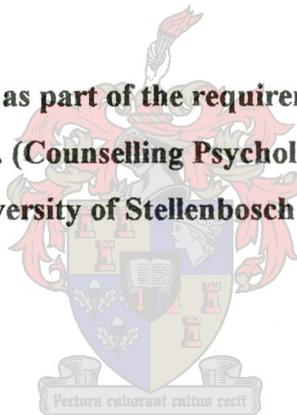


THE EFFECTS OF A MULTIDIMENSIONAL TREATMENT PROGRAMME
WITHIN A COGNITIVE-BEHAVIOURAL HYPNOTHERAPEUTIC FRAMEWORK
FOR SUFFERERS OF FIBROMYALGIA

Tania Miller

**Thesis submitted as part of the requirements for the
degree of M.A. (Counselling Psychology) at the
University of Stellenbosch**



Supervisor: Mr H.M. de Vos

December 2000

DECLARATION

I, the undersigned, hereby declare that the work presented in this thesis is my own original work, which has never before been submitted at any other university for the purpose of attaining a degree.

Signature:

Date:

ABSTRACT

In this study, a Multiple Baseline across People design was used with a sample of 6 Fibromyalgia (FS) sufferers in order to evaluate the efficacy of a multidimensional treatment programme on: pain intensity, duration of pain experiences and intake of medication. The programme which consisted of weekly 2 hourly sessions over a period of 6 weeks, combined hypnotherapy and self-hypnosis with cognitive-behavioural techniques. Attempts were made to customise interventions to the specific needs of the individual. The following three hypotheses were postulated: That introduction of the treatment programme would: 1) reduce pain intensity levels; 2) reduce the duration of pain experiences (average daily pain hours) thus minimising the interference of pain into the lives of the patients; 3) reduce the intake of medication. All three of the hypotheses are supported by the results. Graphs show that pain intensity levels, average daily pain hours (duration) and intake of medication clearly decreased over the treatment process from baseline to follow up. For hypotheses 1 and 2, the Wilcoxon Signed Ranks Test was applied which showed that the results were also statistically significant. The study yielded qualitative information regarding two areas of FS: 1) possible etiological factors contributing towards the syndrome; 2) the elucidation of various therapeutic components responsible for alleviating specific FS symptoms. In particular, the study highlights the importance of targeting maladaptive cognitions linked to pain experiences as well as of taking account of individual interpersonal issues in the management of FS sufferers. An etiological model is presented by the author which views FS within a systemic framework in which various variables (psychological and physiological) operating at the individual, environmental and socio-cultural levels, interact to produce the syndrome.

OPSOMMING

In hierdie studie is van 'n Meervoudige Basislynontwerp met Mense ("Multiple Baseline across People") gebruik gemaak om 'n steekproef van 6 Fibromialgie (FS) pasiente te evalueer ten opsigte van pynintensiteit, tydsduur van pynervarings en die inname van medikasie. Die program, 'n kombinasie van hipnose met kognitiewe gedragstegnieke, het bestaan uit weeklikse sessies van 2 ure elk oor 'n tydperk van 6 weke. Die intervensies wat plaasgevind het, was ook gerig op die spesifieke behoeftes van die individu. Die volgende drie hipoteses is gestel, naamlik dat die toepassing van die behandelingsprogram sou: 1) die pyn-intensiteitsvlakke verminder; 2) die tydsduur van die pyn-ervarings verminder en die voorkoms van pyn in die pasient se lewe minimaliseer; 3) die inname van medikasie verminder. Al drie hipoteses is betekenisvol ondersteun deur die resultate. Die statistiese grafieke het getoon dat die pyn-intensiteitsvlakke, die gemiddelde daaglikse pyn-ervaringsure en die inname van medikasie, betekenisvol verminder het oor die behandelingsperiode vanaf basislyn tot opvolgperiode. Die "Wilcoxon Signed Ranks Test" het ten opsigte van hipoteses 1 en 2 ook statisties betekenisvolle resultate aangetoon. Die kwalitatiewe inligting vanuit die ondersoek bekom, het twee aspekte rakende FS navore gebring, naamlik: 1) die moontlike etiologiese faktore wat bedra tot die sindroom en 2) 'n duideliker omlyning van die terapeutiese komponente verantwoordelik vir die versagting van spesifieke FS simptome. In besonder is die wanaangepaste kognisies geassosieer met pynervarings uitgelig, asook die interpersoonlike probleme wat FS pasiente ervaar in die behandelingsprogram. 'n Etiologiese model, wat FS binne 'n sistemiese raamwerk plaas, is deur die navorser voorgestel. Laasgenoemde model spreek die verskeidenheid van sielkundige en fisiologiese veranderlikes, wat op die individu, omgewing en sosiokulturele vlakke inwerk, op so 'n wyse aan dat dit die sindroom meer verklaarbaar maak.

