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**RELIEVED AFTER DOCTOR'S CONSULTATION?
PRIMARY HEALTH CARE PATIENTS'
COMPLAINT-RELATED WORRIES**

by

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ABSTRACT

Worry is one of the central factors in primary health care patients' experience with their current complaint. Worry is associated with, e.g., patients' expectations and the outcomes of doctor's consultations. The aim of this study was to explore primary health care patients' complaint-related worry and its changes, as well as contributing factors. Furthermore, the reasons behind patients' pre-consultation worry and possible relief were examined.

The study was conducted in a public primary health care centre in Forssa in Southern Finland. Patients, aged 18–39 years, with a current complaint were interviewed before and after a doctor's consultation. The patients' characteristics, perceptions of their complaint and their expectations and experiences concerning the consultation were obtained through interviews. In addition, two questionnaires were administered to measure general tendency to illness worry (IWS) and psychiatric symptoms (SCL-90). The patients' ratings of the intensity of worry and the severity of their complaint were measured with a visual analogue scale (VAS 0–100). Changes in worry were measured by comparing pre- and post-consultation VAS ratings and asking the patients to compare their worry after the consultation with the worry they felt before it. In connection with these ratings the patients also gave reasons for their experiences in their own words. The patients' doctors assessed the medical severity of the complaints and whether they had found a medical explanation for the complaints.

Many patients were very worried before the consultation (65 % scored over 50 points on the VAS). Worry and severity ratings were associated with the duration and course of the complaint, with a general tendency to illness worry and hostility. On average, the patients were less worried after the consultation than before it. Persistent worry was associated with the patients' uncertainty about their complaint, their perceiving it as severe, expectations for examinations and reporting symptoms of anxiety.

Patients were most often worried about the nature of their complaint (e.g. duration or intensity), not knowing what was wrong, the possible harmful effects of the complaint on body functions, the complaint's prognosis, e.g. will it get better, and their ability to function. Patients were relieved by getting an explanation or treatment or by having a positive view of the complaint's prognosis. Patients who reported uncertainty (lack of an explanation, worry about the nature of the complaint) or worry about the complaint's possible bodily harmfulness were relieved by getting an explanation, often accompanied

with getting treatment. On the other hand, worries about the ability to function tended to persist.

Doctors should bring up patients' worries for discussion in order to be able to respond to them appropriately. Because it tends to persist, worry about the ability to function should be addressed. Uncertain patients with concerns about their complaint's bodily harmfulness or psychological consequences need special attention from their doctor.

Keywords: worry, change in worry, reasons for worry, primary health care, patient experience, complaint, doctor's consultation

HUOJENTUUKO POTILAS LÄÄKÄRIN VASTAANOTOLLA? PERUSTERVEYDENHUOLLON POTILAIDEN VAIVAAN LIITTYVÄ HUOLI

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Käyttäytymistieteiden ja filosofian laitos, Psykologian oppiaine
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TIIVISTELMÄ

Vaivan (ruumiillisen oireen) aiheuttama huoli on yksi keskeisistä tekijöistä perusterveydenhuollon potilaiden sairauskokemuksessa. Huoli on yhteydessä mm. potilaan odotuksiin ja tyytyväisyyteen saamaansa hoitoon. Tämän tutkimuksen tarkoitus oli selvittää perusterveydenhuollon potilaiden vaivaan liittyvää huolta ja huolen muutoksia sekä näihin yhteydessä olevia tekijöitä. Lisäksi tutkittiin potilaiden kokemia huolen ja huojentumisen syitä.

Tutkimus suoritettiin Forssan seudun terveydenhuollon kuntayhtymän terveyskeskuksessa Forssassa. Potilaat, iältään 18 – 39 –vuotiaita, olivat varanneet ajan lääkärille ajankohtaisen vaivan vuoksi ja heidät haastateltiin ennen ja jälkeen vastaanoton. Haastatteluissa kerättiin tietoa potilaiden henkilökohtaisista taustatiedoista, potilaiden käsityksestä vaivastaan sekä vastaanottoon liittyvistä odotuksista ja kokemuksista. Kahdella kyselylomakkeella kartoitettiin yleistä terveyshuolestuneisuutta (IWS) ja psykiatrisia oireita (SCL-90). Potilaat arvioivat huolensa voimakkuutta ja vaivansa vakavuutta VAS-janoilla (0-100). Huolen muutosta mitattiin vertaamalla VAS-arvioita ennen ja jälkeen vastaanoton sekä kysymällä potilailta vastaanoton jälkeen, olivatko he enemmän, vähemmän vai yhtä huolestuneita kuin ennen vastaanottoa. Näiden arvioiden yhteydessä potilaita pyydettiin myös kertomaan omin sanoin huolensa ja huojentumisensa syistä. Potilaiden lääkärit arvioivat vaivojen lääketieteellisen vakavuuden ja sen, oliko vaivoille löytynyt riittävä lääketieteellinen selitys.

Huomattava osa potilaista oli merkittävän huolestuneita ennen vastaanottoa (65 %:lla VAS-arvo oli yli 50). Huoli ja vakavuusarviot olivat yhteydessä vaivan kestoon ja kulkuun, yleiseen terveyshuolestuneisuuteen ja vihamielisyyteen. Yleensä potilaat huojentuivat vastaanotolla. Huolissaan pysyminen oli yhteydessä vaivaan liittyvään epävarmuuteen, vaivan kokemiseen vakavana, odotuksiin jatkotutkimuksiin ohjaamisesta ja potilaan kokemiin ahdistuneisuusoireisiin.

Potilaiden huoli liittyi usein vaivan piirteisiin (esim. kestoon ja voimakkuuteen) sekä epätietoisuuteen (mistä vaivan kohdalla on kysymys). Muita yleisiä syitä huoleen olivat potilaan epätietoisuus vaivan mahdollisista haitallisista ruumiillisista vaikutuksista ja vaivan tulevasta kulusta (esim. paraneeko vaiva). Potilaat olivat myös huolissaan toimintakyvystään. Potilaat huojentuivat, jos saivat selityksen tai hoitoa vaivaansa tai

koska uskoivat vaivan hyvään ennusteeseen. Potilaat, jotka kokivat epätietoisuutta (selityksen puute, vaivan huolestuttavat piirteet) tai huolta vaivan ruumiillisista vaikutuksista, huojentuivat saadessaan selityksen, mihin usein liittyi myös hoidon saaminen. Sitä vastoin toimintakykyyn liittyvä huoli oli usein pysyvää.

Lääkäreiden tulisi ottaa potilaiden huoli puheeksi vastaanotolla voidakseen huomioida sen asianmukaisesti. Toimintakykyyn liittyvää huolta pitäisi käsitellä potilaan kanssa, koska tämä huoli on usein pysyvää. Lääkäreiden tulisi kiinnittää erityistä huomiota epävarmoihin potilaisiin, jotka ovat huolissaan vaivan mahdollisista haitallisista vaikutuksista ruumiintoimintoihin tai psykologisista seurauksista (esim. keskittymis- tai mielialavaikkeudet).

Avainsanat: huoli, huolen muutos, huolen syyt, perusterveydenhuolto, potilaan kokemus, ruumiillinen vaiva, lääkärin vastaanotto

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LIST OF ORIGINAL PUBLICATIONS

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- II** **Laakso, V.**, Niemi, P.M., Grönroos, M., & Karlsson, H. (2008). Relieved
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- III** **Laakso, V.** & Niemi, P.M. (2013). Primary health care patients' reasons
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1 INTRODUCTION

Worry is one of the central factors in a person's experience upon noticing a somatic complaint. Worry can be considered a normal and adaptive human reaction to the health threat that the current complaint represents (Tallis, Davey & Capuzzo, 1994; Fink et al., 1999). Worry encourages people to pay attention to their health and motivates them to take appropriate actions, for example, to seek medical help.

However, worry about health also has other consequences. It is associated with patients' expectations; for example, patients with high worry are more likely to want examinations from their doctor (Kravitz et al., 1996; Little et al., 2001). High worry is also associated with dissatisfaction with care (Marple, Kroenke, Lucey, Wilder & Lucas, 1997; Frosthalm et al., 2005a) and poorer recovery (Brody & Miller, 1986; Kroenke & Jackson, 1998; Jackson & Passamonti, 2005). Encounters with worried patients are more often experienced as "difficult" by doctors (Jackson, 2005). Worry about the complaint having serious consequences predicts higher health care utilisation (Frosthalm et al., 2005b), and patients with long-term persistent hypochondriacal worry are often frequent attenders in primary health care (Jyväsjarvi, 2001). Furthermore, worried patients are at risk of developing psychiatric disturbances, such as somatoform disorders (Fink et al., 1999).

Patients' treatment would benefit from doctors exploring and discussing their worry with them. However, this is difficult because patients often leave their concerns unexpressed during the consultation (Barry, Bradley, Britten, Stevenson & Barber, 2000; Floyd, Lang, McCord & Keener, 2005). Knowledge about factors associated with patients' worry and awareness of patients' thoughts and ideas behind worry and relief would help doctors plan their actions during the consultation.

In this thesis the terms "doctor" and "physician" are used to refer to medical doctors in general. Doctors working in the field of general practice or family medicine are, in addition, referred to as "general practitioners", abridged "GPs".

