Non-Cardiac Chest Pain as a Persistent Physical Symptom: Psychological distress and workability.

Short title: *Non-Cardiac Chest Pain as a Persistent Physical Symptom*

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Abstract

Non-Cardiac Chest Pain (NCCP) is persistent chest pain in the absence of identifiable cardiac pathology. Some NCCP cases meet criteria for Persistent Physical Symptoms (PPS), where the symptoms are not only persistent but also distressing/disabling. This study aimed to identify patients that might need specialist treatment for PPS by looking at cases of NCCP where high levels of distress were associated, as an exemplar of PPS. We hypothesised that NCCP patients that also meet the additional criteria for heart-related PPS differ from other NCCP patients in terms of psychological variables and workability. This study was a part of a larger study where we analysed data from a subsample of 285 chest pain patients that had received an NCCP diagnosis after attending an Icelandic emergency cardiac department. We compared NCCP patients who did and did not meet the additional criteria for heart-related PPS in terms of health anxiety, general anxiety, depression, rumination, work status and total number of PPS. NCCP patients who met these criteria were more likely than other NCCP patients to be inactive or unable to work, reported more general anxiety and anxiety about their health, were more depressed, ruminated more, and had a higher number of other PPS. A high proportion of NCCP patients meet PPS criteria, and they are similar to other PPS patients in terms of comorbidity and disability, raising the possibility of focusing psychological treatment on this subgroup. We were able to identify psychological issues in those meeting criteria for PPS, which could represent feasible targets for psychological interventions.

Keywords

PPS, Persistent Physical Symptoms, Non-Cardiac Chest Pain, NCCP, Workability, Medically Unexplained Symptoms, MUS.

Non-Cardiac Chest Pain (NCCP) is defined as persistent chest pain in the absence of any identifiable cardiac pathology. NCCP can be caused and exacerbated by a variety of factors. Gastrointestinal, musculoskeletal, psychiatric and pulmonary factors are thought to explain a substantial proportion of NCCP cases (Campbell et al., 2017; Eslick et al., 2003; Frieling, 2018), and it has been suggested that an NCCP diagnosis should only be given after excluding such causes. Nonetheless, the main focus of clinical care tends to be on excluding cardiac conditions and disease; an NCCP diagnosis is given by exclusion of such causes (although other common causes may not have been). This makes NCCP a heterogeneous "diagnosis by exclusion", and thus to some extent arbitrary as the diagnosis depends on how much the service provider decides to investigate.

NCCP is common across clinical settings and has a lifetime prevalence from 20 to 33% (Eslick et al., 2003, 2003; Fass & Dickman, 2006). Chest pain is considered to be of non-cardiac origin in 70-80% of people with chest pain in primary health care and 50-80% of such cases in Emergency Departments (ED) and rapid chest pain clinics (Campbell et al., 2017; Debney & Fox, 2012; Dumville et al., 2007; Mayou et al., 1994; Stallone et al., 2014). About 2-5% of all ED visits are due to NCCP, which makes it one of the most common reasons for an ED visit (Eslick et al., 2003). No gender differences have been noted in the prevalence of NCCP, and it is relatively evenly spread across all age groups.

NCCP is associated with diminished quality of life, psychological distress, reduced ability to work, high health care consumption and high societal cost. Anxiety and mood disorders commonly co-occur with NCCP (Campbell et al., 2017; Jonsbu et al., 2009). Anxiety and depression levels of NCCP patients are similar to those with Cardiac Chest Pain (CCP) and higher than of healthy controls (Chambers et al., 2015; Webster et al., 2012).

Quality of life of NCCP patients tends to be similar or slightly better than the quality of life of those with CCP, but lower than of healthy controls (Dammen et al., 2008; Webster et al., 2012, 2014). Unemployment and work absenteeism rates are high among NCCP patients and higher than among CCP patients (Eslick & Talley, 2004). Despite a generally good long term prognosis in terms of mortality, the majority of NCCP patients continue to have problems with chest pain and continue to seek health care for their symptoms (Dumville et al., 2007; Eslick & Talley, 2004, 2008; Webster et al., 2014). This is a burden to the health care system and leads to high health care cost and high indirect cost (Eslick et al., 2003) without benefit to patients' quality of life.