ACKNOWLEDGEMENTS

The author would like to thank the following individuals who assisted with this study: Mr H.M. De Vos for his guidance and support and whose enthusiasm for the topic of this study was both infectious and uplifting; Dr J Miller (MB ChB) who assisted with the selection of patients; Mr K Lotz who provided valuable assistance with the drawing up of the graphs; Ms M Le Roux whose assistance with the statistics was greatly appreciated; My husband and family for their enduring support and finally the patients themselves, who without their participation, this study could not have been possible.

CONTENTS

	<u>Page</u>
Declaration	
Abstract	
Opsomming	
Acknowledgements	
Contents	(i)
List of tables	(iii)
List of figures	(iv)
1. Introduction and Motivation for study	1
2. Literature Survey and Theoretical Basis of the Research Study	4
3. Research Question and Hypotheses	9
4. Research Methodology and Programme	10
4.1. Research Design	10
4.2. Participants	11
4.3. Method of Data Collection	11
4.4. Treatment Programme	12
4.4.1. Assessment Phase	13
4.4.2. Treatment Phase	14
4.5. Data Analysis and Interpretation	16
5. Results	17
6. Discussion	25
7. Summary	33

8.	References	34
	Appendix A: Pain Log for Self-Monitoring of Pain	44
	Appendix B: Case summaries	45
	Case 1	45
	Case 2	47
	Case 3	50
	Case 4	52
	Case 5	55
	Case 6	58

LIST OF TABLES

		<u>Page</u>
Table 1.	Raw Scores for the three Sets of Quantitative Data obtained: Pain intensity, Average Daily Pain Hours and Intake of Medication.	18
Table 2.	Descriptive and Test Statistics for Pain Severity Data (as indicated by average weekly pain intensity levels over time).	19
Table 3.	Descriptive and Test Statistics for Interference of Pain in Daily Life Data (as indicated by average daily pain hours over time).	19
Table 4.	Descriptive Statistics for Intake of Medication Data (as indicated by average weekly intake of units across time).	20
Table 5.	Analysis of the Most Important Therapeutic Components of the Treatment Programme for each Patient as Obtained via Patient Self Report.	21

LIST OF FIGURES

		<u>Page</u>
Figure 1.	Four-Sector Pain Management Model.	5
Figure 2.	Pain severity (as indicated by average weekly pain intensity levels over time).	22
Figure 3.	Interference of pain in daily life of FS sufferers (as indicated by average daily pain hours across time).	23
Figure 4.	Intake of medication (as indicated by average weekly intake of units across time).	24
Figure 5.	A Systemic Model for the Fibromyalgia Syndrome	29

1. Introduction and Motivation for study

Our current understanding of both acute and chronic pain has been revolutionised in the past three decades by new findings in neurophysiology and behavioural science regarding the diverse and highly interactive factors that contribute to a patient's report of pain. Evidence reveals that pain is a multidimensional phenomenon, including sensory, affective/emotional, cognitive, behavioural and environmental aspects (Shipton, 1996). Greater awareness of the complex nature of the pain experience has led clinicians to realise that treatment programmes likewise need to be multifaceted in nature.

The management of pain is traditionally divided into two main categories: acute and chronic. While acute pain usually has a known cause, is frequently self-limiting and treatment is often clearly defined; secondary gain is minimally involved if at all. Chronic pain, on the other hand, is characterised by obscure origins, is persistent and has an unpredictable termination. Secondary gain and other psychological factors play a large part, often larger than physical factors (Shipton, 1993). Chronic pain is the most frequent cause of disability and constitutes a major national and world health and economic problem (Shipton, 1996). It is among the most common complaints of patients in primary care medical practices. An important cause of chronic pain, and indeed some researchers believe that the key to the problem of chronic pain, may be the fibromyalgia syndrome (FS) (Reilly, 1990).

The term defines a group of patients with widespread musculoskeletal aching but for which an underlying rheumatic disease does not exist. According to Professor H.P. Meyer, Clinical Head of the Department of Family Medicine, Faculty of Medicine, University of Pretoria (1997), FS is recognised by the World Health Organisation and is classified as a distinctive diagnosis under their disease classification, the ICD-10. The syndrome consists of widespread diffuse pain with numerous tender points, non-restorative sleep and fatigue (Campbell, Clark, Tindall, Forehand & Bennett, 1983; Goldenberg, 1987; Simms, Gunderman, Howard & Goldenberg, 1988; Wolfe et al., 1990; Yunus, Masi, Calabro, Miller & Feigenbaum, 1981). Further FS has frequently been associated with irritable bowel syndrome, emotional distress especially depression, headache and sensory disturbances (Goldberg, Pachas & Keith, 1999; Miller & Seifert, 1987; Simms et al., 1988; Yunus, 1989).

