (12.5%)	(33.3%)
Severe (ever):	10 (25%)	(66.7%)
that is, 19 (47.5%) of all abuse incidents were mild, 21 (52.5%) were severe		
<i>Setting of abuse – relationship</i>		
Of the single incidents		
Within relationship:	8 (20%)	(32%)
Outside relationship:	17 (42.5%)	(68%)
Of the multiple incidents		
Within relationship (ever):	8 (20%)	(53.5%)
Outside relationship (only):	7 (17.5%)	(46.7%)

In this table, data are also shown regarding whether abuse took place in the setting of an established relationship.

protection. Results showed no significant differences for the dimensions of paternal care or maternal overprotection, but a highly significant difference for paternal overprotection: mean 14.1, s.d. 7.6 ($N = 159$) for the CPP patients, mean 11.0, s.d. 6.4 ($N = 132$) for the GP population ($P < 0.01$). Maternal care did not differ between the groups although the difference approaches significance: mean 25.5, s.d. 7.5 ($N = 164$) for the CPP patients, mean 27.1, s.d. 7.3 ($N = 132$) for the GP population ($P = 0.07$). The lower numbers for paternal dimensions are because of inability to recall, absence of father, or failure to complete the questionnaire fully.

Quality of significant (sexual) relationships

The results obtained for this variable were compared against data supplied in the manual of the GRIMS.³³ The manual contains data from two groups, GP normals ($N = 48$), and a clinical population from marriage guidance clinics, sexual and marital counselling clinics throughout England ($N = 80$). Ages by sex are not given, but the mean age of the GP group was 34.97 years (s.d. = 13.01) and of the clinical group 36.33 years (s.d. = 12.13). The mean age of the study population was 31 years (s.d. = 7.45). Higher scores indicate poorer relationships.

Results showed that the sample (mean score 24.8, s.d. 12.8) has a similar quality of relationships to normals (mean score 27.2, s.d. 10.0) ($P = 0.19$), but a better quality than a clinical population presenting to a sexual dysfunction clinic (mean score 35.5, s.d. 10.4) ($P < 0.01$).

Self-esteem

On the Robson Self-esteem Scale the higher the score, the higher the self-esteem. Our patients (mean 54.9, s.d. 12.7, $N = 154$) lay between 'normals' (mean 58.0, s.d. 9.11, $N = 151$) ($P = 0.015$) – that is, a group drawn from the general population, people who showed no evidence of psychological disorder – and an anxiety group (mean 41.0, s.d. 12.15, $N = 61$) ($P < 0.001$) – that is, outpatients with a DSM-III-R diagnosis of anxiety disorder.²⁸

Psychoneurotic state

The results obtained from the CCEI were compared against data supplied in the manual.³⁴ This contains information on two groups: a general practice female data sample (age range 17–44 years), and a female psychoneurotic outpatient sample (age range 22.9–44.7 years).

High scores on a given subscale represent greater amounts of that variable. In comparison to the normals ($n = 163$) there were no significant

differences in scores on the phobia, obsessiveness or hysteria subscales. The patients were more anxious (mean 7.13, s.d. 3.85) than the normals (mean 5.99, s.d. 3.99) ($P = 0.01$), more depressed (mean 4.88, s.d. 3.16) than the normals (mean 3.45, s.d. 2.59) ($P < 0.01$), and had greater somatic anxiety (mean 6.69, s.d. 3.39) than the normals (mean 3.84, s.d. 2.65) ($P < 0.01$). Thus the sample is more anxious, more depressed and has more somatic anxiety than the normals.

Results comparing the sample to the female psychoneurotic outpatients showed that the CPP patients scored significantly less than the comparison group on all scales ($P < 0.01$) except the 'H' scale ($P = 0.08$).

Spearman correlation coefficients (non-parametric) showed that there was a moderately strong relationship between self-esteem and anxiety ($r_s = 0.6$, $P = 0.0001$) or depression ($r_s = 0.5$, $P = 0.0001$). That is, those with lower self-esteem also seemed to have more anxiety and depression. This is as might be anticipated.

