Chapter 1

Introduction and Background

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In this introductory chapter, several matters pertaining to hypochondriasis will be discussed. The nature of hypochondriasis will be described, as well as how the disorder has been conceptualised in the literature. Furthermore, an overview is given of the research into the developmental and maintaining factors of hypochondriasis. There are now several beneficial treatment forms for hypochondriasis, usually based on cognitive-behavioural theory, which will also be elaborated on in this introduction. I conclude with stating the outline of the separate chapters of this thesis, which focus mainly on a psychoeducational group treatment for hypochondriasis, ‘Coping with health anxiety’, and cognitive-behavioural bibliotherapy for hypochondriasis. At the end of this chapter the main aim of this thesis is stated, which is to study several forms of validity of the psychoeducational approach for hypochondriasis.

Defining hypochondriasis

DSM-IV-TR

Nowadays, hypochondriasis is predominantly defined by the criteria described in the Diagnostic and Statistic Manual of Mental Disorders (DSM). In the recent version of the DSM, DSM-IV-TR (American Psychiatric Association, 2000), hypochondriasis is classified as one of the somatoform disorders, a group of disorders characterised by physical symptoms suggesting a medical disorder. This category was introduced in the third version of this manual (DSM-III, APA, 1980) to accommodate those patients who suffer from somatic symptoms unexplained by a medical condition, but with too few psychological symptoms to merit an alternative psychiatric diagnosis (Sharpe & Mayou, 2004). Table 1 shows an overview of the diagnostic criteria.

When a patient fulfills these DSM-IV-TR criteria, he or she is said to suffer from full-blown hypochondriasis. However, hypochondriasis is not a disorder with a uniform course for all who suffer from it. People can also suffer from abridged hypochondriasis or transient hypochondriasis, the first indicating that the primary problem presented is health anxiety, although the person does not meet the full DSM-IV criteria of hypochondriasis (Gureje, Üstün, & Simon, 1997) and the latter indicating that clinically significant health anxiety lasts for no more than 6 months (Barsky, Cleary, Sarnie, & Klerman, 1993). In a review of studies on the transient course of hypochondriasis, results showed that the patients with a history of transient hypochondriasis, when re-examined after 1 to 3 years, continued to manifest significantly more hypochondriacal symptoms, more somatisation, and more psychopathological symptoms than nonhypochondriacal patients. However, only one patient (out of 22) met diagnostic criteria for hypochondriasis, leading the authors to conclude that hypochondriacal symptoms do have temporal stability, but do not necessarily lead to DSM-III-R hypochondriasis (APA, 1987) (Barsky et al., 1993).
Table 1: DSM-IV-TR Diagnostic Criteria for Hypochondriasis.

A. Preoccupation with fears of having a serious disease, or the idea that one has such a disease, based on misinterpretation of one’s bodily sensations or changes.

B. Preoccupation persists despite appropriate medical evaluation and reassurance.

C. The idea that one has a serious disease is not of delusional intensity (as in delusional disorder) and is not restricted to concerns about one’s appearance (as in body dysmorphic disorder).

D. The preoccupation causes significant distress or impairment in social, occupational, or other important areas of functioning.

E. Duration of at least six months.

F. The preoccupation is not better accounted for by generalised anxiety disorder, obsessive-compulsive disorder, panic disorder, a major depressive episode, separation anxiety, or another somatoform disorder.

Poor insight specifier

The person is said to have poor insight if, for most of the time during the course of the disorder, he or she does not recognise that his or her concern about having a serious disease is excessive or unreasonable.

Few longitudinal studies have been conducted into the course of hypochondriasis. One of them (Barsky, Fama, Bailey, & Ahern, 1998), showed that after 4 to 5 years, two thirds of the people originally diagnosed as suffering from hypochondriasis still met the diagnostic criteria. Another longitudinal study (Noyes, Kathol, Fisher, Phillips, Suelzer, & Woodman, 1994) reviewed 48 patients with this disorder and 48 age and sex-matched control subjects after 1 year. Two-thirds of the subjects had continued to meet the criteria for hypochondriasis after 1 year, and the remaining third had persisting hypochondriacal symptoms. More severe symptoms, longer duration of the disorder, and coexisting psychiatric illness were predictive of a worse outcome. The authors conclude that the diagnosis of hypochondriasis is stable over time, and that, although symptoms wax and wane, characteristic features, such as attitudes towards health and disease, and health care use behaviours, tend to persist. A third longitudinal study (Simon, Gureje, & Fullerton, 2001) showed that of those patients meeting an abridged definition of hypochondriasis at baseline, 18 % had continued to do so at 12 months follow-up, and 16 % continued to report hypochondriacal worries. Therefore, they call hypochondriasis a moderately stable disorder over time.
**Health anxiety and hypochondriasis.**

The DSM-IV-TR classification describes health anxiety as the most prominent feature of hypochondriasis. This anxiety, as it occurs in the most people in the general population to varying degrees, can be a mild reaction to certain physical sensations, but for some people, such as those suffering from hypochondriasis, the anxiety is excessive and chronic (Taylor & Asmundson, 2004). Health anxiety is also a prominent feature of other disorders. In the foreword of the book by Taylor and Asmundson, Wells (2004) states that ‘a wide range of disorders may be conceptualised at least partially as health anxiety. These include hypochondriasis, disease phobia, some somatic delusional states, panic disorder, and certain somatoform disorders’ (page ix, 2004). Other disorders with a possible component of health anxiety are generalised anxiety disorder and obsessive-compulsive disorder. This implies that health anxiety as a component of other disorders is widespread, and it can sometimes be confusing as to whether participants in a study suffer from hypochondriasis or health anxiety, because sometimes the terms are used interchangeably. Salkovskis and Warwick (2001) state that the classification of hypochondriasis is misleading, as it diverts attention away from the importance of anxiety and therefore threat, and onto more superficial characteristics of the problem. They propose that hypochondriasis should be conceptualised as the most extreme manifestation of health anxiety.

However, since the DSM-IV-TR criteria (APA, 2000) mention health anxiety as the principal component of hypochondriasis, it seems that the diagnosis of hypochondriasis does not so much direct the attention away from anxiety, but rather incorporates it. Furthermore, conceptualising hypochondriasis as a mere manifestation of health anxiety does not seem right, because the disorder, according to the DSM-IV-TR criteria (APA, 2000), also may consist of disease conviction. Some other components that are important in the operationalisation of hypochondriasis (such as attention, and checking and avoidance behaviour) will be elaborated on later on in this introduction.