Conservative figures have estimated the prevalence of FS at 2.9-3.5% of the general population (Lyddell, 1997) while estimates of the proportion of FS patients treated in rheumatology practice settings has ranged from 4-20% and in primary care practices from 6-9% (Wolfe, 1990). Approximately 70-88% of sufferers are female (Boissevain & McCain, 1991) and the syndrome overlaps with Chronic Fatigue Syndrome (CFS) (Goldenberg, 1990; Yunus, 1989). Up to 70% of CFS sufferers may well satisfy the criteria for Fibromyalgia (Lyddell, 1997).

Over the last 20 years since publications first describing this syndrome appeared, many hypotheses have been put forward to explain the etiology of FS but as yet the cause remains unknown. Although subtle biological markers are often present, hypotheses emphasising physical causes such as, abnormalities in muscle metabolism (Bennett & Jacobson, 1984; Simms, 1996), deep sleep disturbances (Moldofsky, Scarisbrick, England & Smythe, 1975), overactive sympathetic nervous system (Vaeroy, Qiao, Morkrid & Forre, 1989; Van Denderen, Boersma, Hollsander & Neerbos, 1992) and lack of physical fitness (Bennett, 1989), have not been confirmed. Research continues regarding the possible role of psychological factors in its etiology (Amir et al., 1997; Anderberg, Forsgren, Ekselius, Marteinsdottir & Hallman, 1999). Recently, in a multicentre study conducted by Epstein et al. (1999) the researchers found that FS sufferers had significantly higher levels of some lifetime (depression and anxiety disorders) and current psychiatric disorders. However, a causal relation has not been established. Studies have also shown an unusually high incidence of childhood sexual abuse in FS sufferers (Goldberg et al., 1999).

No cure for FS exists and no pharmacological or physical treatment has yet been found which successfully controls the pain experienced by these individuals. The debilitating effects of FS to all aspects of the sufferer's life cannot be overemphasised. Some of these include the following: loss of work and income - some studies have reported that as many as 30% of sufferers lose their employment as a result of FS; breakdown of marriage; isolation; loss of independence and substance-dependence, especially to analgesic medications (Henricksson, 1995; Henricksson, Gundmark, Bengtsson & Ek, 1992; Lyddell, 1997; Mody, 1991). Studies have shown that these debilitating effects are far more severe than for rheumatoid arthritis, a musculoskeletal disease that serves as a model for much psychological research on chronic pain (Okifuji & Turk, 1999).

Since abundant research has revealed the influence of psychological factors in FS, it seems clear that a comprehensive pain management programme for FS needs to include therapeutic approaches which address the psychological needs of these patients (Epstein et al., 1999). New information, generated by a world-wide interest in pain suggests that an holistic approach where various therapeutic modalities are integrated and which assesses and treats the whole person and not just his pain is more suitable in the management of chronic pain. There is thus a growing trend towards multidimensional treatment programmes. Further various researchers have advocated the need to customise or tailor treatment packages more specifically to the individual needs of the patient (Strong, 1998; Turk, 1990). Research reveals that the more the treatment is specifically related to the individual's needs, the more effective it usually is (Chaves & Dworkin, 1997; Edelson & Fitzpatrick, 1990; Holroyd, 1996). Unfortunately research in this direction is still in its infancy.

It was with this background in mind that this study was proposed. It was believed that a multidimensional treatment programme tailored to the specific needs of the individual and aimed at intervening therapeutically on a number of levels simultaneously would improve coping resources and empower individuals, thus reducing dependence on the health services.

In the management of both acute and chronic pain, hypnotherapy and cognitive-behavioural techniques alike have a long history and have been successfully employed in both clinical and experimental studies and with a wide variety of different types of pain. They have however developed in parallel and have seldom been combined despite the fact that it would seem that they lend themselves well to such a combination since underlying assumptions are compatible. Recent research also reveals that different therapeutic factors are operating under the two therapeutic approaches and that these effects may be additive (Chaves & Dworkin, 1997; Kirsch, Montgomery & Sapirstein, 1995; Tan & Leucht, 1997). Finally, a number of researchers have recently recommended the combination thereof in the management of pain as a future avenue for research (Chaves & Dworkin, 1997; Edelson & Fitzpatrick, 1990; Golden & Gersh, 1990; Kirsch et al., 1995; Tan & Leucht, 1997). Bearing this in mind, a treatment programme composed of 4 major components (physical, medication, improvement of coping resources, addressing socio-emotional issues), which combines various cognitive-behavioural techniques and hypnotherapy into one comprehensive treatment package, was designed with

the aim of furthering research in this direction and with the hope that it might prove to be of some practical assistance to practitioners who are involved in the care of patients with FS, many of whom have become as frustrated and despondent as their patients.