A proportion of NCCP cases are likely to fall into the wider category of Persistent Physical Symptoms (PPS) (sometimes referred to as *Medically unexplained symptoms* or *Functional symptoms*). PPS are generally defined as persistent physical symptoms that do not have a clear physical underpinning but have a significant adverse impact on the person in terms of distress or disability. These symptoms can vary in duration and severity, from a single mild symptom to multiple severe and disabling symptoms. PPS are common in all medical settings (Carson et al., 2000; Kirmayer et al., 2004; Nimnuan et al., 2001; Reid et al., 2001; Roca et al., 2009) and many different types have been described and defined as syndromes (e.g., Chronic fatigue, Fibromyalgia and Irritable bowel syndrome).

PPS have been widely studied and have been linked to psychological distress (Budtz-Lilly, Vestergaard, et al., 2015b; Harris et al., 2009b; Rask et al., 2015), disability (den Boeft et al., 2016; Harris et al., 2009b; Hoedeman et al., 2009, 2010; Loengaard et al., 2015; Rask et al., 2015), work disability (den Boeft et al., 2016; Loengaard et al., 2015; Rask et al., 2015), work absence (den Boeft et al., 2016; Harris et al., 2009b; Hoedeman et al., 2010; Loengaard

et al., 2015), high unemployment rates (Amland et al., 2014; Momsen et al., 2016), risk of becoming unemployed (Hoedeman et al., 2010; Loengaard et al., 2015), and needing permanent disability pension (Rask et al., 2015).

PPS are related to high health care use and costs which tends to increase with the number of PPS symptoms and symptom severity (Barsky et al., 2005; Budtz-Lilly, Vestergaard, et al., 2015a; Konnopka et al., 2013; Reid et al., 2001). Medical interventions do not seem to lead to symptom improvement or reduction in distress caused by PPS, but NCCP and other specific types of PPS can be treated with approaches such as cognitive behavioural therapy (CBT) (Castell et al., 2011; Glombiewski et al., 2010; Karlsson et al., 2015; Laird et al., 2017; Ljótsson et al., 2014; Pike et al., 2016; White et al., 2011). Considering more distressing and disabling NCCP as an exemplar of PPS we may be able to identify a smaller group of people that have disabling symptoms that are or are likely to become chronic and who will respond to specific psychological treatment for PPS.

We hypothesise here that patients that have received an NCCP diagnosis after visiting an emergency cardiac department (CED) and also meet the additional criteria for heart-related PPS will differ from other NCCP patients, and they 1) are more likely to be inactive or unable to work 2) experience more anxiety, particularly about their health, 3) ruminate more, 4) have a higher number of other PPS and 5) are more likely to be anxious and depressed. To assess this, we directly compared NCCP patients that met criteria for heart-related PPS, because they had chronic, severe and distressing symptoms to NCCP patients that did not meet these criteria.

Materials and method

Participants

This study is a part of a larger study on chest pain patients that attended the emergency cardiac department (CED) at Landspitali-The National University Hospital of Iceland between October 2015 and December 2016. Eligible patients were all those who attended the CED due to chest pain, were between 18 and 65 years old, spoke Icelandic and were physically and mentally able to fill out the study questionnaires. To be included, patients had to have received an NCCP diagnosis and have filled out the Persistent Physical Symptom Checklist (PPSC) as the list was used to divide participants into groups. Patients diagnosed with non-cardiac conditions that could explain their chest pain or any conditions that prevented them from participating (e.g. loss of consciousness, intoxication, or critical medical condition) were excluded. Figure 1 shows the number of patients that attended the CED during the research period, how many were eligible, invited to participate, accepted participation and met the inclusion criteria.