In Finland, primary health care services can be obtained in municipal health centres, funded by taxes, or in the private health care system, funded partly by national health insurance. In addition, occupational health care services are delivered by private and municipal providers to employees with working status. The present study was carried out in a municipal health centre that serves residents of all ages and every social status in the municipal area in question. The health centre operates with a “personal doctor system”, that is, every patient is assigned to a particular doctor based on place of residence.

Municipal health centres offer a wide variety of services, including preventive services and general outpatient care. Doctors can collaborate with several other clinicians working in the health centres, including nurses, public health nurses, dentists, social workers and psychologists. General practitioners are “gatekeepers” to specialised care. Approximately only 5 % of health centre visits lead to specialised care referrals, that is, most of people’s health needs can be taken care of at the primary care level (Teperi, Porter, Vuorenkoski & Baron, 2009).

In this thesis the word “consultation” or “medical consultation” refers to an event where a doctor sees a patient with the aim of preserving or improving the health status of the patient. Because the focus of this thesis is on worry raised by a somatic complaint, the studied consultations were initiated by the patients because of a health problem. Other types of events, e.g. medical check-ups, were not included.

The focus of this study was on adult primary health care patients. Worry experienced by children as patients or by their parents is not discussed.

1.1 Perceptions of illness and worry

When people notice bodily symptoms, they normally try to develop some kind of own understanding of their complaint. They appraise their symptoms and compare them with their previous experiences and knowledge. According to the self-regulatory model (Leventhal et al., 1998), patients’ perceptions of illness are comprised of five dimensions. These are the illness identity (symptoms and illness label, e.g. “migraine”), the cause of the illness (e.g. hereditary, bacteria), the timeline (acute vs. chronic illness),

the consequences of the illness (e.g. social, economic) and perceived control over the illness.

These perceptions are associated with emotional reactions such as worry. Worry is a common and normal reaction when a person is faced with a health threat. The intensity of worry varies according to how a person sees the complaint. For instance, a person feeling chest pain would experience a different threat and higher worry if he or she determines that it is a heart attack rather than assuming it is muscle tension (illness label). Or, if the patient anticipates major negative consequences to his or her life from the complaint, it would evoke stronger worry compared with minor or no consequences at all (Leventhal, Nerenz & Steele, 1984).

Worry has been defined as anxious apprehension of future negative events, which involves “a predominance of negatively valenced verbal thought activity” (Borkovec, Ray & Stöber, 1998, p. 562) and minimal levels of imagery (Holaway, Rodebaugh & Heimberg, 2006). It represents an attempt to engage in mental problem-solving in an issue whose outcome is uncertain but contains the possibility of one or more negative outcomes (Borkovec, Robinson, Pruzinsky & DePree, 1983). Chains of worrisome thinking involve “What if...” type questions about anticipated threat or danger to oneself or others; for example, “What if this complaint means I cannot walk in the future?” or “What if this complaint cannot be treated and I have to suffer from it the rest of my life?” (Papageorgiou, 2006).

1.2 Health anxiety and related constructs

Health-related worries are usually transient and they tend to abate when a complaint gets better. Sometimes these worries remain intense and persist—a phenomenon referred to as health anxiety. Health anxiety involves health-related fears and beliefs, based on interpretation or *misinterpretation* of bodily signs and symptoms as being indicative of a serious illness. This is often accompanied by excessive preoccupation with one’s bodily state, which makes it more likely for a person to notice somatic signs that can be interpreted as threatening symptoms. Health anxiety may also lead to

distorted perception of health-related communication, such as the content of doctor-patient communication (Lucock & Morley, 1996).

A severe and clinically significant form of health anxiety is known as hypochondriasis. It involves a strong fear and conviction of having a serious illness, which is accompanied by intense distress and usually impairs functioning (Asmundson, Taylor, Sevgur & Cox, 2001). Another related concept is somatisation. This refers to a condition where a person “complains of physical symptoms that cause excessive worry or discomfort or lead the patient to seek treatment, but for which no adequate organ pathology or pathophysiological basis can be found” (Fink, Rosendal & Toft, 2002, s.99). Patients with somatisation often present several different symptoms and are at risk of unnecessary physical examinations and treatments (Rosendal, Fink, Bro & Olesen, 2005).

Patients suffering from health anxiety are prone to seek medical consultations in their effort to seek reassurance. Visiting their doctor gives such patients immediate relief from their anxiety, which reinforces this kind of behaviour. Unfortunately, their anxiety returns and they again need to see the doctor. As a result, such patients may use health care services excessively (Asmundson et al., 2001).

According to the cognitive-behavioural hypothesis of health anxiety, a patient's reactions to a health threat depend on the perceived probability of the threat and the perceived cost or awfulness of the danger. Aspects of the awfulness of the complaint are its perceived severity and the anticipated consequences of the complaint. The more severe the patient perceives the complaint to be and the harder the consequences the patient expects the complaint to have, the higher is his or her health anxiety (Salkovskis & Warwick, 2001).

However, feelings of anxiety may be modified by a perceived ability to cope with the threat and perceived available rescue factors. Helpful medical treatment represents one form of rescue factors and, consequently, may contribute to diminishing anxiety even though the patient perceives his or her complaint as quite awful (Salkovskis & Warwick, 2001).

1.3 Health-related worry and perceptions of a complaint's severity

Research on health-related worry in primary health care patients has mainly concentrated on *general illness worry*, i.e. feelings of worry that health-related matters evoke in patients in general. This worry has been measured with questionnaires, such as the Whitley Index (e.g. Peveler, Kilkenny & Kinmonth, 1997; Jyväsjarvi, 2001), the Illness Worry Scale (IWS) (Kirmayer & Robbins, 1991), the Health Anxiety Questionnaire (HAQ) (Lucock & Morley, 1996; Conroy, Smyth, Siriwardena & Fernandes, 1999) and the Illness Attitude Scale (IAS) (Speckens, Spinhoven, Sloekers, Bolk & van Hemert, 1996; Hollifield, Paine, Tuttle & Kellner, 1999). The proportion of primary health care patients reporting significantly high worry, often called hypochondriacal worry, has ranged approximately from 0 % to 20 % in these studies. However, general illness worry does not convey how worried patients are over the complaint they are currently experiencing, although these two probably correlate. Focusing on patients' feelings about a specific complaint would provide an opportunity to explore worry in more detail, especially its changes and the reasons behind it.

Previous studies about primary health care patients' *complaint-related worry* before a consultation have reported a *proportion* of 63 to 68 per cent feeling worried (Southgate & Bass, 1983; Jackson, Kroenke & Pangaro, 1999; Marple et al., 1997; Jackson & Kroenke, 2001; Jackson, 2005). However, a limitation of these studies is that they measure worry by connecting it to severity perceptions. The patients are asked, e.g. whether they are worried that the cause of the symptom might be something serious (Marple et al., 1997) or whether they are worried that the problem is the start of something serious (Southgate & Bass, 1983). This method makes it impossible to measure feelings of worry and patients' perceptions of the complaint's severity separately, and it is hard to interpret the results. For instance, it is possible that a patient appraises a complaint as severe, but is not worried about it, because he or she has faith in good treatment options.

In a study in Belgium (Matthys et al., 2009), GP trainees undergoing observational training were asked to observe and record patients' expressions of concern during a primary care consultation. They used a registration form including a yes/no question:

“Is concern (fear/worry) of the patient about a possible diagnosis or therapy present in the consultation?” Of the patients with a new reason for a visit, 47 % expressed concerns. This proportion is less than reported in the studies described above, which inquired directly from the patients. However, this result is to be expected, since patients often leave some of their concerns unexpressed (Barry et al., 2000).

The proportion of worried patients may vary according to the kind of complaint the patients have. In the study by Marple et al. (1997), worry was least reported (49 %) by patients with symptoms of upper respiratory tract infection (URI, usually sore throat, cough, nasal symptoms). Of patients with pain, 68 % reported worry, and 78 % of patients with other kinds of complaints expressed worry.

A few studies have measured the *intensity* of complaint-related worry with Likert scales. Brody & Miller (1986) focused solely on patients with URI symptoms in a walk-in clinic of a university hospital, where medical residents treated acute nonemergency illnesses. They asked the patients “How serious do you feel your problem is?” and “How afraid are you that this problem might lead to more serious problems?” (Likert, 1 = not at all, 4 = very). Because the study focused on factors that predict URI symptom recovery in a one-week follow-up, the results were only reported as either asymptomatic (none of their original symptoms were still present in the follow-up) or symptomatic (one or more of the symptoms were still present). The levels of pre-consultation concern about the seriousness of the complaint were 3.5 and 3.3, respectively, and the levels of worry about future problems were 3.5 and 3.2, respectively. Here, again, is present the limitation of summing up worry and severity appraisals.

One previous study focused on patients’ complaint-related worry and measured it separately from severity perceptions (Van De Kar, Van Der Grinten, Meertens, Knottnerus & Kok, 1992). In this study, which used a structured questionnaire with 5-point Likert scales, primary health care patients were asked the following questions: “Are you worried by the complaint itself?” (1 = “not worried at all”, 5 = “very worried”), “Do you think your complaint is serious?” and “Do you think your complaint has to do with a serious disease?” (1 = not serious at all, 5 = very serious). The means of the pre-consultation answers resulted in 2.90 (SD = 1.1) for worry and 3.16 (SD =

0.94) and 2.06 (SD = 0.83) for the two severity perceptions. The different means indicate that experiences of worry and severity of a complaint are not identical.