**Prevalence rates, comorbidity, demographic factors, and costs of hypochondriasis.**

**Prevalence of hypochondriasis**

Studies into the prevalence of hypochondriasis have been conducted in several areas: among medical inpatients, in population-based samples, and in primary care. The reported prevalence rates tend to vary, probably because different classification systems and screening instruments have been used across studies.

Among 294 medical inpatients in Denmark, Fink, Hansen, and Oxhøy (2004), found a prevalence rate of 4.7%. In a review on the epidemiology of hypochondriasis in population-based and primary care samples in Florence (Italy), Canada, the U.S., and Germany, Creed and Barsky (2004) described various prevalence rates of hypochondriasis in population based samples, ranging from 0.2% to 7.7% (Faravelli, Salvatori, Galassi, Aiazzi, Drei, & Cabras, 1997; Looper and Kirmayer, 2002; Noyes, Happel, & Yagla, 1999; Rief, Hessel, & Braehler, 2001).
In prevalence studies in primary care, prevalence rates of hypochondriasis ranged from 0.7% to 6.3% (Barsky, Wyshak, Klerman, & Latham, 1990; Escobar, Gara, Waitzkin, Cohen Silver, Holman, & Compton, 1998; Gureje, Üstün & Simon, 1997). The first two of these studies took place in the U.S, and the third in 14 different countries.

No specific prevalence studies of hypochondriasis have been undertaken in the Netherlands. However, one Dutch study assessed the prevalence and type of psychiatric disorders in relation to the medical diagnostic findings in a general medicine outpatient clinic, in 191 newly referred patients (Van Hemert, Hengeveld, Bolk, Rooijmans, & Vanderbroucke, 1993). Psychiatric disorders were found to be prevalent among patients with medically ill-explained or unexplained symptoms. Approximately 40% of the patients with psychiatric disorders met DSM-III-R (APA, 1987) criteria for somatisation disorder or hypochondriasis, which is an extraordinarily high prevalence rate.

Although the rates vary, and some studies mention abridged hypochondriacal complaints rather than fullblown hypochondriasis, it can be concluded that in all areas in which hypochondriasis has been studied, the disorder is considerably prevalent.

Comorbidity

It is a common fact that several patients tend to suffer from more than one disorder. For example, as seen in clinical practice, sufferers from hypochondriasis can also report panic attacks, and many of them also report mood problems.

Research has shown that comorbidity seems to occur frequently with hypochondriasis. A review by Creed and Barsky (2004) showed that in 5 out of 6 studies, there was an association between hypochondriasis and anxiety disorders, and in 8 studies an association was found with mood disorders. In a study in which prevalence of hypochondriasis within the community was studied (Faravelli et al., 1997), it was found that the majority of people diagnosed with hypochondriasis had coexisting anxiety or depressive disorders. Noyes and colleagues (1999), who also studied hypochondriasis in the general population, found that hypochondriacal relatives of the subjects had a high rate of comorbidity with anxiety, mood, and other somatoform disorders. Finally, Fink and colleagues (2004) reported a comorbidity of 17.2% between hypochondriasis and depression and a comorbidity of 7.3% between hypochondriasis and anxiety disorders (phobias, generalised anxiety, and panic disorder).

Summarising, it seems that, although hypochondriasis can be seen as an independent disorder, it is certainly correlated with other disorders.

Demographic factors.

Hypochondriasis in primary care patients seems to be an equal opportunity diagnosis, apparently unrelated to any given demographic factor (Escobar et al., 1998). In the DSM-IV-TR (APA, 2001) it is stated that findings with respect to age and gender differences in prevalence are inconsistent, but that the disorder occurs across the lifespan in both men and women.
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When reviewing the literature with reference to gender, in some prevalence studies no differences between men and women were found with regard to hypochondriasis (Barsky et al., 1990; Creed & Barsky, 2004; Gureje et al., 1997; Speckens, Van Hemert, Spinioven, & Bolk, 1996), but others found the disorder to be more present in women (Faravelli et al., 1997; Fink et al., 2004).

With regard to age, findings are inconclusive as well. In a review by Creed and Barsky (2004), three studies reported an association with older age, whereas eight studies did not. Gureje and others (1997) found an overall age effect, meaning that patients with abridged hypochondriasis were significantly older than those without. Other studies (Barsky et al., 1990; Speckens et al., 1996) did not find associations of age with hypochondriacal features.

In their systematic review, Creed and Barsky (2004), also included other demographic factors, which have been studied less often than gender and age in the broader research, such as educational level, marital status, and socio-economic status. Half of the studies they reviewed showed an association between hypochondriacal complaints and fewer years of education, but none with marital status. Two out of four studies showed an association between hypochondriasis and lower socio-economic status.

**Costs of hypochondriasis**

Hypochondriasis can be a costly disorder in several ways. Firstly, there are the personal costs for the patient. As they suffer from health anxiety, costs are high in terms of life satisfaction. For example, hypochondriacal complaints and behaviours can put a strain on personal relationships, by the patient repeatedly asking for reassurance from their partner. Furthermore, patients may feel guilty about their complaints towards their children, and state that they would have been better parents if they did not have the disorder, or fear that their children will also develop hypochondriacal complaints having seen a parent being afraid of disease. Also, patients might consider themselves unworthy employees because of their hypochondriacal complaints, having to take sick leave more often than others. Therefore, hypochondriasis appears to be a disorder with a substantial burden of personal distress (Barsky, Fama, Bailey, & Ahern, 1998).

Hypochondriasis is also a costly disorder for medical health care systems. People suffering from this, and other somatoform disorders, tend to over-use these systems, by frequently consulting general practitioners and medical specialists, and by using various forms of prescribed and unprescribed medication. Barsky, Etter, Horsky, and Bates (2001) stated that primary care patients who were rated highly on somatisation and hypochondriacal health anxiety, had significantly higher medical services utilisation, in terms of overall costs, and visits to physicians. In a study into 400 frequent attenders in secondary care (Reid, Wessely, Crayford, & Hotopf, 2002), it was found that 17% had at least two medically unexplained consultation episodes. These patients also had a greater number of referrals to secondary care and were more likely to undergo certain medical examinations. The usage and associated costs of medical examinations of this group of sufferers from medically unexplained symptoms are significantly greater than of the other frequent attenders.
In the Netherlands, frequent attendance has also been studied. Although groups of these frequent attenders in medical settings have not always been diagnosed as suffering from hypochondriasis, De Waal, Arnold, and Eekhof (2004) have found that at least one out of six patients seen by general practitioners can be diagnosed as suffering from a somatoform disorder.