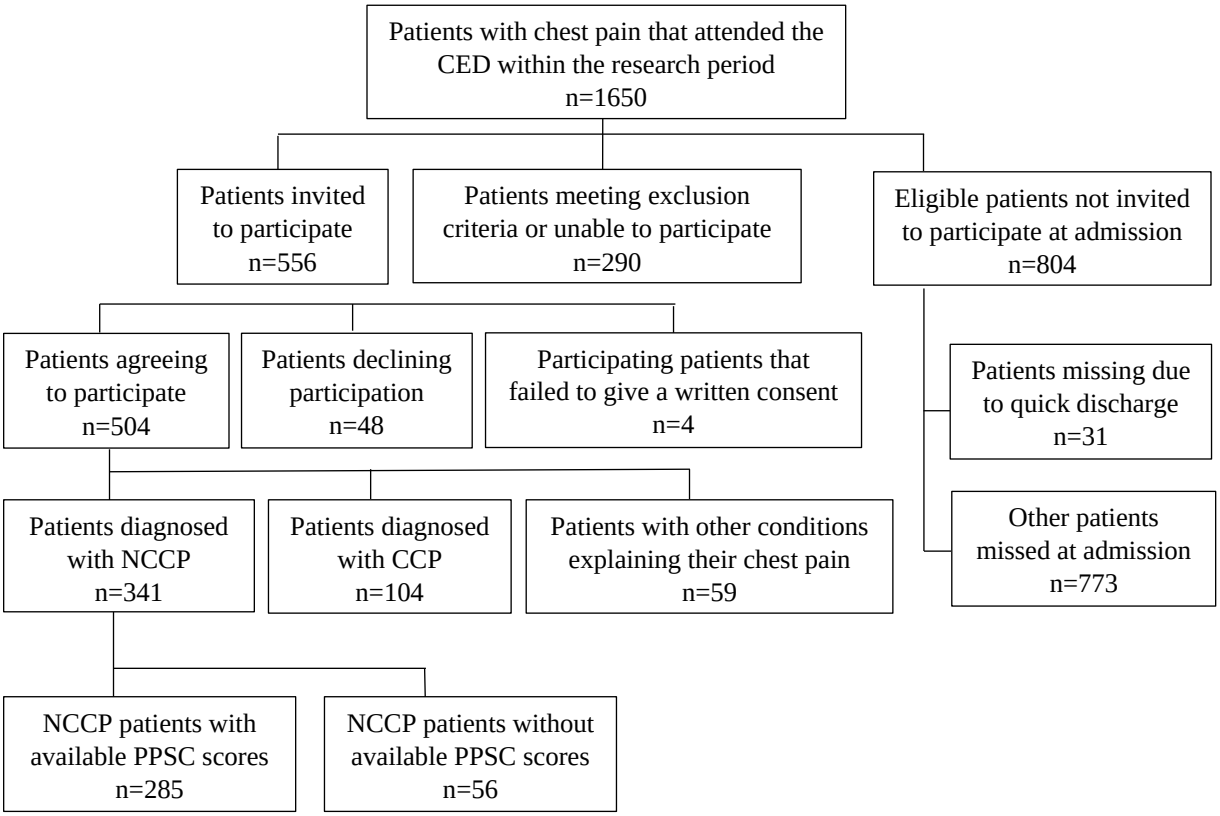

Figure 1. Flow chart of participant selection from patients attending the CED.

Many eligible patients were not asked to participate because the CED staff did not always, at busy times, have the opportunity to do so. Missed opportunities for patient recruitment are considered being at random. Participants excluded because of unavailable PPSC scores were not significantly different from the remaining patients in terms of gender, age, education or marital status.

Eighty-five patients (29.8%) met criteria for heart-related PPS on the PPSC, and 200 (70.2%) did not. The NCCP patients' age ranged from18 to 66 years. NCCP patients that met the heart-related PPS criteria were less likely to be in a relationship and to have a university

degree than those who did not. Information about gender distribution, age, education level and relationship status of both groups is presented in Table 1.