2. Literature Survey and Theoretical Basis of the Research Study

Taking the multidimensional nature of pain into account, a biopsychosocial framework in which the whole individual is assessed and treated within the context of his biological, psychological and social environment, was adopted as the most suitable. This broad-based or holistic model, as conceptualised in Figure 1 (page 5), was developed by the researcher and contrasts with previous treatments where the patient's whole problem is treated with one intervention modality only.

Thus, although in-session hypnotherapy and self-hypnosis formed the mainstay of this programme, a variety of cognitive-behavioural techniques were integrated in order to meet the broader needs of the individual. These could be divided into three major areas: a) education regarding the multidimensional nature of the pain phenomenon as well as on the cognitive-behavioural method and its principles; b) cognitive restructuring which involved actively changing dysfunctional cognitions and reframing; c) improvement of coping skills, such as the teaching of progressive relaxation, breathing techniques, the use of positive self-statements, addressing communication issues such as assertiveness as well as the use of problem solving strategies aimed at addressing relationship issues and problems of secondary gain and increasing activity levels. Such a treatment programme is labelled multiple convergent therapy by Melzack and Wall (in Tan & Leucht, 1997) and is strongly advocated by them as the most promising approach to pain management. Indeed, results obtained from recent outcome studies support the efficacy of multiple convergent therapy also described as multidisciplinary treatment (Tan & Leucht, 1997).

PAIN MANAGEMENT PROGRAMME

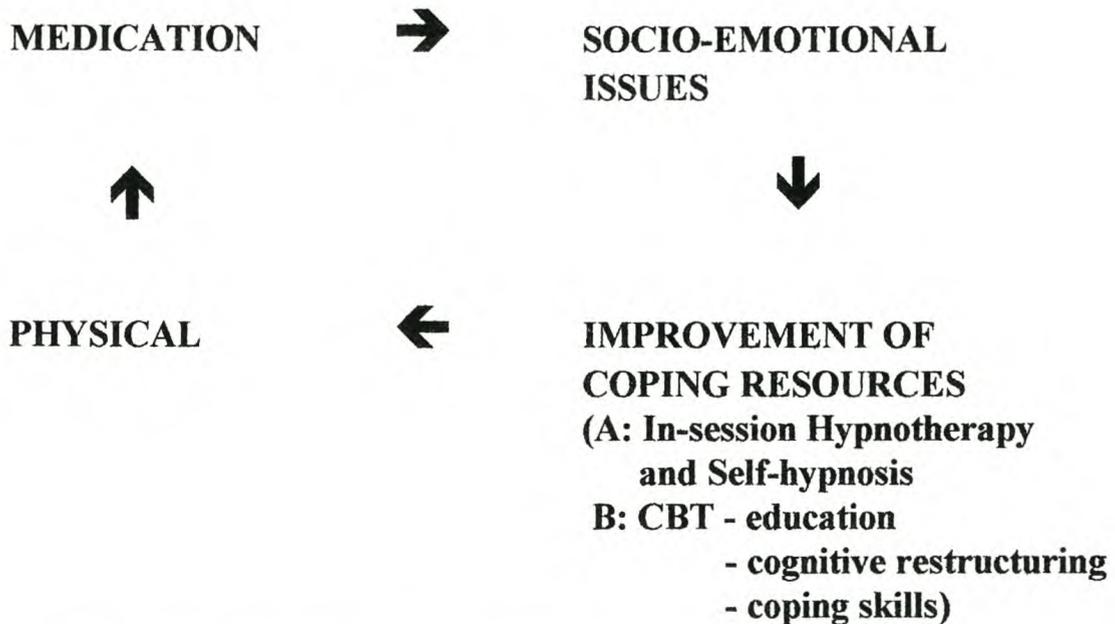


Figure 1: Four-Sector Pain Management Model.