It is as yet unknown to what extent hypochondriacal patients (mis)use medical services, and how many frequent attenders should be diagnosed as suffering from hypochondriasis. However, it seems safe to conclude that hypochondriacal patients, together with patients suffering from other somatoform disorders, are costly in terms of medical services utilisation, which makes better management of these disorders necessary.

**Theoretical approaches to hypochondriasis**

*The cognitive-behavioural model of hypochondriasis*

Warwick and Salkovskis (1990) were the first to propose a cognitive-behavioural approach to hypochondriasis. Their cognitive-behavioural hypothesis of health anxiety and hypochondriasis proposed that bodily signs and symptoms are perceived as more dangerous than they really are, and that a particular disease is believed to be more probable than it really is (Salkovskis, 1989; Salkovskis & Warwick, 1986; Warwick & Salkovskis, 1989). This cognitive hypothesis accounts for the development of hypochondriasis, in that knowledge and past experiences of disease lead to the formation of specific assumptions about symptoms, disease and health behaviours. These assumptions will often lead to a confirmatory bias in the patient’s thinking once a critical incident has resulted in the misinterpretation of bodily symptoms and signs as being indications of a serious disease. Mechanisms that are subsequently involved in the maintenance of hypochondriacal complaints are anxiety - resulting in physical arousal-, selective attention -such as the perception of normal bodily changes, and previously unnoticed bodily features-, and behaviour, designed to avoid, check for or exclude physical disease. Warwick and Salkovskis proposed a model of the maintenance of hypochondriacal complaints, which was adapted for clinical practice by Bouman and Visser (1998b). This model is presented in Figure 1.1.

*Maintaining elements of hypochondriasis*

The cognitive hypothesis proposed by Warwick and Salkovskis (1990) has inspired much research, especially into how physical sensations, cognitions and assumptions, selective attention, and behaviour might interplay in maintaining hypochondriacal complaints. Several findings will be described below.
The perception of physical sensations and somatosensory amplification

People who suffer from hypochondriasis report many physical symptoms, varying from headaches to the results of autonomic arousal (e.g. palpitations, muscle tension and shortness of breath), which are easily interpreted as signs or symptoms of a serious physical condition. A fundamental question is whether a hypochondriacal patient’s experience of somatic symptoms differs from that of nonhypochondriacal patients, and it has been suggested that hypochondriacal patients have a tendency to amplify benign bodily symptoms, therefore experiencing a wide range of somatic sensations as unusually intense and disturbing.

Empirical investigation of symptom amplification in hypochondriacal individuals has been relatively sparse, and it is difficult to draw any definitive conclusions from the literature. However, Barsky and colleagues have conducted several studies of somatosensory amplification and the role it plays in hypochondriacal complaints.

These studies have revealed that somatosensory amplification is highly correlated with several different measures of hypochondriasis, and that amplification is temporally stable in both hypochondriacal and nonhypochondriacal populations, and generally tracks with the severity of hypochondriasis over time. Furthermore, these studies have shown that transiently hypochondriacal patients have higher amplification scores than nonhypochondriacal patients, and that, at follow-up, remitted hypochondriacal
patients have lower amplification scores than patients whose hypochondriasis has not remitted (Barsky, Ahern, Bailey, & Delamater, 1996; Barsky, Cleary, Coeytaux, & Ruskin 1995; Barsky, Cleary, Sarnie, & Klerman, 1993; Barsky, Fama, Bailey, & Ahern, 1998; Barsky, Wyshak, & Klerman, 1990). However, when using a laboratory heartbeat detection test, presented by the authors as an objective means of measuring amplification, DSM-III-R (APA, 1987) patients were not found to be more accurately aware of their resting heartbeat than nonhypochondriacal patients from the same general medical setting (Barsky, Brener, Coeytaux, & Cleary, 1995). Barsky (2001) poses that hypochondriacal patients, rather than focussing on a single bodily sensation and amplifying it, may be thought of as being flooded with many bodily sensations they are unable to ignore, and that hypochondriacal individuals may be thought of as especially sensitive to, and intolerant of bodily sensations in general. However, the concept of somatosensory amplification, and the occurrence of physical symptoms in hypochondriacal patients as a whole, should be studied further.

Cognitions and assumptions about bodily symptoms and disease

The cognitive-behavioural model (Warwick & Salkovskis, 1990), and the DSM-IV-TR (APA, 2000) criteria for hypochondriasis, pose that people suffering from hypochondriasis tend to misinterpret their bodily symptoms. This was studied, and results show that people who are anxious about their health are more likely to interpret bodily sensations as indicators of poor health, or even of serious disease (Barsky & Wyshak, 1989; Haenen, Schmidt, Schoenmakers, & Van den Hout, 1997; Rief, Hiller, & Margraf, 1998), thereby indicating that misinterpretation indeed seems to play a role in maintaining hypochondriacal complaints. Other studies have demonstrated that people with hypochondriacal complaints are more likely to believe that good health is associated with few or no bodily sensations (Barsky, Coeytaux, Sarnie, & Cleary, 1993), and that they are more likely to believe that they are weak and unable to tolerate stress (Rief et al., 1998). Furthermore, people suffering from hypochondriacal complaints regard themselves as being at greater risk for developing various diseases, but not at greater risk for being in an accident, or for being the victim of a criminal assault (Barsky et al., 2001; Haenen, de Jong, Schmidt, Stevens, & Visser, 2000). These beliefs might persist because of a lack of positive thoughts that nonhypochondriacal people do have (Taylor & Brown, 1988), such as ‘there is no need to worry about my health’. These assumptions and beliefs are specifically targeted during cognitive-behavioural treatment, which will be elaborated on later in this introduction.