Table 1. Gender, education and relationship status of NCCP patients

Demographic variables	NCCP patients	NCCP patients with heart related PPS	NCCP patients without heart related PPS	χ^2
Gender				
Male	154 (54.0%)	48 (56.5%)	106 (53.0%)	0.29
Female	131 (46.0%)	37 (43.5%)	94 (47.0%)	
Education completed				
Primary school	60 (21.8%)	24 (28.9%)	36 (18.8%)	
Secondary school	102 (37.1%)	35 (42.2%)	67 (34.9%)	7.86*
University degree	113 (41.1%)	24 (28.9%)	89 (46.4%)*	
Relationship status				
Single, separated or widowed	66 (23.9%)	26 (32.1%)	40 (20.5%)*	4.22*
Married or cohabiting	210 (76.1%)	55 (67.9%)	155 (79.5%)*	
	M (SD)	*M (SD)*	*M (SD)*	*T*
Age	49.84 (10.68)	48.07 (12.66)	50.60 (9.65)	1.646

Note: * $p < 0.05$

Measures

Psychological measurements

The Persistent Physical Symptom Checklist (PPSC) measures persistent problems with seven types of physical symptoms that interfere with daily life, i.e., sleep problems, pain,

chronic tiredness fatigue or muscle problems, gastrointestinal problems, heart and chest symptoms, dizziness and/-or related problems and gynaecological problems. The criteria for a particular PPS is met if a respondent indicates that a particular symptom has been present for more than six months, does not have a clear medical cause and is definitely interfering with their life. An evaluation of the checklist in an internal sample of 55 participants showed adequate convergent validity.

The Short Health Anxiety Inventory (SHAI) (Alberts et al., 2013; Salkovskis, 2002) measures health-related anxiety. A cut-off score of 18 has been shown to reliably identify people meeting the DSM-IV hypochondriasis criteria. The scale has good psychometric properties, (Salkovskis, 2002; Viðarsson, 2016), and in this sample, Cronbach's alpha was 0.88.

The Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001; Pálsdóttir, 2007) measures depression severity over a two week period (Kroenke & Spitzer, 2002). It has cut-off points of 5, 10, 15 and 20 (interpreted as mild, moderate, moderately severe and severe depression). The scale has good psychometric properties (Kroenke et al., 2001; Pálsdóttir, 2007), and in this sample, Cronbach's alpha was 0.71.

The Generalised Anxiety Disorder-7 (GAD-7) (Ingólfsdóttir, 2014; Spitzer et al., 2006) measures general anxiety. It has cut-off points at 5, 10 and 15 (interpreted as mild, moderate, and severe anxiety). The scale has good psychometric properties (Ingólfsdóttir, 2014; Spitzer et al., 2006), and in our sample, Cronbach's alpha was 0.92.

The Perseverative Thinking Questionnaire (PTQ) (Ehring et al., 2011) measures self-reported rumination. The scale has 15 items, a total score that ranges from 0 to 75 and three

subscale scores. Only the total score was used in this study. The original PTQ has good psychometric properties (Ehring et al., 2011) and Cronbach's alpha was 0.97 in our sample.

Medical diagnosis.

Diagnosis, given at the CED, as well as any prior cardiac diagnoses, were retrieved from patients' medical records. The following ICD-10 diagnoses were counted as CCP: Unstable angina (I20.0), Myocardial infarction (I21), Cardiac arrest (I46), Chronic ischemic heart disease (I25), Heart failure (I50). When no diagnosis was specified in the records, an assessment was made based on physicians' notes. If they included information about known cardiac conditions, the patient was considered having CCP. The following ICD-10 diagnoses were counted as NCCP: Chest pain, unspecified (R07.4), Other chest pain (R07.3), Observation for other suspected cardiovascular diseases (Z03.5) and other diagnoses suggesting persistent physical or stress-related causes such as Myositis, unspecified (M60.9), Gastro-esophageal reflux disease without esophagitis (K21.9), Myalgia (M79.1), Acute stress reaction (F43.0) and Hyperventilation (R06.4). Patients were excluded from further analysis if they had been given a diagnosis of an acute physical condition that could have explained the chest pain such as Cholelithiasis (K80), Arrhythmia (I40), Pulmonary embolism (I26), Aortic aneurysm and dissection (I71), Cholecystitis (K81), Appendicitis (K37), Acute pancreatitis (K85), Pericarditis (I30), and Herpes zoster (B02).

Background information.

Patients provided information about their gender, marital status, employment status and the highest completed education on multiple-choice questions. We categorised employment status in two ways. First based on whether they were active, i.e., working, studying, managing a household or retired due to old age, or inactive, i.e., were unemployed, receiving rehabilitation

benefits or permanent disability pension. Secondly, based on whether they were able to work or not, i.e., if they were receiving rehabilitation benefits or permanent disability pension.