1.4 Changes in the prevalence and intensity of complaint-related worry

Most of the studies described above also explored the *change* in patients' complaint-related worry. The results indicate that worry tends to decrease during a consultation. The proportion of patients who were worried about a serious illness declined in the different studies from 64 % to 18 % (Jackson et al., 1999), from 63 % to 30 % (Jackson & Kroenke, 2001) and from 64 % to 32 % (Jackson, 2005) immediately after the consultation. Marple et al. (1997) found a decrease from two-thirds before the consultation to 28 % at a two-week follow-up.

The intensity of worry also tends to decrease during a consultation. In the study by Van De Kar et al. (1992), the mean scores of complaint-related worry decreased from 2.90 before the consultation to 2.23 after the consultation. However, the change in worry may be different in different subgroups of patients. The study by Brody & Miller (1986) revealed that worry about the seriousness of URI symptoms decreased from 3.5 to 2.9 for asymptomatic patients and increased from 3.3 to 3.6 for symptomatic patients within a follow-up period of 36 hours. In addition, worry about symptom-related future problems decreased from 3.5 to 2.5 for the asymptomatic patients, but remained unchanged for the symptomatic patients (3.2 and 3.2).

1.5 Factors associated with complaint-related worry and its changes

In the study by Van De Kar et al. (1992), higher complaint-related pre-consultation worry was predicted by patients' lower self-perceived health status compared with others of the same age, longer duration of the complaint, higher perceived severity of the complaint (both measures), higher need for information about the complaint and a higher number of consultations during the past year. After the consultation, patients were asked if they had had an opportunity to discuss their health-related uncertainty and anxiety during the consultation (satisfaction with the discussion of worry, Likert 1–5, 1

= far too little, 5 = more than enough). The patients that were very satisfied with their discussion were less worried than the less satisfied patients.

Jackson & Kroenke (2001) reported that patients who had residual worry about a serious illness after a consultation were more likely to report an unmet expectation. Brody & Miller (1986) found that worry about a complaint's seriousness decreased (data collected within 36 hours after the consultation) on average for asymptomatic patients (at a 1-week follow-up) from 3.5 to 2.9, but a similar change was not found for symptomatic patients (respective means were 3.3 and 3.6).

1.6 Reasons for complaint-related worry

To gain further understanding about why patients worry or why they get relieved, their reasons behind these experiences should be explored. So far, there has been very little systematic research on the reasons behind primary health care patients' pre-consultation worry about their current complaint.

Southgate & Bass (1983) used a set of cards, where every card contained one statement of worry. Patients having an appointment with their GP were asked to sort the cards into three boxes: "agree", "disagree" or "uncertain". According to the "agree" answers, the most often mentioned worries concerned effects on family (24 %), reduced sports or activity (22 %) and discomfort or job (16 %). In all, 15 % of the patients worried about the problem being the start of something serious.

In addition, some studies have explored worries related to specific illnesses, e.g. diabetes or whiplash (Delahanty et al., 2007; Russell & Nicol, 2009). Furthermore, examples of complaint-related worries, such as losing autonomy or inability to work, have been reported (Brorsson & Råstam, 1993; Lang, Floyd, Beine & Buck, 2002).

To sum up, previous research points out that worry over a current complaint is a frequent experience among primary care patients and the average intensity of worry may be moderately high. However, many of these studies have a narrow perspective on

patients' feelings of worry as they attach them solely to thoughts about the complaint's seriousness. Knowledge about factors that predict higher worry is very scarce. Furthermore, previous research indicates that worry tends to decrease, on average, during a consultation. These results show evidence of a changing trend—relief—but they do not reveal any details about the underlying change patterns. For example, some patients may remain equally worried or even become more worried than before the consultation. Moreover, there are almost no reports about factors predicting different kinds of change patterns, i.e. relief or persistent worry. Finally, the reasons behind patients' complaint-related pre-consultation worry are poorly known and, to the author's knowledge, no previous study has explored patients' reasons for *post*-consultation relief or persistent worry.

2 AIMS OF THE STUDY

The present study aimed to examine complaint-related worry in adult primary health care patients. The intended study group consisted of patients, aged 18 to 39 years, who had made an appointment with their GP because of a current somatic complaint other than a common cold. These inclusion criteria were chosen because the aim of the present study was to reach patients with probably short illness histories and complaints whose origin would not be obvious to them. In other words, in these cases there is likely to be more room for subjective appraisal of the complaint and more potential for change in worry during the consultation.

The study was conducted in a genuine primary health care environment by interviewing patients. The focus was on the intensity of worry and on its changes, as well as on the factors associated with these changes. The aim was also to explore the patients' own views about their reasons for being worried or not.

The research questions were as follows:

- 1. How worried are primary health care patients over their complaint before a consultation and which factors contribute to the intensity of worry (Study I)?** The studied factors were patient characteristics (sex, age, education, employment status, life stress, general illness worry and psychiatric symptoms), patients' perceptions of their complaint (type, duration, course, prognostic belief, the certainty of the illness label, i.e. the patient's conviction of what is wrong with him/her) and patients' expectations and experiences concerning the consultation. In addition, the medical severity of and medical explanations for the complaint, assessed by GPs, were included.
- 2. Are patients' ratings of their complaint's severity associated with their complaint-related pre-consultation worry and which factors affect the severity ratings (Study I)?** The studied factors as above.
- 3. Do the patients get relieved or stay worried over their complaint after the consultation and which factors contribute to the change in or persistence of worry (Study II)?** The studied factors as above.

- 4. What are the patients' reasons for complaint-related worry before and after the consultation, and what are the reasons for possible relief (Study III)?**
- 5. What are the processes of relief and persistent worry, i.e. which reasons for worry tend to persist, and are specific reasons for relief associated with specific reasons for pre-consultation worry (Study III)?**

3 METHODS

3.1 Health care setting

This study was carried out in a public primary health care centre with a “personal doctor system” that serves the 38,000 inhabitants of the town of Forssa and its rural surroundings in Southern Finland. As a general rule, patients only need to wait a very short time for an appointment; a patient calling in the morning may be scheduled for a consultation during the same day.

3.2 Study procedure

Receptionists recruited consecutive patients ($n = 62$) who were booking appointments and who met the inclusion criteria (age between 18 to 39 years with a somatic complaint other than a common cold). After obtaining informed consent, the researcher contacted the patients and asked them to make arrangements for participation in interviews immediately before and after the consultation. The patients were told that the study was about how patients themselves experience their health and illness, and that the results would be useful in developing health care services. It was emphasised that the study interviews were separate from the clinical work of the health care staff and would not influence the care they would receive from their GP.

The doctors in the health care centre were informed that the study focused on patients with a somatic complaint and that the aim was to examine the patients’ own perception of their health. The GPs were also told that, after the patients were interviewed, the researcher would ask the doctors about some aspects of the patients’ health relevant to the study, including the medical severity of the complaint and whether the doctors had found a sufficient physical explanation for the patients’ complaint. The doctors were unaware of which of their patients belonged to the sample; this was revealed to them only after the consultation when the researcher interviewed them. The patients were distributed among all 16 doctors working in the health care centre. The ethical committee of the Kanta-Häme Hospital District approved the study protocol.

3.3 Study design and measures

The participants arrived in the Health Care Centre in Forssa half an hour before their scheduled doctor's appointment and the author interviewed them in a room reserved for the study. Immediately after the consultation the patients returned to the study room and the post-consultation interview took place. The pre-consultation interviews lasted about half an hour; the post-consultation interviews mostly between half an hour and one hour.

The semi-structured interviews contained both closed and open questions. The answers to the open questions were written down by the author word by word. At the end of the post-consultation interview, the patients completed two questionnaires (IWS and SCL-90).

A summary of the analysed data and the main methods used in the different studies is presented in Table 1.

Patient characteristics

In the pre-consultation interview, information about the patients' age, sex, education and employment status was obtained. In the post-consultation interview, the patients were asked about their possible stress factors in life, and the number of stress factors they mentioned was recorded.

General illness worry and psychiatric symptoms

The Illness Worry Scale (IWS, range 0–9) measures general tendency to worry about health (Robbins & Kirmayer, 1996). The IWS is comprised of nine yes-no questions on tendency to worry about being or becoming ill, sensitivity to pain and tendency to think that other people do not consider one's illness serious enough. The author translated the Illness Worry Scale into Finnish with the permission of Professor James M. Robbins (see Appendix 1), following the standard translation-back translation procedure. The internal consistency of the Finnish version in this sample was good (Cronbach's alpha .74).

Table 1. Summary of the participants, variables, measures and data analyses in Studies I–III.