The research study thus subscribes to a technical eclecticism within a broad cognitive-behavioural hypnotherapeutic framework. Such a framework is appropriate to the multidimensional treatment package proposed. Cognitive techniques and the theory on which they are based have become widely accepted for the control of pain and are concerned with the way the individual perceives, interprets and relates to pain, as well as those factors, such as stress, emotional states and perceptions of one's ability to cope, that mediate and influence cognitive processes (Weisenberg, 1998). Typically people in pain often harbour extremely negative thoughts and beliefs about their pain. As Turk and his co-authors state (Turk, Meichenbaum & Genest, 1983), sufferers 'catastrophise' about their pain and say negative things to themselves and others. Within a cognitive-behavioural framework, cognitive techniques are used to help the person identify and correct distorted conceptualisations. The patient is taught how to monitor negative, automatic thoughts; to recognise the connections between cognition, affect, and behaviour; to examine evidence for and against his or her distorted automatic thoughts; to substitute reality-oriented interpretations; and to recognise dysfunctional or irrational beliefs that predispose him or her to distort experiences (Turk et al., 1983). In addition, often a series of skills are taught to permit the person to increase his or her

perception of control and coping. Patients who believe that they can control their pain, who avoid catastrophising and who believe that they are not severely disabled, function better than those who do not (Weisenberg, 1998). In a systematic review and meta-analysis of 25 randomised controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, the researchers found that active psychological treatments based on cognitive-behavioural principles are effective relative to waiting list control conditions and produced significant changes in measures of pain experiences, mood/affect, cognitive coping and appraisal, pain behaviours and activity level and social role function (Morley, Eccleston & Williams, 1999). Further, Keefe (1998) reviewed the evidence for cognitive-behavioural interventions in the rheumatic diseases and provides evidence suggesting that these interventions deserve further investigation in FS.

Within this broad-based cognitive-behavioural hypnotherapeutic framework, hypnosis is conceived “as a set of skills to be deployed by the individual” rather than as a state (Alden & Heap, 1998, p. 62), thus the researcher subscribes to a definition of hypnosis in socio-cognitive terms rather than in special-state terms (see Chaves, 1992, 1993, 1994 and Spanos & Chaves, 1989). It appears that such a conceptualisation of hypnosis may be more widely acceptable to practitioners in the field of pain management and patients themselves.

The effectiveness of hypnosis in the relief of both acute and chronic pain is well-documented (Alden & Heap, 1998; Chaves & Dworkin, 1997; Covino & Frankel, 1993; Dane, 1996; Holroyd, 1996). A review of recent literature found an abundance of studies that exemplify the effectiveness of hypnosis relative to other behaviour therapies (Alden & Heap, 1998; Holroyd, 1996; Kessler & Dane, 1996; Kirsch et al., 1995; Mauer, Burnett, Quellette, Ironson & Dandes, 1999). The studies that were selected to be highlighted, though, all involve the treatment of a disorder with hypnosis, where the operation of psychogenic factors, as in the case of FS, is believed to be significant.

The first (and most pertinent to this study), is a study of Fibromyalgia patients, in which hypnotic suggestions for relaxation, improved sleep, and control of muscle pain reduced symptoms of pain, sleep disturbance, fatigue, and feeling sick more than a comparison treatment of relaxation therapy plus massage. Moreover among those patients using

paracetamol, 80% of the hypnosis patients reduced their medication, as compared with 35% of the comparison treatment patients (Haanen et al., 1991).

In a study by De Benedittis (1996), he reported four cases of spasmodic torticollis (ST) successfully treated with hypnosis. ST is a neuromuscular disorder extremely resistant to most therapies (physical, medical or surgical). Its etiology remains uncertain but psychological causes are emphasised. In all four cases a hypnobehavioural approach was adopted and good to excellent results were obtained.

Research carried out by Blanchard and Malamood (1996) into the treatment of irritable bowel syndrome (IBS), a fairly prevalent functional disorder of the lower gastrointestinal tract, showed that cognitive therapy and hypnotherapy was superior to symptom monitoring and general medical care. IBS sufferers who seek treatment have been found to be significantly more psychologically distressed than the average population. The authors found that benefits from psychological treatment have been maintained up to 4 years and they recommended a close collaboration between psychologists and gastroenterologists in the assessment and management of this patient population.

In a study by Spanos et al. (1993) hypnotic suggestion was found to be successful in the treatment of chronic headaches in a volunteer sample. While in another study (Van Dyck, Zitman, Linssen, & Spinhoven, 1990) autogenic training and future-oriented hypnotic imagery was found to be successful in the treatment of tension headaches. Recently, Emmerson and Trexler (1999) tested the efficacy of hypnosis in the reduction of migraine duration, frequency, severity and requirement for medication. In the study, 32 migraine sufferers underwent a 12 week pre-treatment period followed by 12 weeks of treatment. Results showed significant improvement differences for all variables.

In research carried out by Spinhoven and Linssen (1990), education and self-hypnosis was found to be successful in the management of low back pain (LBP). The researchers concluded that a group programme consisting of education in combination with self-hypnosis forms a non-invasive, inexpensive treatment which could be of value in teaching severely disabled LBP patients to cope more adequately with their problem.