Procedure

Nurses presented the study to eligible patients at the CED at Landspitali. They asked for their informed consent and gave self-report questionnaires to those agreeing to participate. While waiting to be seen by a doctor, participants signed an informed consent, filled out the questionnaires and returned them to the department staff upon completion. The National Bioethics Committee of Iceland approved the study (application no. VSN-15-121).

Data analysis.

We divided a group of patients that had received an NCCP diagnosis after a visit to a CED in into two groups based on whether they met criteria for having heart-related PPS on the PPSC. T-tests were performed to see whether there were any significant differences in the total number of non-heart related PPS, health anxiety scores, rumination scores, general anxiety- and depression scores between the groups. To detect whether there was a significant association between having heart-related PPS and being inactive, unable to work or scoring above clinical cut off for health anxiety, general anxiety and depression, χ^2 tests were used, and odds ratios were calculated.

Results

As can be seen in Table 2, NCCP patients that met the additional criteria for heart-related PPS were more likely to be inactive or unable to work, had on average more general anxiety and anxiety about their health, were more depressed and ruminated more, than other NCCP patients. There was a significant association between meeting the additional PPS criteria and

having health anxiety and depression scores in the clinical range. NCCP patients meeting these criteria were almost four times more likely to have health anxiety scores and more than five times more likely to have depression scores in the clinical range than other NCCP patients.

Table 2. Comparisons of working status, rumination and symptoms of anxiety, depression and health anxiety between NCCP patients that did and did not meet criteria for heart related PPS.

Measure	All NCCP patients *N* (%)	Heart related PPS criteria met *N* (%)	Heart related PPS criteria not met *N* (%)	Significance χ^2	Effect size *OR*
Inactivity	27 (10.1%)	14 (18.2%)	13 (6.8%)	7.751*	3.03
Inability to work	22 (8.2%)	11 (14.3%)	11 (5.8%)	5.231*	2.71
SHAI $_{\geq 18}$	17 (6.2%)	10 (12.2%)	7 (3.6%)	7.217*	3.67
GAD-7 $_{\geq 10}$	40 (14.4%)	17 (20.7%)	23 (11.8%)	3.732	1.96
PHQ-9 $_{\geq 10}$	47 (17.0%)	29 (34.9%)	18 (9.3%)	26.949*	5.22
	M (SD)	*M (SD)*	*M (SD)*	*t*	*r*
SHAI	8.79 (5.52)	10.88 (6.83)	7.90 (4.60)	-3.615*	0.32
GAD-7	4.70 (5.02)	6.77 (5.81)	3.83 (4.38)	-4.112*	0.35
PHQ-9	6.50 (3.98)	8.47 (4.57)	5.65 (3.38)	-5.059*	0.42
PTQ	14.54 (12.44)	18.68 (13.68)	12.78 (11.46)	-3.427*	0.29
Total number of non-heart related PPS	1.31 (1.46)	2.41 (1.55)	0.84 (1.13)	-8.493*	0.61

Note. NCCP = Non cardiac chest pain; PPS = Persistent physical symptoms; OR = Odds ratio; SHAI = Short Health Anxiety Inventory; PHQ-9 = Patient Health Questionnaire-9; GAD-7=Generalised Anxiety Disorder-7; PTQ = Perseverative Thinking Questionnaire.
* $p < 0.05$

The average number of non-heart related PPS was also significantly higher in NCCP patients that met the additional PPS criteria than in other NCCP patients. As can be seen in Table 3, NCCP patients in general and those of them that do not meet the additional criteria, most

commonly do not meet criteria for any other PPS. In these groups, the number of patients meeting criteria declines as the total number of PPS symptoms grows, i.e., it is generally more common to have no or few PPS than many. On the other hand, most NCCP patients that met the additional criteria also met criteria for one or more non-heart related PPS. In fact, they most commonly met criteria for 3 to 4 other PPS as well.

Table 3. Percentage of NCCP patients meeting criteria for non-heart related PPS.

