Women in Pain

General introduction
Chronic pelvic pain (CPP) in women is commonly defined as a constant or intermittent pain in the lower abdomen or pelvis with a duration of at least 6 months, not exclusively related to menstrual period (dysmenorrhea) or sexual intercourse (dyspareunia) [Williams 2004]. As a definition of chronicity in some CPP studies a duration of complaints for 3 months or longer [Merskey 1986] is used.

Community based studies in the US [Mathias 1996], the UK [Zondervan 2001], New Zealand [Grace 2004] and Australia [Pitts 2008] showed variations in prevalence rates for CPP from 15% to 25%, depending on the definition of chronic pelvic pain, the study design and the measurements used. In a study on consulting patterns for CPP in UK primary care, an annual prevalence rate of 3.7% was examined, comparable with figures for asthma (3.8%) and back pain (4.1%) [Zondervan 1999a]. Only 40% of these consulters were referred to secondary or tertiary medical care [Zondervan 1999b]. Therefore, gynaecologists are likely to be confronted with a highly selected subgroup of all CPP women.

The pathogenesis of CPP is poorly understood. Clinical assessment requires history taking, physical examination with further investigations like laboratory tests, ultrasound scanning, Computed Tomography (CT) or Magnetic Resonance Imaging (MRI). In gynaecological practice endometriosis and/or adhesions are thought to be the most prevalent explanations for pain in the pelvic region. To diagnose this pathology performing laparoscopy is considered an essential tool. However, in about 40% of the laparoscopies in women with CPP no obvious cause for the pain complaint can be demonstrated [Howard 1993]. If an abnormality is observed the association between pathology and the site or severity of the pain is poor [Hammoud 2004; Fauconnier 2005; Vercellini 2007]. To make it worse, the same type of pathology is also noted in pain free women [Howard 1993]. Consequently, laparoscopic findings are considered to be coincidental rather than causal.

Suffering from CPP can impact on the physical and mental health of the affected women resulting in an impaired quality of life [Stones 2000] with for instance higher levels of anxiety, depression and sexual problems in comparison with pain free controls [McGowan 1998; Grace 2006, ter Kuile 2009]. Furthermore, studies on CPP women show that the rate of physical and especially sexual abuse in these women’s histories is elevated compared to pain free controls [Roelofs 2007].

In addition, the range of effective interventions remains limited and recommendations for treatment are based on single studies [Stones 2005].

**Outline of the thesis**

The studies presented in this thesis aim to gain further insight into (a) the reliability of the evaluation of findings during videotaped laparoscopic assessment, (b) sexual functioning in women with CPP and (c) the clinical course of pain in women with acute abdominal and chronic pelvic pain. Finally, we describe a model that can be used in clinical practice for the assessment of women with CPP. The studies are described in detail in the following chapters, but their aims are summarized in this general introduction.
**Setting**
All current study participants suffering from CPP have been referred by a gynaecologist of the outpatient clinic of the department of Gynaecology of the Leiden University Medical Center (LUMC) to the so called Chronic Pelvic Pain team (CPP-team), as introduced by Peters [Peters 1991]. Gradually, the team is regarded as an expert center for women with CPP and provides local secondary and regional tertiary care.

**The reliability of videotaped laparoscopic findings**
At present the use of laparoscopy increases for diagnostic and therapeutic reasons. To record the findings during laparoscopy, videotaping of this procedure has been introduced. Gradually, videotaped laparoscopies have found general acceptance for the following reasons: residential training, informing the patient on the findings, requesting second opinions and malpractice procedures. For all of these uses it is a prerequisite that evaluations of videotaped laparoscopies are consistent with real-time laparoscopic findings, the so-called “gold standard”. In chapter 2 we investigate the intra- and interobserver reliability of evaluations by assessors who view videotaped laparoscopies compared with real-time laparoscopies in a sample of a heterogeneous population of women with endometriosis and/or adhesions or without disease.

**Sexual functioning of CPP women**
Sexual dysfunctions can result from the somatic and/or psychological factors associated with chronic pelvic pain. In chapter 3 we examine differences in the number and type of sexual problems in a clinical sample of women with CPP compared to healthy controls. We also determine whether the association between CPP and sexual problems is moderated or mediated by somatic and psychological factors as manifested in these women. Moderators are baseline variables (qualitative or quantitative) that affect the direction and/or strength of the relation between CPP and sexual problems. Mediators are variables that (partly) explain the observed relationship between CPP and sexual functioning.

**The course of abdominal and pelvic pain in women**
First, we concentrate on the clinical course of *acute* abdominal pain (i.e., pain in the abdomen of less than 1 week’s duration). Because we want to know to what extent women still report pain complaints following an acute episode of abdominal pain, we conduct a 2 years’ follow-up study on a cohort of women who have visited an emergency department of a secondary care hospital for acute abdominal pain (chapter 4). Also, we analyse whether pain persistence in this cohort is associated with demographic and clinical variables. Knowing risk factors for persistence of pain may lead to early identification of patients at risk for the development of chronic pain after an acute episode and, through early and appropriate intervention, reduce this risk [White 1997].
Second, in the next 2 chapters we investigate the clinical course of chronic pelvic pain. In chapter 5 we follow a cohort of women with CPP, and assess recovery from CPP at a 3 years’ period on average. We also examine changes in pelvic pain severity and psychological distress. Factors associated with recovery from pain are identified. In clinical practice, knowledge about the clinical course of CPP and the risks for chronicity, can be of great value [Croft 2006] in order to give a woman with CPP a realistic expectation about the course and prognosis of her condition. From studies in other chronic pain conditions, evidence emerges which suggests that besides somatic factors, psychological aspects like pain appraisals (i.e., attributions and expectancies about pain) and cognitive pain coping strategies can play a prominent role in the course of these complaints [Turk 2004]. Therefore, a second follow-up study of a new cohort of CPP women has been conducted (chapter 6). We focus not only on recovery from pain and changes in pain severity but also on changes in adjustment to pain (i.e., anxiety, depressive symptoms and health related quality of life) as well as on changes in pain appraisals and coping strategies. Furthermore, we evaluate whether pain appraisals and pain coping at baseline and their changes from baseline are associated with improvement in the long term.

**Assessment**

In chapter 7, considering the results of the observational studies, we suggest a structured method that can be used in history taking of women suffering from CPP to facilitate women’s motivation for pain management that intends to alleviate pain and improve adjustment to pain.

**Summary**

Chapter 8 summarizes and recapitulates the results of the studies presented in this thesis in terms of the research questions of these studies. The limitations of the studies and the implications of the results for clinical practice and future research are discussed.