	Study I	Study II	Study III
Participants	n = 62	n = 62	n = 40, patients with significant pre-consultation worry (VAS>50)
Variables and measures	Pre-consultation worry (VAS) Pre-consultation severity rating <i>assumed untreated</i> (VAS) Pre-consultation severity rating <i>assumed treated</i> (VAS) Patient characteristics (sex, age, education, employment status, life stress) Patients' perceptions of their complaint (type, duration, course) General illness worry (IWS) Psychiatric symptoms (SCL-90) Medical severity (doctor-evaluated)	Pre- and post-consultation worry (VAS) Pre- and post-consultation severity rating <i>assumed untreated</i> (VAS) Pre- and post-consultation severity rating <i>assumed treated</i> (VAS) Comparison question of worry Patient characteristics (sex, age, education, employment status, life stress) Patients' perceptions of their complaint (type, duration, course, prognostic belief, certainty of illness label) Patients' expectations from the consultation (examination, explanation, treatment, sick leave) Patients' experiences after the consultation (examination, explanation, treatment, sick leave) General illness worry (IWS) Psychiatric symptoms (SCL-90) Medical severity (doctor-evaluated) Medically explained complaint (doctor-evaluated)	Reasons for pre-consultation worry Reasons for post-consultation worry and relief
Data analyses	Student's <i>t</i> -test for paired samples Spearman's rank correlation coefficient Regression analysis Analysis of variance General linear model (GLM)	Student's <i>t</i> -test for dependent samples Fisher's exact test Simple binary logistic regression analysis	Thematic content analysis

The Symptom Check-List-90 (SCL-90) measures symptom reporting with nine psychiatric Likert-type sub-scales (range 0.00–4.00) (Derogatis, Lipman & Covi, 1973). It includes sub-scales about somatisation, depression, anxiety, hostility, phobic anxiety, obsessive-compulsive symptoms, interpersonal sensitivity, paranoid ideation and psychoticism. The SCL-90 has been validated for the Finnish population (Holi, Samallahti & Aalberg, 1998).

Patients' perceptions of their complaint

In the pre-consultation interview, the patients were asked thoroughly about their complaint, including the type, duration and perceived course of their complaint. In the post-consultation interview, the patients were asked how they expected their complaint to develop in the future (prognostic belief).

In addition, in both interviews, the patients were asked with an open question about their illness label, that is, what disease or condition they thought their complaint was a sign of. After they had given the illness label, they were asked to rate on a visual analogue scale (VAS, 0 = not at all certain, 100 = completely certain) how certain they were that they were right (certainty of the illness label).

Complaint-related worry: intensity, changes and reasons

In both interviews, the patients were asked to rate the intensity of their complaint-related worry on a VAS. To fade out the apparent focus of the study and to minimise demand characteristics, these ratings were done in the middle of the interview. The VAS scales consisted of 10-cm solid lines with no breaks and the end points verbally defined (0 = not at all worried, 100 = extremely worried). The researcher explained the idea of the scale and asked the patients to mark the point on the scale that best described their experience.

Change in the intensity of worry was measured by comparing the pre- and post-consultation VAS ratings. In addition, in the post-consultation interview the patients

were asked with a direct question if they felt more, less or equally worried compared with their worry before the consultation (comparison question of worry).

After rating their worry with the VAS, the patients were asked to give reasons for their worry in their own words (open question). The same request was presented to them in association with the comparison question in the post-consultation interview. So, the data about the patients' reasons for complaint-related worry or relief were obtained from their verbal reports (qualitative data).

Severity ratings of the complaint

In both interviews, the patients were also asked to give two VAS ratings on their assumption of the severity of their complaint (0 = not at all serious, 100 = life-threatening). The first severity rating was based on the patients' assumption that the complaint would be *treated* and the second one was based on their assumption that it would go *untreated*. The latter (*without treatment*) was assumed to capture the patients' perception of an acute threat caused by the complaint, whereas the former (*with treatment*) was considered to indicate their perception of the future threat and rescue factors. The term "treatment" in the instructions referred to any form of action taken to relieve or remove the somatic problem, including self-care by the patient and medical treatment by professionals.

Patients' expectations and experiences concerning the consultation

In the pre-consultation interview, the patients were asked what they expected from the upcoming consultation. The variables "expectation for examination", "expectation for explanation", "expectation for treatment" and "expectation for sick leave" are based on the answers to this question. In the post-consultation interview, the patients were asked to describe the events that took place during the consultation in an open question. From their answer it was determined whether they had gotten treatment of any kind or sick leave. They were further asked with closed questions (yes/no) whether they had gotten an explanation for their complaint and whether the doctor had referred them to examinations.

Medical severity of and medical explanations for the complaint

Afterwards, each patient's GP was asked if they had found a sufficient physical explanation for the complaint (medically explained complaint, yes/no). Thus, the definition of a medically explained complaint relied totally on the GP's opinion. This procedure is congruent with that used in a study of primary care patients with medically unexplained symptoms (Salmon, Dowrick, Ring & Humphris, 2004).

Furthermore, the GPs classified the medical severity of their patients' complaints into the following categories: self-limiting (probably harmless, self-limiting illness or dysfunction, e.g. muscle tension), curable (causal treatment available, not seriously threatening to life or functioning even if left untreated, e.g. otitis media), chronic (chronic condition; symptoms can be alleviated but their cause is not curable; not seriously threatening to life or functioning, e.g. allergic eczema), treatment-requiring (seriously threatening to life or functioning if not treated, e.g. tonsillitis) or severe (seriously threatening to life or functioning even if treated, e.g. cancer, diabetes).

3.4 Participants

Of the 127 patients approached, 107 were eligible; 45 (42 %) of these were not able to participate, mostly (32 patients, 71 %) due to practical problems and the need to make arrangements on very short notice (e.g. absence from work, transportation). The non-participants did not differ statistically significantly from the participants in terms of sex ($\chi^2 = 1.141$, $P = 0.285$) or age [M(SD): participants 26.7 (5.7), non-participants 29.2 (7.3), $t = 1.906$ (95 % CI: -5.10–0.11), $P = 0.06$].

Table 2. Patient and complaint characteristics (n = 62)

Variable	Categories	n	%
Sex	Female	35	56
	Male	27	44
Age	18–25 years	30	48
	26–32 years	22	35
	33–39 years	10	16
Basic education^a	junior secondary school	41	67
	senior secondary school	20	33
Vocational education	no vocational education	11	18
	vocational school	31	50
	post-secondary education	20	32
Employment status	employed	33	53
	unemployed	11	18
	student	15	24
	other	3	5
Life stress	no report of life stress factors	14	23
	one stress factor mentioned	21	34
	two or more stress factors mentioned	27	44
Type of complaint	musculoskeletal symptoms	30	48
	headache	7	11
	abdominal symptoms, nausea	10	16
	cardio-pulmonary symptoms	5	8
	dermatological problems	6	10
	other	4	6
Duration of complaint	< two weeks	24	39
	two weeks–three months	21	34
	> three months	17	27
Perceived course of complaint	stable	15	24
	deteriorating	16	26
	improving	5	8
	variable	26	42
Prognostic belief about the complaint's development	will get worse	2	3
	will stay unchanged	10	16
	will get better	13	21
	will be completely cured	37	60
Doctor-evaluated medical severity of the complaint	self-limiting	22	35
	curable	20	32
	chronic	13	21
	requires treatment	7	11
	severe	0	0
Doctor-evaluated medically explained complaint	yes	43	69
	no	19	31

^a Basic education was unknown for one patient.

The study group ($n = 62$) consisted mainly (89 %) of patients aged 18 to 33 years (Table 2). About half (56 %) of them were female. Altogether 53 % were employed, and 24 % were students. Nearly half of the patients suffered from musculoskeletal symptoms, the rest of them had abdominal symptoms, headache, dermatological problems, cardio-pulmonary symptoms or a few miscellaneous symptoms. The majority of the patients (73 %) had suffered from their complaint less than three months. The median duration of the complaints was 26 days. None of the complaints were classified as medically severe by the GPs.

The vast majority of the patients ($n = 55$; 89 %) scored below the cut-off point of 4 points for hypochondriacal worry on the questionnaire measuring general illness worry (IWS, range 0–9) (Robbins & Kirmayer, 1996). On the questionnaire measuring psychiatric symptoms (SCL-90), the mean values of the different sub-scales (range 0.00–4.00) varied from 0.21 (SD = 0.37) for phobic anxiety to 0.85 (SD = 0.48) for somatisation and 0.84 (SD = 0.75) for depression, which correspond to the scores of the non-psychiatric community population in Finland (Derogatis et al., 1973; Holi et al., 1998).

3.5 Data analyses

The study followed a concurrent mixed methods approach (Dures, Rumsey, Morris & Gleeson, 2011; Creswell, Fetters & Ivankova, 2004). The interviews offered both quantitative and qualitative data, which were gathered concurrently (see Table 1). In the first study, the data on the intensity of complaint-related worry, the patients' ratings of their complaint's severity and contributing factors were analysed with quantitative methods. Next, in the second study, the change in worry and associated factors were also analysed quantitatively. Finally, in the third study, a qualitative method was employed to analyse the reasons behind the patients' worry. So, the qualitative data illuminated further the patients' experiences and complemented the results from the quantitative analyses.

Study I. Pre-consultation complaint-related worry, severity ratings and contributing factors (research questions 1 and 2)

Descriptive statistics (M, SD, distribution) were used to determine the average intensity of the patients' pre-consultation worry (VAS rating), its variation and the proportion of significantly worried patients. The difference between the severity ratings of the complaint *assumed treated* and *assumed untreated* was analysed by Student's t-test for paired samples. The associations between the intensity of worry and the severity ratings were analysed using Spearman's rank correlation coefficient (r_s).