Total number of non-heart related PPS	NCCP patients meeting criteria for heart related PPS	NCCP patients not meeting criteria for heart related PPS	All NCCP patients
0	16.5	54.0	42.8
1	15.3	22.5	20.4
2	12.9	13.5	13.3
3	28.2	7.0	13.3
4	20.0	2.0	7.4
5	7.1	1.0	2.8

Note. NCCP = Non cardiac chest pain; PPS = Persistent physical symptoms.

Discussion

The aim of this study was to compare NCCP patients that met additional criteria for heart-related PPS with NCCP patients that did not. We found, as hypothesised that these patients were more likely to have multiple PPS, be inactive or unable to work, and have higher levels of general anxiety, health anxiety and depression, suggesting that there is value in this distinction.

The overall sample of 285 NCCP patients was comparable to previously studied NCCP samples in terms of age, gender, educational level and marital status (Dammen et al., 2008; Eslick & Talley, 2004, 2008; Mourad et al., 2016). Mean anxiety levels fell just below cut-off for mild anxiety as they tend to do in other studies (Eslick & Talley, 2008; Webster et al., 2012), but only 14.4% of our sample was categorised as having problems with anxiety, whereas other studies report between 21% and 53% (Webster et al., 2012). This difference is possibly explained by the fact that different scales and cut off scores have been used in different studies. The cultural characteristics of the population could also be influencing the results. However, this possible limitation of generalizability is not likely to be of major concern, as Icelanders tend to be similar to other North-European populations in terms of psychological characteristics. Mean levels of depressive symptoms in NCCP patients tend to fall just below the cut-off for mild depression (Mourad et al., 2016; Webster et al., 2012) and in our sample, they fell within mild depression. The proportion of NCCP patients that are thought to have problems with depression varies somewhat between studies (9-40%) (Mourad et al., 2016; Webster et al., 2012) and was 17% in our study. Health anxiety scores were above cut-off scores in 6.2% of all NCCP patients, which is a higher prevalence than in a general population where it has been found to be about 1.4% (Rode et al., 2006).

The two group comparison of NCCP patients showed elevations in all continuous measures of psychological distress in PPS patients. Depression scores were in the clinical range for 34.9% of these patients and health anxiety scores for 12.2% of them, while the same was true for 9.3% and 3.6% of other NCCP patients. They were more than twice as likely to be unable to work and three times more likely to be inactive and met criteria for more PPS on average. They most commonly met criteria for three to four other PPS and a minority of them

(16.5%) did not meet criteria for any other PPS. In contrast, patients that did not meet the additional heart-related PPS criteria most commonly did not meet criteria for any PPS, and if they did, they rarely met criteria for more than two PPS (10%).

These results are consistent with what is already known about PPS. When people meet criteria for a specific PPS, they often meet criteria for more than one such condition (Dimsdale et al., 2011; Wessely et al., 1999; Wessely & White, 2004), and comorbid mood- and anxiety disorders are common (Harris et al., 2009b). PPS have been shown to negatively impact quality of life, everyday functioning and workability (den Boeft et al., 2016; Hoedeman et al., 2009, 2010; Loengaard et al., 2015; Rask et al., 2015) and have been associated with increased absence from work, longer sickness leaves, unemployment and increased risk for becoming unemployed, and retiring early due to permanent disability (Amland et al., 2014; den Boeft et al., 2016; Harris et al., 2009b; Hoedeman et al., 2010; Loengaard et al., 2015; Momsen et al., 2016; Rask et al., 2015).

Our results suggest that NCCP cases that meet the additional heart-related PPS criteria are similar to other PPS in terms of comorbidity and disability. Further studies are needed on which psychological and psychophysiological factors and processes play a role in PPS and how such factors can be targeted in treatment. It also needs to be determined to which extent identified factors are common to different types or specific to particular types of PPS, including NCCP.

The importance of the present findings lies in the impressively high proportion of NCCP patients who meet criteria for heart-related PPS, almost 30% in our sample. These patients not only are more likely to have problems with multiple PPS, but a significant proportion of them also have elevated depression and/or health anxiety. This raises the

exciting possibility of focusing our effective psychological treatment on this subgroup which could benefit those most seriously affected and most likely to respond to such treatment.

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Data availability statement

The data that support the findings of this study can be made available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Declaration of interest statement

No potential competing interest was reported by the authors.