Evidence supports Brown and Fromm's (in Crawford, Knebel & Venderia, 1998) statement that early introduction of hypnotic pain control is a first step in enhancing self-efficacy in chronic pain management. The importance of developing self-efficacy through learning to control one's experience of pain and the understanding of one's own attentional and disattentional abilities was demonstrated as being a significant intervention in the modulation and control of chronic pain (Jenson et al., 1991). A number of studies indicate that hypnosis worked better than stress inoculation, placebo control, distraction and relaxation in the control of pain (Kirsch et al., 1995; Tan & Leucht, 1997) and that hypnosis is not simply relaxation, nor cognitive coping, nor a placebo (Holroyd, 1996).

Combining hypnotic procedures with cognitive-behavioural therapy

Research supports the combining of hypnotic and cognitive-behavioural techniques, suggesting that the effects may be additive (Chaves & Dworkin, 1997; Kirsch et al., 1995; Tan & Leucht, 1997). In a meta-analysis conducted by Kirsch et al. (1995), the authors assessed available empirical data in order to answer the question of whether cognitive-behavioural psychotherapies are enhanced by the addition of hypnosis. The meta-analysis involved 18 studies in which a cognitive-behavioural therapy was compared with the same supplemented by hypnosis. The results indicated that the addition of hypnosis substantially enhanced treatment outcomes, so that the average client receiving cognitive-behavioural hypnotherapy showed greater improvement than at least 70% of clients receiving only cognitive-behavioural therapy. These researchers concluded that training in hypnosis should be included routinely as a part of training in cognitive-behavioural treatments.

Because of the diverse range of symptoms associated with FS, various researchers have suggested that the management thereof might more successfully be achieved via multidimensional treatment programmes (Bennett et al., 1991; Masi & Yunus, 1990; Turk, Okifuji, Sinclair & Starz, 1998). Unfortunately, the bulk of non-pharmacologic therapy studies are unimodal, consisting of exercise (Horven Wigers, Stiles & Bogel, 1996; McCain, Bell, Mai & Halliday, 1988; Mengshoel, Komnas & Forre, 1992), stress management (Horven Wigers et al., 1996; Kaplan, Goldenberg & Galvin-Nadeau, 1993) or psychological counselling (De Voogd, Knipping & Van Rijswijk, 1993). Over the last few years a number of studies have employed multidimensional treatment programmes with varying results:

Mengsheol, Forseth, Haugen, Walle-Hansen, and Forre, (1994) demonstrated significant reduction in pain severity for FS patients at posttreatment, however, the effects were not maintained at the 34 week followup.

In an interdisciplinary outpatient treatment programme consisting of medical, physical, psychologic and occupational therapies, Turk et al. (1998) showed that the programme was effective in reducing many FS symptoms and that these gains tended to be maintained for at least 6 months.

In a quasi-experimental design, Nielson, Walker, and McCain, (1992) evaluated the effects of an inpatient Coping Skills Training (CST) programme where 25 individuals with FS received intensive, individualised training in relaxation, cognitive pain coping strategies, activity pacing, and exercise during a 3-week stay. Subjects showed very little change in symptoms prior to entering the programme but achieved significant reductions in pain severity, perceived interference with life, sense of control over pain, and emotional distress by the end of treatment.

More recently, Nicassio et al. (1997), conducted a randomised controlled trial designed to compare CST with education alone (EDU). In this study overlap between the treatment groups was minimised in that the EDU group specifically focused on providing participants with educational information, while the CST group focused specifically on training in self-management skills. Results showed that both interventions demonstrated improvement in depression, self-reported and observed pain behaviour and myalgia scores over time. There were, however, no significant differences between groups suggesting that both CST and EDU may share a common therapeutic process (for example, a sense of efficacy or mastery) responsible for improvement in outcome.

3. Research Question and Hypotheses

The following research question was formulated as being the most appropriate one for the purpose of this study:

Will a multidimensional programme combining hypnotherapy with cognitive-behavioural techniques be successful in reducing both the intensity and duration of pain experiences in sufferers of Fibromyalgia?

Flowing from the above-mentioned research question the following hypotheses were formulated and were delineated for empirical investigation:

Hypothesis 1: That the proposed treatment programme would reduce the intensity of pain experiences in FS patients.

Hypothesis 2: That the proposed treatment programme would minimise the interference that pain episodes cause in FS sufferers daily lives by reducing their average daily pain hours.

Hypothesis 3: That the use of medication would be reduced by the FS patients who receive the above-mentioned treatment as a direct result of the above even though patients would not be encouraged to reduce medication.

Further, it was anticipated that qualitative information received from the patients themselves would show that their activity levels had increased as a result of decreased pain levels. The existence of a negative correlation between activity levels and pain levels has been well established (Adams & Martin, 1983).