Regression analysis and analysis of variance were used to analyse the statistical significance of the quantitative and categorical variables associated with the intensity of worry and the severity ratings (*assumed treated*). At this stage, only the ratings concerning complaint severity *assumed treated* were included in the analysis, because they reflect the patient's experience of a health threat more appositely at the moment when he or she is about to get medical attention for the complaint.

All significant variables were used in the second stage of the analysis. The general linear model (GLM) is a convenient, simple generalisation of regression and variance analysis used to handle both quantitative and categorical independent variables that may interact. General linear models were fitted with significant variables and the medical severity of the complaint to find their significance and to detect the interactions of these variables. Non-significant terms were dropped from the model one by one. Finally, the partial correlation between the intensity of worry and the severity ratings *assumed treated* was computed.

Study II. Change in complaint-related worry and the variables that contribute to relief or persistence of worry (research question 3)

Firstly, the pre- and post-consultation VAS ratings of worry were compared by using Student's t-test for dependent samples to find out whether there was a general decrease in worry.

Secondly, the patients were divided into three sub-groups based on the intensity of and change in worry: the *non-worried* patients (n = 22; 35 %) scored low (VAS < 50) in both pre- and post-consultation ratings; the *relieved* patients (n = 18; 29 %) scored high (VAS > 50) before the consultation but at least 40 points less after the consultation; the *persistently worried* patients (n = 22; 35 %) scored high (VAS > 50) before the consultation and their scores remained high (decrease less than 40 points) after the consultation. By using this kind of categorisation procedure the intensity level of worry before the consultation could be taken into consideration in the change. Otherwise, if the change in the pre- and post-consultation VAS ratings would have been used as a continuous measure, the non-worried and persistently worried patients would not have been differentiated. For instance, they could both have received the value 20 on a continuous measure of worry change even though their actual experiences would have been totally different (non-worried patient: 30 - 10 = 20; persistently worried patient 100 - 80 = 20).

The pre- and post-consultation ratings of the complaint's severity (VAS), *assumed treated* and *assumed untreated*, were compared by using Student's t-test for dependent samples. This was done separately in every sub-group of worry change.

The change in the certainty of the illness label was classified into three categories: *increase* in certainty (post-consultation score at least 11 points higher than pre-consultation score), *decrease* in certainty (post-consultation score at least 11 points lower than pre-consultation score) and *no change* (change equal to or less than 10 points in either direction).

The three sub-groups of change in worry were compared for the doctor-evaluated medical severity of their complaints by using Fisher's exact test. Other predictors of change in worry were analysed with simple logistic regression analysis.

Study III. Patients' reasons for worry and relief and change processes in the reasons for worry (research questions 4 and 5)

Only the initially worried patients (n = 40), i.e. patients with *significant pre-consultation worry* (VAS > 50) were included in the analyses, because, unlike the *non-*

worried patients, they could give reasons for both worry and relief. The cutting-point (VAS > 50) was the same as the one used in study II.

The analysis was conducted through thematic content analysis (Joffe & Yardley, 2004; Green & Thorogood, 2009). With this qualitative method the key elements in the patients' verbal accounts of reasons for worry could be identified and presented in a summarised way. The analysis was inductive, i.e. the identified themes were drawn from the data. The inductive approach allowed grasping the patients' own perspectives on and the idiosyncratic meanings attached to their complaints. A deductive approach would have suffered from a possible loss of information, because there is very little earlier knowledge about patients' reasons for worry, which would have been needed to base the created themes on. After identifying the key elements in the patients' answers, theories such as the self-regulation model (Leventhal et al., 1998) and the cognitive-behavioural model of health anxiety served as a basis for understanding, interpreting and conceptualising the meanings of reasons for worry for the patients.

Combinations of words and sentences related to each other through content, i.e. expressing one reason for worry, were used as meaning units. The meaning units were classified into categories which were exhaustive and mutually exclusive (Tuomi & Sarajärvi, 2004; Graneheim & Lundman, 2004).

To begin with, the author read through all the answers, identified the themes emerging from them and compiled preliminary descriptions and definitions for each category. The patients' answers often consisted of several meaning units, since they could give several reasons for their worry. Furthermore, in the post-consultation interview, the patients might give reasons for both relief and persistent worry. Consequently, a patient's answer might be given several category codes.

Thereafter, another researcher independently coded the data on the basis of the category descriptions compiled by the author. This increased the trustworthiness of the analysis. Incongruent classifications were then discussed, and the category boundaries and criteria were specified further. The final categorisation was achieved by means of these negotiations (Joffe & Yardley, 2004).

To find out the most common reasons for worry and relief (quantitative descriptive information), the number and percentage of patients who mentioned the category in question were calculated.

Finally, possible processes for relief or persistent worry were described. The analysis was based on patients who *consistently* reported either relief or persistent worry (Table 3). These patients were identified on the basis of three methods (criteria): the VAS ratings of pre- and post-consultation worry, the comparison question on worry and the reported reasons for relief and worry after the consultation. This resulted in two patient groups: those who reported relief consistently on the basis of all three criteria and those who reported persistent worry consistently on the basis of all three criteria. The “*relief group*” (n = 11) consisted of those whose worry was considered to be relieved according to their VAS ratings (*relieved* patients), who reported being “less worried” after the consultation and who gave reasons for relief after the consultation. The “*group of persistent worry*” consisted of patients (n = 14) whose worry persisted according to their VAS ratings (*persistently worried* patients), who answered “equally worried” or “more worried” to the comparison question and who still reported reasons for worry after the consultation. For these *consistently reporting* patients, the reasons for pre-consultation worry and post-consultation worry or relief were compared with each other to find out if the reasons for worry tended to persist and if specific reasons for relief were associated with specific reasons for pre-consultation worry (Table 3).

Table 3. The criteria on which basis the patients were divided into the “*relief group*” and the “*group of persistent worry*”.

Criteria	<i>Relief group</i> (n=11)	<i>Group of persistent worry</i> (n=14)
Sub-group on the basis of the VAS rating of worry	<i>relieved</i>	<i>persistently worried</i>
Answer to the comparison question	“less worried”	“equally worried” or “more worried”
Reported reasons for worry	reported reasons for post-consultation relief	reported reasons for post-consultation worry

4 OVERVIEW OF THE RESULTS

A complete presentation of studies I–III is available at the end of this publication.

4.1 Study I: Pre-consultation worry

Pre-consultation complaint-related worry, severity ratings and contributing factors (research questions 1 and 2)

This study explored pre-consultation complaint-related worry in primary health care patients ($n = 62$) as well as the patients' perceptions of their complaint's severity and the factors contributing to these perceptions.

It turned out that the intensity of worry, measured with a VAS (0–100), varied considerably (range of the answers 0–100). The mean on the VAS was 59.7 ($SD = 30$). Moreover, 65 % of the patients scored over 50 points and 23 % over 90 points on the visual analogue scale. More intense worry was experienced by the patients whose complaint had lasted for at least two weeks, who had no vocational education and who reported a higher general tendency to illness-related worry and more symptoms of hostility, but less symptoms of phobic anxiety.

The patients' perceptions of their complaint's severity were measured by two different ratings: the first one assuming the complaint would be *treated* and the other one assuming it would be *untreated*. The patients perceived their complaints as less severe when they assumed they would be treated ($M = 13.8$, $SD = 16.5$) than if they assumed they would not be treated ($M = 46.8$, $SD = 24.4$). The complaints were rated more severe (assumed *treated*) by the patients who reported a higher general tendency to illness-related worry, more symptoms of hostility and whose complaint had troubled them constantly since its emergence.

The severity ratings correlated with the intensity of worry, in other words, the more severe the patients rated their complaint, the more worried they were about it. However, when all the significant factors (duration and course of the complaint, vocational education, general tendency to illness worry and symptoms of phobic anxiety

and hostility) were controlled, the association between worry and severity ratings disappeared. Hence, these factors also explain the association between the intensity of worry and the severity rating. In other words, the above-mentioned significant factors (duration and course of the complaint, etc.) contributed to both higher worry and perceptions of greater severity.

The medical severity of the complaint (assessed by the GP) was associated with neither the intensity of complaint-related worry nor the patients' evaluations of the severity of their complaint.

4.2 Study II. Change in worry

Change in complaint-related worry and the factors that contribute to relief or persistence of worry (research question 3)

This study examined whether primary health care patients get relief during a consultation or whether they stay worried, and which factors are associated with different change patterns. The participants were the same as in Study I above (n = 62).

On average, the patients were less worried after the consultation than before it (decrease in mean from 59.7 to 36.3 on a VAS). After the consultation, half of the patients reported in the comparison question that they were equally as worried as before the consultation, while 42 % were less and 8 % of the patients were more worried than before the consultation.

The patients were divided into three sub-groups according to the change in their ratings of worry on the VAS: *non-worried* (both pre- and post-consultation worry on the VAS < 50; n = 22), *relieved* (pre-consultation worry on the VAS > 50 and decrease in worry at least 40 points; n = 18) and *persistently* worried (pre-consultation worry on the VAS > 50 and decrease in worry less than 40 points; n = 22) patients. This classification was significantly associated with the results from the comparison question [Chi-square 16.196 (4), p = .003]. Of the *relieved* patients, 66.7 % reported in the comparison question that they were less worried; of the *persistently* worried patients, 81.8 % reported that they were equally or more worried than before the consultation (Table 4).