Selective attention

Kellner and colleagues found that people with excessive health anxiety may spend a great amount of time attending to their bodies, thereby increasing the chances that they will notice bodily sensations (Kellner, Abbott, Winslow, & Pathak, 1987). Consistent with this idea is that more bodily symptoms are reported when people are deliberately instructed to focus on their bodies (Haenen, Schmidt, Kroeze, & Van den Hout, 1996; Schmidt, Wolfs-Takens, Oosterlaan, & Van den Hout, 1994; Vervaeke, Bouman, & Valmaggia, 1999). It
is possible that attentional focus is a consequence of the beliefs one has about bodily sensations, and that people will tend to search for these sensations if they believe them to be signals of bodily dysfunctioning (Taylor & Asmundson, 2004). Attention can therefore be considered another mechanism maintaining hypochondriacal complaints, and is targeted explicitly during cognitive-behavioural psychoeducation.

**Checking and avoidance behaviour**

Behavioural factors that play a role in the maintenance of hypochondriasis can be divided in two categories: a) checking behaviour, such as reassurance seeking, and checking the body, and b) avoidance and escaping behaviour. It has been hypothesised that both types of behaviour may perpetuate hypochondriacal complaints, but little research has been conducted so far.

Hypochondriacal patients tend to turn to physicians in particular for reassurance, but this reassurance does not last (Salkovskis & Warwick, 1986). To explain this, it has been hypothesised that doubts might arise in a health-anxious person when a physician does not give the patient a good explanation of what is causing the bodily sensations (Lucock, White, Peake, & Morley, 1998), which may then lead to more visits to physicians in hope of being ultimately reassured. A second reason why reassurance does not work properly might be that no certainty can be associated with medical tests, while many people suffering from hypochondriasis need 100% reassurance that they are not ill (Taylor & Asmundson, 2004). When they do not receive this certainty, patients will tend to repeat their behaviour, such as asking their partner’s opinion or reassurance, and lose the tendency to trust their own judgment. Other behaviours in the same line are body checking, checking health- or disease-related publications, and surfing the internet in search of symptoms that are part of the feared disease.

A second form of behaviour often displayed by hypochondriacal patients is avoidance or escaping behaviour, such as avoiding going to a physician, avoiding articles about feared diseases, or escaping from situations that are interpreted as dangerous (such as conversations about cancer). It is believed that patients avoid certain situations because they think they will not be able to handle the anxiety they will experience when confronted with disease-related information. As people keep avoiding those situations, they do not experience the catastrophe (e.g. developing cancer when you talk about it) not taking place. Consequently, patients feel like they have made a narrow escape because they have avoided the illness-related situations.

These two patterns of behaviour, both checking behaviour and avoidance, are usually both displayed by people suffering from hypochondriasis, and tend to differ across situations and contexts. For example, some people will visit their GPs weekly, but will avoid conversations about cancer, and others will check their body three times a day, but never see a GP. How these two types of behaviour are related, and which specific role they play in maintaining hypochondriacal complaints, remains to be studied.

The components described in the cognitive model of maintaining factors by Warwick and Salkovskis (1990), the model by Bouman and Visser (1998b), and...
subsequent studies into these mechanisms, clarify to some extent how hypochondriacal complaints are maintained. However, research has shown that several other factors might also be important in the conceptualisation of this disorder.

**Etiological factors.**

People who suffer from hypochondriasis may have been predisposed to develop these complaints by having had certain experiences. For example, it emerges from studies that adolescent and adulthood health anxiety are associated with a childhood history of severe diseases, either suffered by the patient or their family members (Fritz & Williams, 1989; Robbins & Kirmayer, 1996), and that the death of someone close to the person can precipitate hypochondriasis (APA, 2000). Furthermore, it seems that severe health anxiety in adulthood is also associated with childhood exposure to parent-child interactions, such as parental modeling experiences (e.g. giving the child the idea that disease is important and should not be ignored), parental overprotection (e.g. giving the child the idea that he or she is vulnerable), and parental reinforcement of disease behaviours (e.g. impressing upon the child that symptoms are important by adding a rewarding component to being sick, such as allowing to stay home from school and being looked after) (Taylor & Asmundson, 2004). How these etiological factors operate in causing hypochondriacal complaints is as yet unclear, also because most of the studies have been conducted retrospectively.

**Metacognition**

It has recently been postulated that metacognition, as a cognitive and information processing vulnerability factor, might play a role in the development and maintenance of several disorders (Wells & Matthews, 1994). Metacognition is any knowledge or cognitive process involved in the appraisal, monitoring, or control of cognition (Flavell, 1979), and operates on two different interrelated levels, the meta-level and the object-level (Nelson & Narens, 1990). These two levels and their relation are depicted in Figure 1.2. This figure shows that information flows to and from both levels, and is called *monitoring* when the object-level informs the meta-level of its state, and *control* when the meta-level informs the object-level what to do next. It was hypothesised that the meta-level is controlled and modified by feedback about the effectiveness of particular cognitive and behavioural strategies in relation to activated goals (Wells & Matthews, 1994), thereby providing information about future preferred actions and cognitions.
In recent years, maladaptive metacognitive processes have been believed to play a part in the etiology and maintenance of emotional disorders (Wells, 2000). Metacognition can be divided in several components: metacognitive knowledge, metacognitive experiences, and metacognitive control strategies, which are all believed to play a part in the etiology and maintenance of disorders (Wells, 2000).

Metacognitive knowledge refers to the beliefs and theories that individuals have about their own cognitions, such as beliefs about the meaning of particular types of thoughts, and beliefs concerning the efficiency of memory and cognitive control. In hypochondriasis, this may take the form of cognitions such as ‘all this thinking about disease must mean I am going crazy’. Furthermore, people who suffer from emotional disorders view themselves as unable to control these intrusive cognitions. This gives rise to perseveration – i.e. recurrent thinking about threat- which, in turn maintains anxiety complaints (Wells & Sembi, 2004).

Metacognitive experiences encompass appraisals of the meaning of specific mental events (e.g.thoughts), metacognitive feelings themselves, and judgments of the status of cognition. Appraisal of cognitions leads to specific metacognitions, which can be either negative (in the context of hypochondriasis leading to thoughts as ‘I should not be thinking about disease so much, thinking about it can be dangerous’) or positive (‘If I keep thinking I will be getting cancer, it might help me cope when I am diagnosed with cancer’).