4. Research Methodology and Programme

4.1. Research Design

Since the treatment programme is essentially a behaviour modification programme in that it aimed to increase activity, reduce the taking of medication, improve coping behaviours thus minimising both the intensity and duration of pain experiences, a typical behaviour modification research strategy was selected as the most suitable for this study. The research subscribes to the **Multiple Baseline across People** design which demonstrates the effectiveness of a treatment by applying it sequentially to individuals. This research design was successfully used by Fawcett and Miller (1975) who used it to demonstrate the effectiveness of a combination of procedures (called a treatment package) designed to improve public speaking behaviours. Public speaking skills of three individuals were recorded during public speaking sessions. The first individual was then given the package while the others continued on baseline. Exposure to the treatment improved the public speaking behaviours of the first

individual. The package was then introduced sequentially to the second person, and then to the third person and each time it led to an improvement in public speaking behaviours. According to Martin and Pear (1992) the improvement in individuals who receive treatment sequentially across time is a convincing demonstration of the effectiveness of a treatment programme and has the advantage over a reversal-replication design in that it eliminates the need for reversing to baseline conditions. A potential problem with this research design is that the individuals involved might deliberately communicate with or otherwise influence other individuals who are being baselined and thereby cause them to show a change in behaviour prior to the introduction of the treatment programme. For this research study, it was hoped that this problem would be largely eliminated since the individuals who were selected from a community setting, had no obvious relation to each other and were seen at separate times for treatment sessions.

4.2. Participants

The sample consisted of 6 patients (5 women and 1 man) selected from a single medical practice who had been diagnosed with Fibromyalgia by a medical doctor according to the American College of Rheumatology's diagnostic criteria for the classification of Fibromyalgia (in Wolfe et al., 1990). All patients had been diagnosed at least 2 years prior to commencing the programme and 5 of the 6 cases had received fairly extensive ongoing medical treatment (including supportive counselling, education, analgesic, sleeping and antidepressant medication), which had failed to control their symptoms including intensity and duration of pain experiences.

4.3. Method of Data Collection

The data collection method utilised, as determined by the research design, involved the self-monitoring of pain and pain-related behaviours and consisted of the individuals completing a pain log (see Appendix A, page 44) on a continuous basis. Pain logs cover the most important aspects of the pain experience including sensory (quantity of pain experiences and intensity thereof), affective (level of distress) as well as the related situations, thoughts, feelings and behaviours (in cognitive therapy terms the ABC's of the pain experience). The use of such pain logs have been found to be highly successful in the use of pain management and

apart from a method of obtaining data are in themselves a therapeutic intervention. Medication was also monitored via the pain log. Thus the pain logs were able to yield both quantitative information (that is, pain intensity levels, duration in hours of pain experiences, daily/weekly intake of medication) and valuable qualitative information in a process manner.

It was envisaged that the completion of the above-mentioned logs would enable the researcher to: 1) graphically depict the various aspects of the treatment process with a view to evaluating the efficacy thereof, 2) obtain multidimensional information with regard to the individual's pain experience thus enabling the researcher to customise the treatment programme to the individual's needs within an holistic framework; 3) provide clear therapeutic direction.

4.4. Treatment Programme

The treatment programme consisted of the following 4 phases:

- An assessment phase of 1-2 sessions (see detailed information below).
- A baseline phase ranging from 3 weeks to a few months due to the sequential nature of the programme and which involved the self-completion of pain logs.
- A treatment phase involving 6 weekly sessions of approximately 2 hours each (see detailed information below).
- A follow up phase. These were conducted simultaneously and thus ranged from 7 months to 2 months after termination of treatment. The follow up involved the completion of pain logs for 1 week in order to obtain quantitative information. This was followed by an informal session in which the overall treatment process was discussed.

The timing of the programme was as follows: two patients began in November 1999; one in January 2000; two in February 2000 and the final patient began in April 2000. All follow ups took place in the first week of July 2000.

The application of the treatment programme is illustrated via case summaries which can be found on page 45 in Appendix B.