Table 4. Association between the VAS worry change group and the comparison question

VAS worry change group Comparison question	Non-worried		Relieved		Persistently worried		Total	
	n	%	n	%	n	%	n	%
less worried	10	45.5	12	66.7	4	18.2	26	41.9
equally worried	12	54.5	6	33.3	13	59.1	31	50.0
more worried					5	22.7	5	8.1
Total	22	100	18	100	22	100	62	100

Chi-square 16.196 (4), $p = .003$

The three sub-groups did not differ from each other in terms of the medical severity of their complaint (assessed by the GP). Still, the *persistently worried* patients themselves rated their complaint more severe (assumed *treated*) than the other patients after the consultation. About half of the *non-worried* and *relieved* patients said they were more certain about their illness label after than before the consultation. In contrast, this was true for only about a quarter of the *persistently worried* patients, and four of them even reported an increase in uncertainty.

The *persistently worried* patients were more likely to expect a referral to medical examinations compared with the other patients. Eight of the 11 *persistently worried* patients who expected an examination also got one.

The *persistently worried* patients scored higher on the SCL-90 sub-scales of anxiety and psychoticism than the other two groups. They received psychoticism scores mostly (15 out of 19 patients) on the question concerning the feeling that something is seriously wrong in their body.

4.3 Study III. Reasons for worry

Patients' reasons for worry and relief and change processes in the reasons for worry (research questions 4 and 5)

This study explored the reasons patients themselves gave for their worries before a consultation and for possible relief or persistent worry after the consultation. Only patients with significant pre-consultation worry (VAS > 50) were included in the analyses (n = 40).

First, the content and frequency of different reasons for worry and relief were identified. Before the consultation, the patients were most often worried about the complaint's effect on their ability to function. They were also commonly worried about not knowing what was wrong (lack of an explanation), the nature of the complaint (pain, duration, etc.) and the possible bodily damage the complaint might be a sign of. After the consultation, in addition to lacking an explanation and losing the ability to function, they worried over the prognosis of the complaint, e.g. the possibility of the complaint getting worse.

After the consultation the patients reported relief on the grounds of getting an explanation or treatment for their complaint, as well as having confidence in the complaint's positive prognosis, e.g. the probability of the complaint getting better.

Then, the processes of relief and persistent worry were explored, i.e. were specific reasons for pre-consultation worry associated with specific reasons for post-consultation worry. Patients who reported uncertainty (lack of an explanation, worry about the nature of the complaint) or worry about the complaint's possible bodily harmfulness were relieved by getting an explanation, often accompanied with getting treatment. Worry about the ability to function tended to persist and was not totally relieved without treatment. The patients who were worried about death or the psychological consequences of the complaint (such as nervousness, difficulty in concentrating) before the consultation tended to be worried even after the consultation. Their worry persisted because they were left without an explanation for their complaint or they reported mistrust in health care.

5 DISCUSSION

This study expands our knowledge about primary health care patients' complaint-related worry. Its findings illuminate areas that have been scarcely studied, namely, the reasons behind primary health care patients' pre-consultation worry and the factors contributing to relief and persistence of worry after the consultation. In addition, to the author's knowledge this is the first study to explore patients' *reasons for post-consultation worry and relief*.

The results of this study indicated that primary health care patients are commonly worried over their complaint before visiting their doctor, even if their complaint would not be medically serious. Patients with less education, a general tendency to illness-related worry and hostility, fewer symptoms of phobic anxiety and whose complaint had lasted longer were more prone to experience intense worry. As a rule, patients were less worried after the consultation. However, three groups of patients with different change patterns could be identified: non-worried, persistently worried and relieved patients. Persistently worried patients were more anxious, perceived their complaint as more serious, were more prone to expect a referral to medical examinations and were less certain about what was wrong than the other patients.

The most common reasons for patients' worry were uncertainty about the nature and bodily harmfulness of the complaint, concerns about one's ability to function and the complaint's prognosis. Patients were relieved by getting an explanation or treatment or by having confidence in a good prognosis. Uncertain patients were relieved by getting an explanation for their complaint. Worry about the ability to function tended to persist and was only relieved by treatment. Patients worried about death or the complaints' psychological consequences, such as nervousness or difficulty in concentration, before the consultation tended to still feel worried after the consultation, then caused by lack of an explanation or mistrust in health care.

5.1 Pre-consultation worry, severity ratings and contributing factors

Most of the patients were worried over their complaints and many of them reported significant worry. This confirms the findings in previous studies about the commonness and intensity of worry (Southgate & Bass, 1983; Jackson et al., 1999; Marple et al., 1997; Jackson & Kroenke, 2001; Jackson, 2005; Brody & Miller, 1986; Van De Kar et al., 1992). Furthermore, one-fourth of the patients reported intense worry (VAS > 90) even though their complaints were not medically severe. Thus, the doctor cannot automatically predict the patient's worry on the basis of his/her own medically based evaluation of the complaint's severity.

Patients perceived their complaints as less severe when they assumed they would be treated. This finding indicates that perceived rescue factors and control over the illness, such as available treatment, are important elements of the patients' perception of their complaint and the associated feeling of worry (Leventhal et al., 1998; Salkovskis & Warwick, 2001).

Factors contributing to the intensity of worry were the patients' education and psychological characteristics as well as their perception of the duration and course of the complaint. Less educated patients were prone to be more worried. Furthermore, patients whose complaints had lasted more than two weeks were more worried. Previously, Van De Kar et al. (1992) found, that longer duration of the complaint contributed to higher worry. Kroenke and Jackson (1998) also demonstrated that patients whose complaints had not improved within two weeks were more likely to report persistent illness-related worry in a three-month follow-up. In addition, if the complaint had bothered the patients in a similar way since its emergence, they tended to perceive it as more severe, even if assumed it would be treated. Obviously, the perceived characteristics of the complaint have an impact on what conclusions the patients make about them and how much worry the complaints awaken (Leventhal et al., 1998).

Both severity ratings, given by the patient, correlated with the intensity of worry, which is congruent to the findings of Van De Kar et al (1992). In other words, the more severe

the patients rated their complaint, the more worried they were about it. The association between the intensity of worry and the severity appraisals disappeared when all the contributing factors were controlled. It is probable that complaint-related worry and severity appraisal are basically two manifestations of the same complaint-related experience of imminent threat, the former reflecting its emotional and the latter its cognitive dimension, as proposed in the parallel processing model by Leventhal et al. (1984).

Patients with a general tendency to worry about health were more prone to feel extremely worried about their current complaint and to evaluate a constantly bothering complaint as severe even if they assumed it would be treated. Similarly, the tendency to hostile reactions predicted a higher level of worry and higher ratings of severity. These dispositions have some resemblance to negative affectivity (McClure & Lilienfeld, 2001)—e.g., worry, hostility and interpersonal problems—which is often found to be related to frequent symptom reporting, health anxiety and somatisation (Kirmayer, Robbins & Paris, 1994). This suggests that these patients need special attention from the GP, because they may develop the most threatening attributions for their complaints.

5.2 Change in complaint-related worry and factors that contribute to relief or persistence of worry

Generally, the patients were less worried after the consultation than before it. This finding is in line with previous studies indicating that patients' worry decreases during a consultation (Jackson et al., 1999; Jackson & Kroenke, 2001; Jackson, 2005; Marple et al., 1997; Van De Kar et al., 1992). In other words, a GP's consultation has great potential in reassuring patients with medically non-serious problems.

However, there were also patients whose worry persisted. Initially, persistently worried and relieved patients were equally worried, and both groups perceived their complaint as severe. After the consultation, the persistently worried patients still perceived their complaint as severe (even when assumed treated), while the relieved patients did not perceive their complaint as serious any longer. It may be argued that the reason for this

difference lay in the complaints, that is, that the relieved patients would have had less severe and more easily explainable or treatable complaints. According to the attending GPs, however, the complaints of the persistently worried patients were not more serious medically than those of the relieved patients, and the complaints could equally often be medically explained in both groups. It seems that the relieved patients were more prone to accept the reassuring message of the doctor and perceive it as an important rescue factor (Salkovskis & Warwick, 2001). Maybe this is associated with the reasons for worry; perhaps certain kinds of worrisome thoughts are more difficult for the doctor to react to in an appropriate way.

The persistently worried patients reported more psychiatric symptoms, especially anxiety. Their higher scores on the psychoticism scale were probably not due to psychotic reactions, but rather to beliefs that something was wrong in their body. The persistently worried patients were prone to expect further medical examinations, which was also found to be true in the study by Little et al (2001). This expectation is understandable on the basis of the patients' threatening appraisals of their complaint and general proneness to anxiety, especially to health anxiety.

In most cases, the persistently worried patients' expectations for examinations were met during the consultation, but getting a referral did not relieve them. Examinations do not seem to calm down worried patients, as was also shown in the study by Lucock, Morley, White & Peake (1997). Maybe examinations are not effective in reassuring worried patients because examinations do not change the threatening severity appraisals that the patients have attached to their complaint if these appraisals or the implications of the examinations have not been discussed during the consultation.