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Questionnaire on physical symptoms

We are now going to ask you some questions about "medically unexplained symptoms". These are upsetting and sometimes disabling physical symptoms for which no obvious medical explanation has been found. Please tick the boxes as appropriate.

1. **Sleep problems**
   a. Do you have problems with your sleep which have been with you for ***more than one month?*** Yes □ No □ (if no go to question 2)

      If yes, Please tick those that apply
      - □ Problems falling asleep
      - □ Problems waking through the night
      - □ Problem waking too early
      - □ Problems not feeling like you have slept

      Do your symptoms have a known cause? Yes □ No □
      If yes, what causes you to have these problems? _____

   b. How severely do your ***sleep*** problems interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

2. **Pain**
   a. Do you have problems with pain in some part of your body (for example back pain, headache and so on) which have been with you for ***more than six months?*** Yes □ No □ (if no go to question 3)

      If yes, Please specify where the pain is _____

      Do your symptoms have a known cause? Yes □ No □
      If yes, what causes you to have these problems? _____

   b. How severely do your problems with ***pain*** interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

3. **Chronic tiredness, fatigue and muscle problems**
   a. Do you have persistent problems with any of the following which have been with you for ***at least six months?*** Yes □ No □ (if no go to question 4)

      If yes, Please tick those that apply
      - □ Excessive fatigue that is not alleviated by rest
      - □ Muscle or joint aches and pains
      - □ Shaky and weak muscles

      Do your symptoms have a known cause? Yes □ No □
      If yes, what causes you to have these problems? _____

   b. How severely do your problems related to ***chronic tiredness and fatigue*** interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

4. **Gastrointestinal problems**

a. Do you have persistent problems with any of the following which have been with you for ***at least six months?*** Yes □ No □ (if no go to question 5)

If yes, Please tick those that apply

- □ Constipation
- □ Diarrhoea
- □ Stomach cramps or pains
- □ Feeling sick
- □ Lump in your throat/difficulty swallowing

Do your symptoms have a known cause? Yes □ No □
If yes, what causes you to have these problems? _____

b. How severely do your ***gastrointestinal*** problems interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

5. **Heart and chest symptoms**

a. Do you have persistent problems with any of the following which have been with you for ***at least six months?*** Yes □ No □ (if no go to question 6)

If yes, Please tick those that apply

- □ Pain in your chest or tight chest
- □ Difficulty breathing
- □ Irregular heartbeat/palpitations/heart racing

Do your symptoms have a known cause? Yes □ No □
If yes, what causes you to have these problems? _____

b. How severely do your ***heart and chest*** symptoms interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

6. **Dizziness and/or related problems**
   a. Do you have persistent problems with any of the following which have been with you for ***at least six months?*** Yes □ No □ (if no go to question 7)

      If yes, Please tick those that apply
      - □ Dizziness
      - □ Feeling faint
      - □ Feeling unsteady or balance problems
      - □ Feeling unreal or distant from your surroundings
      - □ Problems with feeling confused and/or thinking clearly
      - □ Ringing or persistent noises in your ears

      Do your symptoms have a known cause? Yes □ No □
      If yes, what causes you to have these problems? _____

   b. How severely does your ***dizziness and related problems*** interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

7. **Women only: gynaecological**
   a. Do you have persistent problems with any of the following which have been with you regularly for ***at least six months?*** Yes □ No □ (if no go to question 8)

      If yes, Please tick those that apply
      - □ Problem before your period
      - □ Problems during and immediately after your period
      - □ Menopausal problems

      Do your symptoms have a known cause? Yes □ No □
      If yes, what causes you to have these problems? _____

   b. How severely do your ***gynaecological*** problems interfere with your life, i.e., to what extent do your problems impair your ability to work, manage your home, carry out private leisure activities, take part in social activities or impair your ability to form and maintain close relationships?

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly		Very severely

8. Considering any symptoms that you ticked in items 1-7 above do you think it might be helpful to talk to a counsellor about these problems and how they affect you? **Yes** □ **No** □

9. If you were offered such help in this surgery over four to five session, would you be willing to attend? **Yes** □ **No** □