Metacognitive experiences refer to the hypothesis of emotionally disordered patients tending to use feeling-based information (e.g.‘having palpitations is dangerous’) as a guide to appraise threat. Additionally, they use feeling-based information as a guide for regulating the execution of coping strategies, such as seeking reassurance, and surfing the internet to look for information about disease.
Metacognitive control strategies are the responses individuals make in controlling the activities of their cognitive system. In a maladaptive way this is done by worrying and rumination, or trying to suppress distressing thoughts. Which control strategy is used depends on certain metacognitive aspects. Cartwright-Hatton and Wells (1997) state that positive metacognitive beliefs about worry (e.g. ‘Worrying helps me cope’) stimulate the use of worrying as a processing or coping strategy. On the other hand, if negative metacognitive beliefs about loss of control of the activity become more compelling (e.g. ‘If I worry too much, I might go crazy’), individuals may attempt to avoid or suppress worrying. Furthermore, metacognitive control strategies also include sustained attention on internal or external sources of threat, a threat-monitoring strategy characteristic for many emotional disorders.

Several studies have shown that certain aspects of maladaptive metacognition might play a role in the development and maintenance of generalised anxiety disorder (Wells & Carter, 2001), depression (Papageorgiou & Wells, 2003), and obsessive-compulsive disorder (Wells, 2000).

Bouman and Meijer (1999) were the first to test the applicability of the metacognitive approach for hypochondriacal complaints, and found that metacognitive aspects also seem to play a role in hypochondriasis. Results of this first study on hypochondriacal metacognition revealed that hypochondriacal patients had many worrisome thoughts about their health, the lack of control on a metacognitive level, and the excess of interference they experienced specifically in relation to their disease-worries. Additionally, they proved highly aware of their own thoughts and worries.

Treat hypochondriasis

Hypochondriacal patients tend to turn to GPs and medical specialists for reassurance, while they are very hard to reassure that they in fact do not suffer from a serious physical disease. Therefore, hypochondriasis is difficult to manage by health care professionals. In earlier years, mental health care professionals considered hypochondriasis equally impossible to manage with psychological treatment, but recently this pessimistic view has changed, mainly because cognitive and/or behavioural treatments have proven to be valuable in the treatment of hypochondriasis.

Cognitive-behavioural treatment for hypochondriasis

Cognitive therapy (CT) is based on an underlying theoretical assumption that one’s affect and behaviour are largely determined by the way in which he structures the world (Beck, Rush, Shaw, & Emery, 1979), and the meaning one gives to certain experiences. The individual’s cognitions (pictorial or verbal events in their stream of consciousness) are based on certain attitudes or assumptions (schemas), developed from previous experiences. CT is an active, directive, time-limited, and structured approach, which makes use of therapeutic techniques designed to identify, reality-test, and modify distorted cognitions, as well as underlying dysfunctional beliefs (schemas). The patient is taught the following operations: firstly, to monitor his negative, automatic thoughts (cognitions), secondly, to recognise the connections between cognition, affect,
and behaviour, and thirdly, to examine the evidence for and against these distorted automatic thoughts. Fourthly, the patient is taught to substitute more reality-oriented interpretations for these biased cognitions, and, finally, to learn to identify and change the dysfunctional beliefs which predispose the patient to distort their experiences and maintain this vicious circle (Beck et al., 1979).

Since the 1970s, CT has been used to treat a variety of psychiatric disorders. Nowadays, it is usually referred to as cognitive-behavioural therapy (CBT), because it has been recognised that in addition to cognitive aspects, certain behavioural components (such as, in the case of hypochondriasis, as well as in several other disorders, avoidance and checking behaviour) also play a part in maintaining psychological complaints. Through the use of behavioural experiments, including the identification, reality-testing, and changing of certain behaviour, behavioural components play a major role in CBT. During these behavioural experiments, an individual tests the accuracy of his or her behaviour in real life, in order to check whether the feared consequences of their behavioural actions will occur.

Over the years, several researchers have found beneficial effects of cognitive and/or behavioral therapies for hypochondriasis (Barsky & Ahern, 2004; Bouman & Visser, 1998; Clark, Salkovskis, Hackmann, Wells, Fennell, Ludgate, Ahmad, Richards, & Gelder, 1998; Visser & Bouman, 1992; Visser & Bouman, 2001; Warwick, Clark, Cobb & Salkovskis, 1996; For a recent overview see Taylor & Asmundson, 2004).

An uncontrolled case study showed promising results for behavioural treatment, notably exposure and response prevention. This study involved 17 people who suffered from hypochondriasis or disease phobia (Warwick & Marks, 1988). In another case series (Visser & Bouman, 1992), six patients were offered six sessions of cognitive therapy, followed by six sessions of behavioural therapy (exposure and response prevention). The study had a crossover design, meaning that the order of the treatments offered varied among patients. Results of the study suggest that both forms of treatment were equally effective.

In the first waiting list controlled study (Warwick et al., 1996), results showed that 16 sessions of CBT, spread over 4 months, were effective across a wide range of measures, such as disease conviction, need for reassurance, time spent worrying about health, and frequency of checking. In this study, 32 patients were randomly assigned to either cognitive-behavioural therapy or a no treatment waiting list control group. The treatment proved not only effective, but also acceptable to patients. Improvements were maintained at 3 months follow-up.

Similar results were found in several other studies. When comparing CBT to behavioural stress management (Clark et al, 1998), both treatments were found to be equally effective at the one year follow-up assessment.

Bouman and Visser (1998a) treated 17 patients suffering from hypochondriasis either with cognitive therapy or exposure in vivo with response prevention, and concluded that both treatments were effective. In a later study (Visser & Bouman, 2001), they compared these two treatments with a waiting-list control condition. In a group of 78 randomly assigned patients, it emerged
that behaviour therapy and cognitive therapy were equally effective, and that both outperformed the waiting-list condition. Statistically and clinically significant improvements were found for hypochondriacal complaints, but improvement was also shown in depressed mood and obsessive compulsive behaviour, and general mental functioning. These results were maintained at the seven months follow-up.

Another form of cognitive-behavioural intervention, explanatory therapy, developed by Kellner (1986), was studied in a randomised controlled trial (Fava, Grandi, Rafanelli, Fabbri, & Cazzaro, 2000). This form of therapy involves interventions directed at convincing the patient that nothing is wrong with them. This intervention includes physical examination at the patient’s request. It involves providing accurate information, and teaching the principles of selective perception. In this study, 20 patients were randomly assigned to either explanatory therapy or a waiting list, with subsequent explanatory therapy. Results showed that the therapy condition was superior to the waiting list condition.