Hostility and direction of hostility

Results for the Fould's HDH Questionnaire³⁰ are shown in Table VI. Higher scores in the five subscales represent greater amounts of that variable. A high total score represents high hostility. Negative direction scores are outwardly directed hostility and positive direction scores are inwardly directed hostility. Thus the sample has higher total hostility and is higher on all subscales (except self-criticism).

Discussion

The laparoscopy findings must be interpreted in the light of the wide range of such reported pathology referred to in the literature. About 10% of our subjects had findings which, in the view of the experienced surgeon carrying out the procedure, might have contributed to the pain. About another 20% had pathological findings of any sort which probably did not contribute to the pain. This would seem to suggest that the sample was not markedly abnormal in these terms, and in comparison to similar populations already reported in the literature.^{5,6}

Turning to social and personal/psychological factors, and beginning with the sociodemographic features, there is a slightly higher rate of nulliparity compared to the General Household Survey data (1988).³¹ This may be accounted for by the apparent slight bias towards a higher number of subjects belonging to socioeconomic class II, a semi-professional class that may delay having children or decide to have fewer than the population as a

Table VI Foulds HDHQ: comparison with normative data (females)

	Whole group (N = 164)		Norms (N = 46)		P
	Mean	s.d.	Mean	s.d.	
AH	4.18~	1.84	3.53	1.90	0.04
CO	4.16	2.32	3.20	2.10	0.01
PH	1.13	1.31	0.53	0.63	<0.0001
SC	4.09	2.58	3.57	2.17	0.21
G	1.79	1.66	1.04	1.17	0.0008
Total	15.35	7.19	11.84	5.67	0.0008
Direction	-0.53	5.78	0.95	5.27	0.12

AH = urge to act out hostility; CO = criticism of others; PH = projected delusional (that is, paranoid) hostility; SC = self-criticism; G = guilt. Normative data are taken from those supplied in the manual of the HDHQ.³⁰ They were derived from females: hospital employees and surgical in-patients. Ages are not given.

whole. An alternative view might be that some CPP patients have problems centring around sexuality and are therefore less likely to become pregnant. This is discussed further below.

The reported occurrence of child sexual abuse in this study is lower for the sample as a whole than Walker *et al.*¹⁶ found in their study. Reference is specifically made to this latter study since the authors reported a strikingly high occurrence of child sexual abuse for the sample of CPP patients studied and they proposed specific links between child sexual abuse and CPP. Thus Walker *et al.* reported a prevalence of 64%¹⁶ as opposed to 30% under the same definition here, or 32% under the UK-adjusted definition. This level is much closer to that estimated to apply in normal populations, that is, about 28% on average for females.³⁵ Walker *et al.*'s findings¹⁶ and those of the present study are of course not strictly comparable since the samples were entirely differently constituted, but it casts possible doubt on the specificity of child sexual abuse as a risk factor for CPP as a whole, although possibly not for certain subgroups of CPP. Our finding is also in line with other more recent studies.^{10,17} We consider this to be an important finding in the light of the fact that previous studies have tended to be on small numbers, whereas the numbers here and the well-defined measures used would seem to make the finding robust. We are therefore confident that in this sample child sexual abuse did not apparently differ in prevalence from that in the general population, which must throw into question previous assertions about its widespread and general role in CPP. This finding is in line with the increasing body of information which suggests that the issue of the specificity of child sexual abuse as a risk factor for later somatic illness is far more complex than was at first thought.³⁶ Certainly close attention to case definition seems to be required, perhaps particularly in such a condi-

tion as CPP which may be the final common pathway for a variety of risk factors and pathological processes.

There has been a long-standing debate about how much an individual's early experience of his/her parents can influence the later development of social, psychological and physical problems in that individual. Psychoanalysis holds that very early relationships in this area may be important in personality development as a whole.^{37,38} Parker *et al.*'s parental bonding index²⁶ measures two dimensions of parenting, namely 'care' and 'overprotection'. Parker has proposed that high 'overprotection' and low 'care' predispose to the development of certain neurotic illnesses.^{32,39,40}