After the consultation, the persistently worried patients were equally or even more uncertain of what was wrong with their health than before the consultation. So, persistent uncertainty was associated with persistent worry. Uncertainty also came up as one of the central factors when patients told in their own words about their reasons for worry.

5.3 Patients' reasons for worry and relief

The patients reported as reasons for their worry *uncertainty* (not knowing what is wrong and not understanding the nature of their symptoms), the *consequences* of the complaint, insufficient *control* or rescue factors (inadequate treatment, mistrust in health care) and *prognosis*. In addition, after the consultation, patients were worried because the complaint was still present. As a whole, these same categories of reasons for worry also existed after the consultation, but in individual cases the reasons for pre-consultation worry tended to be replaced with other reasons after the consultation. In addition, some patients remained worried because the complaint was still present. Most often patients' worry was caused by uncertainty and concerns about their ability to function and vice versa; patients were most often relieved by getting an explanation or by getting treatment for their complaint, as well as by having confidence in a positive prognosis. Patients who were worried because of a lack of an explanation for their complaint before the consultation were relieved by getting an explanation from the GP. On the contrary, worry about the ability to function tended to persist and could only be relieved by getting treatment. Patients who were worried about death or the psychological consequences of the complaint (such as nervousness, depressive mood, difficulty in concentrating) before the consultation tended to be worried even after the consultation. The persistence of their worry was associated with the experience of being left without an explanation and mistrust in health care.

Uncertainty regarding the nature of the complaint as one of the key experiences is not surprising in the case of primary health care patients, especially young adults, who are often visiting a doctor about their complaint for the first time and do not yet have an established diagnosis. Most of these uncertain patients were relieved by getting an explanation for their complaint. This finding is in line with a previous study (Woloshynowych, Valori & Salmon, 1998) showing that primary care patients found talking about their symptoms with the doctor most helpful, as was having the GP explain what was wrong with them.

Worry about the complaint causing bodily damage can also be considered an expression of uncertainty and experience of a health threat. This kind of worry was relieved by getting an explanation or by a referral to medical examinations, which could be seen as

a way to find out what is wrong and anticipation of rescue. In addition, worry about the complaint's psychological consequences seemed to be associated with uncertainty, since relief depended on getting an explanation. Reporting psychological consequences of the complaint can be taken as an expression of a strong emotional load associated with the current complaint. Constant rumination about what is wrong along with impaired mood and cognitive functioning may provide room for negative appraisals of the complaint and, consequently, experiences of an increased health threat. This vicious circle tends to perpetuate patients' worry, which is consistent with the cognitive-behavioural hypothesis of health anxiety (Salkovskis and Warwick, 2001). If this is the case, the strongest experiences of a health threat and, consequently, expectations for rescue by health personnel may emerge in these patients.

Uncertain patients often prefer to visit a familiar doctor, i.e. they value continuity in health care (Turner et al., 2007), which for them may represent a "promise" of "stronger rescue" by a trusted doctor. Being left in a state of uncertainty and worry after a consultation also easily leads to dissatisfaction with the consultation (Frosthalm et al., 2005b). This, in turn, may result in doctor shopping in an effort to find a "better" doctor that meets the patient's expectations.

Concerns about the ability to function were among the common reasons for worry. This result is in line with a previous study (Southgate & Bass, 1983), where worries about the complaint's effect on family, job or sports/activity were the most frequently mentioned. Obviously, the ability to lead an active life and carry out daily chores was important for the patients (Johansson, Hamberg, Westman & Lindgren, 1999). In contrast to the other reasons for worry, worry over the ability to function tended to persist after the consultation. Unless the patients got treatment they perceived as effective, worry related to these goals turned out to be persistent. Presumably, these patients knew what was wrong with them, as their worry did not persist because of getting no explanation for the complaint. They only wanted to get relief from their sickness, i.e. control over the complaint was a key issue for them.

5.4 Methodological considerations

5.4.1 Strengths and limitations of the study

The study interviews were conducted in the natural context of a primary health care setting with genuine patients, immediately before and after an authentic consultation. This design increases the credibility of the study. The patients' worry was explored separately from the patients' appraisal of their complaint's severity. Thus, the experience of worry could be studied "purely", and worry resulting from reasons other than the assumed seriousness of the complaint could also be captured.

The intensity of worry and the patients' severity appraisals of their complaints were measured on visual analogue scales which were solid lines without breaks or numbers. Both extremes were verbally described and the patients were given personal assistance if they had problems in understanding the task. These qualities correspond to the recommendations made by Miller and Ferris (1993) about valid use of a VAS as a measure of subjective phenomena. In general, the patients did not find it difficult to use the VAS, and they were also able to give verbal reasons for their appraisals. This speaks for the validity of the VAS ratings in the present study.

The criteria for persistent or relieved worry according to the VAS ratings, that is, the cutting points on the scale, had no validated basis, which is a limitation of the study. The successfulness of the chosen criteria could be partly assessed by comparing the classification with the results received with the comparison question (Table 3). This comparison revealed that, overall, the classification was appropriate. Most (81.8 %) of the persistently worried patients, according to the VAS classification, reported in the comparison question that they were equally or even more worried than before the consultation. The association between the variables was a little weaker for the relieved patients, but, nevertheless, two-thirds of them reported that they were less worried. In addition, when interpreting these results, it is important to understand that some of the patients were indeed partly relieved. This phenomenon was confirmed by the qualitative data, where the same patient could give reasons for both relief and persistent worry.

The research procedure was demanding, because the patients had to be available for interviews both before and after the consultation and the interviews had to be fit into the

time schedules of the consultations in the health care centre. Consequently, the sample was small for multiple statistical analyses. Because of the simple model used and the large number of comparisons made, some of the statistically significant findings may be found by chance. The association between prescription of examinations and persistent worry was not significant in this study, but could perhaps become significant with a larger sample (Study II).

Actual events during the consultation were not recorded, since the focus was on the patients' subjective experiences and views. For instance, the patients' reports about getting an explanation for their complaint must be taken as the patients' experience, not as an objective measure or "truth" of what really happened in the consultation room. In addition, double-blind assessment of the medical severity of the complaints was not used because the notes on the patient charts of the health care centre were very scarce and, as such, uninformative for another doctor not familiar with the patient and his/her background. Hence, such double-checking would not have enhanced the reliability of the classifications.

A mixed methods approach was used, where the results from the quantitative methods (Studies I and II) were complemented with analyses from the qualitative data (Study III). Consequently, the quantitative results could be further illuminated. Letting the patients describe their experiences in their own words provided new knowledge, e.g. about what may lie behind the patients' appraisal of their complaint's seriousness. Another example is the experience of uncertainty, which, on the basis of the quantitative analysis, turned out to be associated with persistent worry. The results with the qualitative methods supported this finding and, in addition, further illuminated the experience of uncertainty; it may be associated with concerns about bodily damage as well as the complaint's psychological consequences, like nervousness or diminished ability to concentrate.

5.4.2 Generalisability of the results

The patients were young adults; 80 % of them were 18–32 years old. They contacted the primary care centre with various complaints that are fairly common in the primary care

setting (Njalsson & Mcauley, 1992). The patients' general tendency to illness-related worry was mostly on a non-hypochondriacal level (Robbins & Kirmayer, 1996). The patients' reports of psychiatric symptoms were accordant with the Finnish non-psychiatric population (Holi et al., 1998). None of the patients' complaints were assessed as medically severe by the doctors. To conclude, the patients represented quite well the intended study population, i.e. young adult non-psychiatric patients in primary health care, who were suffering from common complaints.

Notably, because the studied patients were young adults, aged 18 to 39 years, the results may not be generalised to older age groups. It is probable that older patients' complaints differ from those of younger ones, e.g. in terms of duration and severity. Their complaints may also more often be a sign of a chronic condition, familiar to the patient from before. As a result, their worry experience may be different from younger patients' experience.

The non-participation rate was fairly high (42 %), which was mainly due to the demanding research procedure and practical problems in participation. The non-participants did not differ from the participants in terms of age and sex. Although it is unlikely, the possibility that the patients who were more concerned about their complaints might have been more willing to discuss health-related matters with an interviewer cannot be excluded. Such bias would mean an overrepresentation of intense worry in this study.

Because the GPs did not consider any of the patients' complaints medically severe, the results can only be generalised to young adults with no serious diagnoses given by a GP. This should be kept in mind when considering the finding that the medical severity of the complaint did not explain relief or persistence of worry. Presumably, an association between the medical severity of the complaint and the change in worry could be found in larger samples that also include more seriously ill patients who have gotten a severe diagnosis from a GP.

6 CONCLUSIONS

6.1 Main results

Primary health care patients are commonly worried over their complaints when waiting to visit their doctor. Especially patients with low education, a tendency to generally worry about their health and complaints that have lasted long and bothered them in a constant way are likely to feel worried. The doctor cannot predict the patient's intensity of worry on the basis of the complaint's medical severity.