Hiller, Leibbrand, Rief, and Fichter (2002) studied 96 patients, who suffered either from DSM-IV hypochondriasis, or scored highly on the Illness Attitude Scales or the Whitley Index. An intense inpatient cognitive-behavioural treatment was offered daily, both individually and in group format, with a mean treatment length of 57.5 days. Because of substantial improvement or even recovery from hypochondriacal symptomatology, 60 % (n = 58) of the patients were classified as responders.

A recent study in Denmark (Wattar, Sorensen, Buemann, Birket-Smith, Salkovskis, Albertsen, & Strange, 2005) examined cognitive-behavioural therapy in a naturalistic setting with 16 hypochondriacal patients, with measurements at 6 and 12 months follow-up. Results showed that health anxiety, anxiety, and depression had decreased substantially, and that results were maintained at follow-up.

Barsky and Ahern (2004) described a large randomised trial in which they compared six sessions of individual cognitive therapy to medical care as usual. They found that the brief cognitive intervention was significantly superior in reducing hypochondriacal concerns and behaviours. Effects were maintained at 6 and 12 months follow-up. A small study (N = 12) was conducted by Martinez and Botella (2005), who found both clinically and statistically significant effects.

A most recent therapy effect study was conducted in the Netherlands, and compared the efficacy of CBT, paroxetine and a placebo in treating hypochondriasis (Greeven, Van Balkom, Visser, Merkelbach, Van Rood, Van Dyck, Van der Does, Zitman, & Spinhoven, in press). In this study, 112 patients were randomised to 16 weeks of outpatient treatment in one of the three conditions. It was found that CBT and paroxetine were both more effective than placebo, but that they did not differ significantly from each other.

In sum, it may be concluded from the studies described above that cognitive-behavioural treatment is acceptable and has been very effective in reducing hypochondriacal complaints. Table 1.2 provides an overview of all the studies on the effect of cognitive-behavioural therapy for hypochondriasis.
Table 1.2: Overview of Cognitive- and/or Behavioural Treatments for Hypochondriasis

<table>
<thead>
<tr>
<th>Authors</th>
<th>N</th>
<th>Treatment conditions</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warwick &amp; Marks, 1988</td>
<td>17</td>
<td>BT</td>
<td>BT effective</td>
</tr>
<tr>
<td>Visser and Bouman, 1992</td>
<td>6</td>
<td>CT &amp; BT</td>
<td>CT = BT</td>
</tr>
<tr>
<td>Warwick et al., 1996</td>
<td>32</td>
<td>CBT vs. WL</td>
<td>CBT &gt; WL</td>
</tr>
<tr>
<td>Clark et al., 1998</td>
<td>48</td>
<td>CBT vs. BSM</td>
<td>CBT = BSM</td>
</tr>
<tr>
<td>Bouman and Visser, 1998a</td>
<td>17</td>
<td>CT vs. BT</td>
<td>CT = BT</td>
</tr>
<tr>
<td>Fava et al., 2000</td>
<td>20</td>
<td>ET vs. WL</td>
<td>ET &gt; WL</td>
</tr>
<tr>
<td>Visser &amp; Bouman, 2001</td>
<td>78</td>
<td>CT vs. BT vs. WL</td>
<td>CT = BT &gt; WL</td>
</tr>
<tr>
<td>Hiller et al., 2001</td>
<td>96</td>
<td>CBT</td>
<td>CBT effective</td>
</tr>
<tr>
<td>Barsky and Ahern, 2004</td>
<td>187</td>
<td>CBT vs. WL</td>
<td>CBT &gt; WL</td>
</tr>
<tr>
<td>Martínez and Botella, 2005</td>
<td>12</td>
<td>CBT</td>
<td>CBT effective</td>
</tr>
<tr>
<td>Wattar et al., 2005</td>
<td>16</td>
<td>CBT</td>
<td>CBT effective</td>
</tr>
<tr>
<td>Greeven et al., 2006</td>
<td>112</td>
<td>CBT vs. Par vs. Pla</td>
<td>CBT = Par &gt; Pla.</td>
</tr>
</tbody>
</table>

*Note.* BT = behaviour therapy; CT = cognitive therapy; WL = waiting list condition; CBT = cognitive-behavioural therapy; BSM = behavioural stress management; ET = explanatory therapy; Par = Paroxetine; Pla = Placebo.

**Psychoeducation for hypochondriasis**

*Psychoeducation: background.*

Despite its obvious effectivity and effectiveness, individual CBT also has its drawbacks. For one, it has to be delivered by trained mental health care specialists, who are both expensive and scarce, the latter leading to long waiting...
lists for people who need treatment. Secondly, it is a relatively long lasting treatment, which takes several months to complete. Therefore, there is a need for short-term and less expensive but effective treatment forms. A viable option is psychoeducation, i.e. the teaching of personal and interpersonal attitudes and skills, which can be applied to solve present and future psychological problems (Guerney, Stollak & Guerney, 1971), thereby reflecting a paradigm shift to a more holistic and competence-based approach (Marsh, 1992). People seeking help are seen as ‘participants’ rather than ‘patients’ or ‘clients’, and ‘therapists’ as ‘teachers’.

The very beginning of psychoeducation can be traced back to counseling psychology in the early 1960s, when psychoeducation was derived from learning theory (Authier, Gustafson, Guerney & Kasdorf, 1975). Authier (1977) described three main forces of the psychoeducational movement as it first became popular.

The first force was the practical application of learning principles to clinical problems, as it took place for the first time in the early 1960s (Authier, 1977; Authier et al., 1975). The basic idea was that therapists should view themselves as educators, and apply learning principles to clinical practice, so that people could be educated rather than treated.

The perceived inadequacy of the medical model, dominating therapy at that time, lead to the second force of the psychoeducational movement. The medical model and the educational model (both adopted from Authier, 1977) are shown in Table 1.3, which shows their contrasts clearly.