It appears that the best parental bonding index predictor of high depression scores and anxiety neuroses in both sexes is low maternal care.⁴⁰ However, in non-clinical populations high maternal 'overprotection' scores were better predictors of anxiety in women,³⁹ so some uncertainty persists about this latter variable. The finding of a tendency in the present population to report low maternal 'care' would fit with the view that the anxiety and depression (see below) may play a part in determining the perception of pain, rather than solely arising from it. Early investigators noted that CPP patients have had problematic relationships with parents.^{2,8,9,11} Previous studies of chronic pain populations using the parental bonding index have shown no reliable and characteristic pattern of scores,⁴¹⁻⁴³ so the finding here of a highly significant result in respect of greater paternal 'overprotection', in parental bonding index terms, is noteworthy. As long ago as 1959, Benson *et al.*⁸ (in a highly selected sample) reported that patients' views of their husbands were in marked contrast to their views of their fathers. Spouses were described as kindly men 'unlike father',⁸ and fathers were described as rejecting, 'punitive and even brutal'. Mothers were

'unaffectionate . . . showed little warmth or no real interest'. Our results may therefore be in line with these observations, and formalize the patterns of parenting that may be relevant in this group. However, patients presenting to a tertiary referral centre may have very different patterns of seeking health care, and associated parenting experience, to those presenting to their general practitioner (as in the normative data), so the specificity of this finding to CPP alone cannot be fully determined from these data.

It has previously been reported that CPP patients have problems with their present sexual relationships or partners in terms of sexual dysfunction or attitudes towards sex.^{9,12,16,44} They are also reported as having had more sexual partners.⁶ It has also been said that they have general difficulties with interpersonal relationships.^{11,13} It may not be surprising that women with this condition have sexual problems, since sexual intercourse in women with pelvic venous congestion which often accompanies CPP brings on the pain.⁴⁵ It is therefore perhaps more relevant in terms of interpersonal relationships to look at quality of intimate relationships rather than sexual statistics. None of the above studies used reliable and validated instruments to assess the quality of such relationships and in this regard it is interesting that such an instrument (the GRIMS²⁷) used in the present study shows that there is no difference between the group under investigation and normals, and a distinct difference from clients with sexual dysfunctional problems who do indeed show such impairment of relationships. In other words, although patients with CPP may have more sexual problems, the quality of their intimate relationships is not different to the reported experience of normal women in this respect. This may have to do with the strength of intimate relationships formed, and their ability to survive and adapt in the presence of a condition that limits the sexual activity possible. Alternatively it may be providing information about the choice of partners that the subjects have made, where the relative importance of sexual activity within intimate relationships is willingly downgraded by both partners. In this sense there may be a link to the Benson *et al.*⁸ study referred to above in terms of a contrast between fathers and more passive male adult partners. The previously mentioned observed tendency for the population to have fewer children than normative comparisons may also support this view. It would have been interesting to also have data on the partner's parenting experiences in this regard, to see if some kind of assortative mating was occurring; however, this was not available.

Self-esteem has not previously been reported on in patients with CPP. The relationship of 'self-esteem' to disease is complex and controversial.

However, according to Robson²⁸ who has comprehensively reviewed the subject, 'the cumulative weight of the evidence indicates that high self-esteem is associated with adaptive functioning and, unsurprisingly, greater personal contentment. Low self-esteem frequently accompanies psychological disorders such as anxiety and depression, and may be a causative or maintaining factor. It could play a part in undermining a positive response to adverse social circumstances'. The self-esteem findings here would again therefore link with the findings of greater levels of depression and anxiety detected, and indeed were correlated as shown. Robson²⁸ concludes that self-esteem can be defined as 'the sense of contentment and self-acceptance that stems from a person's appraisal of his (her) own worth, significance, attractiveness, competence, and ability to satisfy his (her) aspirations'. It seems that self-esteem is an important factor that may link other variables together and influence their effects. In particular, low self-esteem has been said to result in poor general health,⁴⁶ and in the elderly it has been associated with poorer health, more daily pain, greater disability, more somatization, anxiety and depression.⁴⁷ There is debate about the particular differences regarding this variable that relate to female as opposed to male psychology. Unfortunately specific evidence relevant to the present study is rare. If women's self-esteem, in contrast to that of men, is derived at least partly from the achievements of others, rather than solely from their own personal achievements⁴⁸ there are no obvious indicators as to why such a sense of achievement should be any less in this sample than in the general population. Household structure appears broadly similar, with the exception already noted of a somewhat lower rate of having children. However, the sensitive variables necessary to more fully investigate this area were not assessed.