Generally, patients' worry tends to decrease during a consultation. However, different patient groups can be identified. Some patients with intense worry before a consultation get relieved while others remain worried. Again, relief or persistence of worry cannot be predicted on the basis of the complaint's medical severity. Instead, persistence of worry seems to be associated with patients' anxiety, tendency to think something is seriously wrong in their body and thoughts that the complaint is a sign of something serious. This kind of thinking leads worried patients to expect medical examinations, but a referral to examinations is not enough to reassure them.

One prominent reason for patients' worry is uncertainty. When primary health care patients, especially young adults, visit their doctor with a new complaint, they don't know for sure what's wrong and they seek an explanation. Since in most cases the explanation is reassuring, the experience of a health threat decreases and the patients become less worried.

The patient's experience of uncertainty may also be accompanied with worry related to the complaint's psychological consequences, such as negative emotions or inability to concentrate. Not knowing what's wrong may cause the patient's thoughts circle around this theme and this, in turn, may make the patient nervous or impair his/her ability to concentrate. In addition, uncertainty may be associated with mistrust in health care, which means the patient finds it difficult to have confidence in rescue factors. Patients whose uncertainty is perpetuated—or even increased—remain worried after the consultation.

Patients who are worried over their ability to function remain worried if they don't get treatment they perceive as adequate. Presumably, these patients know what's wrong; they don't expect to get an explanation for their complaint. They seek recovery in order to be able to live a full and active life again.

This study showed that the self-regulatory model of illness perceptions (Leventhal et al., 1998) serves as an appropriate conceptual framework for understanding and analysing the worry experiences of primary health care patients. Patients draw conclusions on the basis of the characteristics of their complaint (symptoms) and they search for an explanation (illness label). In other words, their perception of the illness identity affects their feelings of worry. The anticipated consequences as well as perceived control over the complaint also have an impact on patients' worry. In contrast, the dimensions "cause" and "timeline" (acute vs. chronic) did not come up in the patients' reports. It is possible that these dimensions are not central in the perceptions of primary health care patients, especially if they do not yet have a diagnosed disease.

This study also provides further support to the cognitive-behavioural hypothesis of health anxiety (Salkovskis & Warwick, 2001). Feelings of worry were strengthened when the complaint was perceived as serious or having negative consequences, that is, as a sign of an awful threat to health and life. On the other hand, diminished awfulness (getting a probably reassuring explanation) and strengthened trust in rescue (getting treatment and trust in health care) led to mitigated worry and relief (Salkovskis & Warwick, 2001).

6.2 Practical implications

It is difficult for doctors to know how worried their patients are and for what reasons. Patients often leave their concerns unvoiced (Barry et al., 2000; Floyd et al., 2005) and the doctor cannot predict the intensity of their patients' worry on the basis of the medical severity of their complaint. Doctors should be aware that behind patients' worry are not always thoughts about having a serious illness, but also other concerns.

Discussions with the patient about the diagnosis and prognosis of the complaint as well as about uncertainty that the patient feels have previously been shown to contribute to diminished worry (Jackson, 2005; Van De Kar et al., 1992). Also the results in this study speak on behalf of using a patient-centred interview method in a primary care setting (Larivaara, Kiuttu & Taanila, 2001). Patient-centred interviewing by a GP encourages patients to express their own views of their complaint and possible related concerns. In this way the doctor can bring patients' possible uncertainty and threatening attributions up for discussion. For instance, Lang et al. (2002) showed that when the doctor asked directly about patients' concerns, many of them revealed specific worries that had not been otherwise disclosed. When the GPs are aware of their patients' worries, they can respond to them in a way the patients understand and can accept. This can prevent unnecessary return visits, excessive diagnostic testing and symptom amplification (Epstein et al., 2007).

Patients' own views of their condition, but also their medical knowledge and emotional state, may filter to a great extent what kind of information they are inclined to pick up from their GP's messages and how they understand and recall that information. And in turn, this understanding may affect the patient's perception of illness and consequent anxiety or worry (Ley, 1979; Kessels, 2003). In this study less educated patients were prone to feel more worried. Consequently, the doctor should communicate with the patient in a way that takes into account the patient's education and previous knowledge. It is also recommended that the doctor should ensure the patient has understood the doctor's message and that, when necessary, the doctor should inform the patient further.

Worry about the ability to function tends to persist and these patients are not easily reassured after a consultation if they do not get the treatment they expect. Relief may come later if the patient witnesses a favourable effect of the treatment received. Meanwhile, it is important that the GP tries to encourage patient optimism, e.g. by focusing attention on the positive measures that already have been taken and perhaps on further treatment possibilities, if available.

The findings in this study suggest that mistrust in health care undermines the relieving effect of a consultation (e.g. getting an explanation). Consequently, actions that strengthen patients' trust in health care would be important. Previous studies indicate that exploring patients' illness experience also contributes to patients' trust (Fiscella et

al., 2004) and, thus, the patient-centred approach is further advocated. In addition, patients' trust is promoted by personal continuity (visiting a familiar doctor) (Schers, Van Den Hoogen, Bor, Grol & Van Den Bosch, 2005; Turner et al., 2007) and by the doctor's competence and caring attitude (Thom, 2001).

To conclude, in order to prevent patients' worry from persisting or increasing, doctors should ask patients about their worries and listen carefully to their answers. Different worries require different kinds of responses from the doctor. For instance, if the patient is worried because of uncertainty, its background needs to be further explored and the worrisome aspects need to be addressed. Some uncertain patients may be relatively easily reassured by giving an explanation for their complaint. Other uncertain patients may be very intolerant of uncertainty; they may find it stressful and upsetting and they may be prone to constant rumination about possible negative outcomes. These patients need deeper discussion about their uncertainty (Koerner & Dugas, 2006). If the ability to function is the key issue for the patient, treatment options need to be discussed. It is also recommended that the doctor asks the patient if the discussion has been reassuring enough and if further actions are needed. Patients benefit from the experience that the doctor takes them and their concerns seriously, really listens to their worries and responds to them with empathy. This experience increases patients' trust in health care and strengthens thoughts of a positive prognosis of the complaint.

Some recommendations for the education of doctors and nurses can be made on the basis of the findings of this study. In teaching communication with the patient, it is important to emphasize that patients compose their own view of their complaint and it may be very different from that of health professionals. Consequently, to find out the patient's view, the health professional should ask it directly. This is recommended especially in cases where routine medical information does not seem to calm down the patient enough. Instead of providing more medical information or offering medical solutions like medication or further examinations, it could be more beneficial if the doctor examined the patient's own view of the complaint and discussed this view with him or her. Furthermore, health professionals should be aware that patients may perceive their complaint's threat to their ability to function as very worrisome. To prevent this worry from persisting, it should be discussed with the patient. Effects of treatment should be emphasized when possible, and in other cases the threat should be

discussed in a way that accepts the patient's worry but at the same time highlights coping possibilities.

6.3 Suggestions for further research

In the present study, the post-consultation interviews were conducted directly after the consultation. Consequently, they were able to capture only immediate change in worry. In the future, follow-up studies are needed in order to explore patients' long-term experiences of worry.

More research is needed to establish the prevalence of patients' reasons for worry in primary health care patients of all ages. Different types of uncertainty as the reason for worry could be further illuminated by using, for instance, a narrative approach or clinical interviews.

There is a need to know more about what patients with different reasons for worry perceive as reassuring in their doctor's actions. For instance, how do patients with different kinds of uncertainty perceive different kinds of reassuring actions from their doctor, what may increase patients' worry and what would patients experience as providing relief.

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APPENDIX

APPENDIX

NIMI _____ PVM _____

SAIRAUSHUOLIKYSELY (IWS)

Seuraavassa on muutama kysymys sairastamiseen liittyen. Merkitse rasti jokaisen kysymyksen jälkeen joko ”kyllä”- tai ”ei”-ruutuun sen mukaan, mitä mieltä asiasta olet.

	kyllä	ei
1. Oletko mielestäsi alttiimpi sairastumaan kuin muut ihmiset?	<input type="checkbox"/>	<input type="checkbox"/>
2. Oletko mielestäsi huolissasi terveydestäsi enemmän kuin useimmat muut ihmiset?	<input type="checkbox"/>	<input type="checkbox"/>
3. Jos saat tietoja jostain sairaudesta (radiosta, televisiosta, sanomalehdistä tai tuttavien kertomana), huolestutko, että voisit itse sairastua kyseiseen tautiin?	<input type="checkbox"/>	<input type="checkbox"/>
4. Oletko sitä mieltä, että ruumiissasi on jotain vakavasti vialla?	<input type="checkbox"/>	<input type="checkbox"/>
5. Oletko herkempi kivulle kuin muut ihmiset?	<input type="checkbox"/>	<input type="checkbox"/>
6. Sairastutko helposti?	<input type="checkbox"/>	<input type="checkbox"/>
7. Ajatteletko usein, että saatat yhtäkkiä sairastua?	<input type="checkbox"/>	<input type="checkbox"/>
8. Tuntuuko Sinusta, että ihmiset eivät ota sairauttasi tarpeeksi vakavasti?	<input type="checkbox"/>	<input type="checkbox"/>
9. Oletko usein huolissasi sellaisesta mahdollisuudesta, että Sinulla on vakava sairaus?	<input type="checkbox"/>	<input type="checkbox"/>

KIITOS!

Alkuperäinen englanninkielinen kysely: Robbins & Kirmayer (1996)

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