Table 1.3: The Medical Model Versus the Psychoeducational Model

<table>
<thead>
<tr>
<th>Abnormality/illness</th>
<th>Client dissatisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnoses</td>
<td>Goal-setting</td>
</tr>
<tr>
<td>Prescription</td>
<td>Skill-teaching</td>
</tr>
<tr>
<td>Treatment</td>
<td>Satisfaction/goal-achievement</td>
</tr>
<tr>
<td>Cure</td>
<td></td>
</tr>
</tbody>
</table>

The problem that health practitioners had with the traditional medical model was the position of patients as passive receptors of diagnoses, prescriptions and treatments. The appropriateness of this medical model was questioned, and healthcare professionals were thought to, by using this model, instill societal and cultural values onto patients, under the guise of making them mentally healthy (Authier, 1977; Authier et al., 1975). Ideally, people could be better helped by
practitioners who had adopted the psychoeducational model, since these practitioners valued and encouraged the independence of their patients.

The third force of the psychoeducational movement consisted of the community mental health movement. The new conviction was that the long-term solution of psychosocial problems lay in prevention rather than in remediation. Prevention as a target called for a more direct teaching approach, so that patients could be taught the psychological content necessary for them to help themselves. Self-help groups, such as Alcoholics Anonymous, demonstrated that people could help themselves and each other. It was hypothesised that a professional who looks at treatment as education and training could provide better training, or at least help group members to provide better training for each other (Authier et al., 1975; Authier, 1977).

**Psychoeducation: application.**

Psychoeducation has been implemented as part of psychological treatment, for instance with (family members of) patients suffering from schizophrenia (Simon, 1997), but over the last decades, psychoeducation has also emerged as a promising independent treatment form. There are several ways in which psychoeducation can be offered. One way is through psychoeducational courses, usually offered to groups of patients. A second way is through bibliotherapy, enabling people to read the theory and do the exercises in the privacy of their own home. Both of these methods are described below.

Recent psychoeducational courses have (usually) been designed for patients suffering from specific disorders, such as depression (Cuijpers, 1995, 1996; Lewinsohn & Brown, 1984), hypochondriasis (Avia, Olivares, Crespo, Guisado, Sánchez, & Varela, 1997; Barsky, Geringer, & Wool, 1988; Bouman, 2002; Bouman & Van den Broek, 1997) and panic disorder (Baillie & Rapee, 2004). Psychoeducational treatment fits very well in an era in which short-term and cost-containing therapeutic methods are preferred. The courses are based on a certain theory or model, which determines the content of the information that is presented to participants. Although the courses are usually designed for people suffering from specific disorders, the extent to which participants are screened for certain disorders before participating in psychoeducational treatment varies. Since the focus mainly lies on prevention, courses have also been designed for large groups of people and/or people with minor symptoms of anxiety or depression (e.g. Brown, Cochrane, Mack, Leung & Hancox, 1998; Brown, Cochrane & Hancox, 2000; Rubenstein & Craske, 1998).

Important psychoeducational components taught to participants are self-control, problem-solving skills and cognitive skills (Cuijpers, 1996). Elements that are essential to the success of the intervention are: 1) offering a rationale to the participants, and 2) the training of certain skills which participants can learn independently and are motivated to use outside of the intervention. This mastery of skills is thought to cause the improvement of complaints, but the explicit practising of skills has to be undertaken by the participants independently. This is different from traditional treatment forms, in which more guidance is offered. Another explicit difference between regular treatment and psychoeducation is
that the latter embodies the transfer of knowledge, derived from the theory or model at hand.

Lukens and McFarlane (2004) reviewed psychoeducational treatments for various disorders and problems. They concluded that psychoeducational interventions have far-reaching applications for acute and chronic illness and other life challenges across levels of public health, as long as these interventions are developed and implemented carefully, following specific guidelines for delivering and documenting evidence-based practices.

The psychoeducational course ‘Coping with health anxiety’.

Barsky, Geringer and Wool (1988) were the first to propose a psychoeducational group course for hypochondriasis, and their suggestion was followed by several others (Avia, Ruiz, Olivares, Crespo, Guisado, Sánchez & Varela, 1996; Bouman, 2002; Stern, & Fernandez, 1991). The course described by Barsky and colleagues (1988) is a cognitive-educational treatment, based on cognitive-behavioural principles, consisting of a group training on the perception and interpretation of physical symptoms. It comprises six weekly meetings, during which six to eight patients receive information about factors that can enhance or prolong somatic problems, such as cognition and symptom attribution, and dysphoric affect (Barsky et al., 1988). Stern and Fernandez (1991) found the treatment, in a group of six participants, to be successful in reducing the number of medical consultations and time spent thinking about disease, but they did not find a significant decrease in measured anxiety and depression parameters. Avia and colleagues (1996) implemented the course in Spain, with modified examples, exercises and therapeutic homework. They reported beneficial effects in a group of 17 students. However, only eight of them actually suffered from DSM-III-R hypochondriasis (APA, 1987).

After redesigning the course in line with the cognitive-behavioural model of hypochondriasis described earlier in this chapter (Bouman & Visser, 1998b, Warwick & Salkovskis, 1990), Bouman applied the course in the Netherlands. The community-based course was studied in an uncontrolled trial (Bouman, 2002), and in a waiting list controlled trial (Bouman & Polman, submitted). A total of 21 DSM IV-diagnosed hypochondriacal participants (APA, 1994) were included in the first and 53 in the second study. The results support the notion that this program leads to significantly reduced hypochondriacal complaints, depressive complaints, medical services utilisation, and trait anxiety. These improvements were maintained at six months follow-up. Table 1.4 shows an overview of the treatment studies of psychoeducation for hypochondriasis. The course ‘Coping with health anxiety’, as implemented by Bouman and colleagues, will be described in detail in chapter 2 of the present thesis.
Table 1.4: Chronological Overview of Earlier Studies of Psychoeducational Courses for Hypochondriasis.