The finding that our patients had lower self-esteem than normals is difficult to evaluate in the absence of a control group of other gynaecological outpatients: such a population might well feel worse about themselves than healthy normals. However, the potential importance of self-esteem may lie in its predictive value in terms of response to treatment – this requires further research. Notwithstanding we would suggest that this important variable be paid more attention than hitherto in this group.

CPP patients have long been reported as being more depressed than control groups,^{2,9–11,14–16,49} and more anxious.^{2,8,9–11,16,49} The finding that this group was more depressed and anxious is therefore in agreement with previous findings. Moreover they do not differ markedly from other outpatient populations in this regard, for instance those presenting with migraine⁵⁰ or the irritable bowel syndrome.⁵¹ As with these latter two populations

our patients also yield high scores on the anxiety related somatic complaint scale of the CCEI.³⁴

This latter finding is perhaps not surprising given the nature of the condition and, although not exactly equivalent to notions of 'somatization' has some elements in common with that concept. Other workers in this area have reported that these patients somatize or report more somatic symptoms.^{6,8,9,10,14,16} Our findings in this respect are therefore very similar to those previously reported for CPP populations and suggest that we are dealing with similar overall populations to those previously studied. At the same time our patients report significantly less psychoneurotic disturbance than a female psychoneurotic outpatient sample on the majority of scales. It is of course not possible in a cross-sectional study such as this to state with certainty whether these factors arise from the pain or are in some way causal. Nevertheless, as discussed above, this group tended to have low maternal 'care' and high paternal 'over-protection' in Parker's parental bonding index terms. Such low maternal care is the best predictor of high depression and, possibly, of anxiety in adulthood.⁴⁰ It is therefore possible that the depression and anxiety levels are not secondary to the pain, but rather that earlier experiences predispose this group to depression and anxiety, which in turn predisposes them to perceive pain. Alternatively it may be that these early experiences interact in a complex fashion to produce characteristic mental states and physiological changes in the form of pelvic venous congestion that are perceived as painful because of the existing mental state. One way of testing part of this would be to compare CPP patients with and without pelvic venous congestion and see if they differed in respect to this area; another would be to compare CPP patients with a non-pain control group, but this introduces logistical problems.

Hostility has been little studied in these patients. They have sometimes been experienced as more hostile than other gynaecological patients and this has sometimes been attributed to the chronicity of their condition. Slocumb *et al.*¹⁰ did find, on the SCL-90 anger-hostility scale,⁵² that CPP patients had significantly higher scores than a control group. In this respect the present findings of high hostility are of interest. It may have implications for why this group has come to bear the reputation

described above. However, it must be remembered that this was a (largely) tertiary referral population (43.9% from other hospitals, 36% from GPs but already seen elsewhere), and was therefore very familiar with both the health-care system and the experience of 'failure to cure' at the hands of other health professionals. Hostility in this situation may be seen as a more adaptive or, at the least, a more 'normal' response.

In conclusion, the population of women with CPP examined in the present study appeared to be similar to most previously reported populations in terms of pathology identified by laparoscopy. There was a tendency for them to have had fewer children than the general population. Despite the likelihood that they experienced more direct sexual problems because of their CPP, we did not find the quality of their intimate relationships in general to be impaired. This finding contrasts with that reported from other studies.

Previous reports suggesting that child sexual abuse may play some specific role in the aetiology of CPP were not borne out in the present study, although prior sexual abuse may yet be found to be related to the development of CPP in some subgroups.

Our patients reported more paternal overprotection, and showed a trend towards low maternal care compared to normals. Depression, anxiety and somatic anxiety were all higher and self-esteem correspondingly lower than in normal populations. Hostility was significantly greater and with a trend for it to be more outwardly directed than in normal populations: this may represent a natural response to chronic unrelieved pain, or else play some more specific aetiological role.

The findings of this study suggest that areas not previously examined in these patients are relevant to their status. These areas should therefore be borne in mind when meeting women complaining of CPP. Better characterization of subgroups within the condition is also required and the investigation of the specific relevance of the variables outlined in this study to such subgroups.

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