<table>
<thead>
<tr>
<th>Authors</th>
<th>N</th>
<th>Duration of treatment</th>
<th>Format</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stern and Fernandez, 1991</td>
<td>6</td>
<td>9, 1.5 hour long, weekly sessions.</td>
<td>Open trial</td>
<td>Decrease in medical consultations and in time spent thinking about disease, no decrease in anxiety and depression.</td>
</tr>
<tr>
<td>Avia et al., 1996</td>
<td>17</td>
<td>6, 1.5 hour long, weekly sessions.</td>
<td>Waiting list controlled</td>
<td>Decrease in hypochondriacal complaints, dysfunctional attributions and bodily symptoms.</td>
</tr>
<tr>
<td>Bouman, 2002</td>
<td>21</td>
<td>6, 2 hour long, weekly sessions + booster session</td>
<td>Open trial</td>
<td>Decrease in hypochondriacal complaints, depression, trait anxiety, and medical services utilisation.</td>
</tr>
<tr>
<td>Bouman and Polman, submitted</td>
<td>53</td>
<td>6, 2 hour long, weekly sessions + booster session</td>
<td>Waiting list controlled</td>
<td>Decrease in hypochondriacal complaints, depression, and trait anxiety. The course outperformed the waiting list period.</td>
</tr>
</tbody>
</table>

Cognitive-behavioural bibliotherapy.

Bibliotherapy is another form through which psychoeducation can be delivered. It can be described as an intervention for the purpose of supplying written self-help material. Bibliotherapy can be a part of regular treatment, or an independent treatment form, in which participants work through the material independently, with minimal or no therapist contact.

In the past decades, cognitive-behavioural theory has increasingly been offered to patients suffering from different complaints by means of bibliotherapy. It was shown to be effective in the treatment of depression (Cuijpers, 1995, 1997; Scogin, Hamblin, & Beutler, 1987; McKendree-Smith, Floyd, & Scogin, 2003; Floyd, Scogin, McKendree-Smith, Floyd, & Rokke, 2004), sexual dysfunctions (Van Lankveld, 1998), panic disorder and other anxiety disorders (Lidren, Watkins, Gould, Clum, Asterino, & Tulloch, 1994;
White, 1995; Wright, Clum, Roodman, & Febbraro, 2000; Newman, Erickson, Przeworski, & Dzus, 2003), insomnia (Mimeault, & Morin, 1999), and alcohol problems (Apodaca, & Miller, 2003).

In a meta analysis of bibliotherapy for depression, Cuijpers (1997) concluded that bibliotherapy can be useful for a number of reasons: it can be highly efficient and (cost)effective, and can reach large populations of patients who are unwilling or unable to be engaged in a more traditional form of therapy.

Most meta-analyses on bibliotherapy for different disorders have shown medium to large effect sizes (Newman et al., 2003; Van Lankveld, 1998; Apodaca et al., 2003). These effects are not only found at post-treatment. Effects were maintained at 8 years follow-up for alcohol problems (Apodaca et al., 2003), at 3 years follow-up for depression (Smith, Floyd, Scogin & Jamison, 1997), and at 3 and 6 months follow-up for panic disorder (Lidren et al., 1994). These favourable effects are said to be comparable to therapist delivered interventions (Gould & Clum, 1993; Cuijpers, 1997).

In their review of treatments Taylor and Asmundson (2004) stated that hypochondriasis or health anxiety had never been treated with bibliotherapy. However, there was one study that investigated bibliotherapy for health anxiety (Jones, 2002). The results supported the notion that a cognitive-behavioural self help treatment for health anxiety can be useful in reducing anxiety about disease. The study did however suffer from some methodological flaws. The participants under study suffered from health anxiety, and some also from identifiable physical diseases. It was not reported whether the participants feared the disease they suffered from. Furthermore, the study lacked a clear diagnosis of hypochondriasis or health anxiety.

The present thesis

Outline

Individual cognitive-behavioural therapy has shown to be effective in treating hypochondriacal complaints. However, individual CBT is costly and rather time consuming, and it would therefore be useful to find out whether short-term and cost-effective, CBT-based treatment forms can be as effective in reducing hypochondriacal complaints. Furthermore, studies on the effect of CBT have demonstrated that cognitive and/or behavioural therapy forms work as a package. Little is known about which ingredients of CBT are most important in producing effect, which mechanisms or vulnerability factors of a specific disorder they target, or which patient characteristics can predict who will benefit from treatment.

In this thesis several studies focus on the course ‘Coping with health anxiety’. The first of these is described in Chapter 2, which focuses on describing the background, content, and implementation of this course. Thereby, it provides a further introduction of psychoeducational treatment for hypochondriacal complaints.

The third chapter describes a study in which this CBT-based course’s construct validity was examined, by comparing its effect to the effect of a problem-solving psychoeducational course, designed specifically for this study.
Internal validity in terms of effect of the psychoeducational approach is studied as well.

The third study focusing on ‘Coping with health anxiety’ (chapter 4) describes the effect the course has on metacognition, which is believed to be one of the underlying factors of several emotional disorders (Wells, 2000). Hypochondriacal metacognition is measured by the Metacognition-Cognitions about Health Anxiety (MCHA; Bouman & Meijer, 1999). Furthermore, the course’s internal validity in terms of effect is studied in this chapter as well.

The focus of chapter five lies on predicting treatment effect of the ‘Coping with health anxiety’ course, thereby examining an aspect of its external validity. Participants of this study are they who have taken part in the four outcome studies (Bouman, 2002; Bouman & Polman, submitted; Buwalda, Bouman, & Van Duijn, 2006; Buwalda, Bouman, & Van Duijn, accepted pending revisions). The specific aim of this explorative study is to investigate the predictive abilities of several variables, which were demographic (age, gender, and level of education), disorder-related (baseline severity of hypochondriacal complaints, duration of hypochondriacal complaints, severity of depressive complaints, and severity of trait anxiety), and patient-related (level of rigidity, and treatment expectation).

Chapter 6 describes a study on cognitive-behavioural bibliotherapy for hypochondriasis. Both acceptability and efficacy (internal validity) of this form of psychoeducation are studied.

The final chapter of this thesis consists of a general discussion on the most important findings described in the foregoing chapters. Several forms of validity of the psychoeducational treatments and practical implications of the findings will be discussed.

Aims of this thesis

This thesis’ major objective is to examine the various forms of validity of the psychoeducational approach for hypochondriasis. Firstly, the internal validity of ‘Coping with health anxiety’ and cognitive-behavioural bibliotherapy will be examined.

Secondly, with regard to construct validity, the cognitive-behavioural course is compared to a problem-solving course, in order to investigate whether content or format can be held responsible for its efficacy. Furthermore, the role of metacognitive aspects is examined, as a mechanism that may be responsible for the effect found of the course ‘Coping with health anxiety’.

Finally, external validity of the course will be examined in the prediction study described in this thesis, by discussing generalisability of the course.