4.4.1. Assessment Phase

In line with the holistic nature of the cognitive-behavioural hypnotherapeutic framework which this study subscribed to, assessment was also multidimensional and the following aspects were covered:

- Pain history and detailed description of the pain. To begin by addressing the pain itself was an obvious and appropriate starting point. The following aspects were covered: a description of the pain; history of the pain; prior treatments, surgeries and medications and their effects; the impact of the pain problem on relationships, vocation, leisure activities, sexual activity; level of premorbid functioning; potential benefits of the pain (secondary gain); antecedents (environmental, temporal, emotional, cognitive) associated with exacerbation and improvement of pain; level of depression. Hypnotherapy with pain is facilitated by a detailed description of the sensory experience of pain and the following aspects were covered: 1) thermal sensations; 2) kinaesthetic sensations and 3) imagery of the pain (Hammond, 1997). Both a detailed verbal description of the pain was obtained and patients were asked to draw their pain using colours and adding any descriptive words that they wished to. The aim of the above was both to establish rapport as well as to provide important clues to aid in the selection of hypnotic techniques related to replacement or substitution of sensation or for hypnotic reinterpretation of the pain experience.
- Associated medical conditions.
- Pain behaviour. There are a number of specific behaviours associated with pain. These include taking medication, visiting doctors, rest periods which would not occur if pain were absent, reduced social and leisure activities, sleep disturbances and pain as a weapon to manipulate others. FS is associated with both sleep disturbances and fatigue and reduced activity/withdrawal (Lyddell, 1997).
- Emotional responses including relationships with work colleagues and significant others. Chronic pain and especially FS is associated with both depression and anxiety (Lyddell, 1997).
- Cognitive responses to pain and coping strategies.
- Personality, including the clinical evaluation as well as the patients own self-evaluation of their personality profile.
- Life history including significant life experiences and relationships with family members both current and within family of origin.

4.4.2. Treatment Phase

Treatment consisted of intervening therapeutically within the following 4 domains as indicated by the model (Figure 1, page 5) presented earlier:

- Medication: Patients were not encouraged to reduce intake of medication but merely received information regarding the correct use thereof which was dealt with by their general practitioner who also dealt with queries and any problems related to medication. The monitoring of medication also formed part of the pain log.
- Addressing of socio-emotional needs: Patients received individual counselling surrounding a range of emotional issues according to their specific needs. These issues were either identified by the patients themselves at the onset of treatment as having a bearing on their fibromyalgia symptoms, or the need to address a particular issue arose during the treatment process. Some of these issues involved dealing with fears and working with past trauma, reappraisal of problem situations, dealing with relationship and other interpersonal issues as well as communication issues, for example, assertiveness. A highly participative therapeutic style was adopted utilising a range of cognitive-behavioural and hypnotherapeutic techniques.
- Physical methods: Research regarding FS and the treatment thereof recommend the inclusion of an exercise programme (Goldenberg, 1993). Since this syndrome is especially associated with decreased activity and social withdrawal it was deemed important that moderate exercise and the increasing of activity levels form part of a comprehensive treatment programme. Thus goal setting to increase activity level and the monitoring thereof was linked to individual needs, interests and capabilities and included low-impact aerobics, walking, stretching exercises and ischaemic compression of trigger points, all of which have been found to be helpful with Fibromyalgia sufferers (McCain et al., 1988). Patients were also taught lower abdominal deep breathing techniques and Jacobson's progressive relaxation (1938) as part of self-hypnosis instruction.
- Improvement of coping resources: This component could be divided into 2 major areas which were integrated and mutually reinforcing: 1. In-session hypnotherapy and the learning and practising of self-hypnosis and 2. Cognitive-behavioural therapy which could be further subdivided into 3 major areas: 2.1. education; 2.2. cognitive restructuring and 2.3. acquisition of adaptive coping skills.
 1. In-session hypnotherapy and the learning and practising of self-hypnosis:

1.1. In-session hypnotherapy involved the following:

- indirect suggestions and post-hypnotic suggestions for analgesia
- reinterpretation of pain experiences
- use of positive self-statements to counteract negative 'self-hypnosis'
- reinforcement of cognitive restructuring techniques to replace maladaptive cognitions with more functional ones
- use of mystical experiences and religious narratives to reduce pain levels

1.2. Teaching of self-hypnosis procedures and the between-session practice thereof by the individuals concerned. Patients were encouraged to be creative and to try out various types of pain reduction techniques (for example, dissociative and symbolic intervention techniques, cognitive restructuring, the use of positive self-statements). Patients were also given a tape to aid with self-hypnosis.

2. Cognitive behavioural therapy:

2.1. Pain education: At the onset of treatment patients were educated regarding the rationale behind cognitive-behavioural therapy and its principles, and received instruction about the multidimensional nature of pain and what factors contribute to the pain experience as well as information regarding the mind-body connection. This aspect was considered to be an important motivational factor and is especially important for FS patients since such individuals are prone to disregarding the psychological component of their pain experience, posting all their hopes on drug cures only to be continually disappointed.

2.2. Cognitive restructuring: In all 6 cases pain logs revealed clear links between maladaptive cognitions surrounding various issues (for example, a significant relationship; work issues; fears) and the experiencing of pain episodes. Thus a crucial aspect of treatment involved the reappraisal of problem situations, reframing and actively changing dysfunctional cognitions and replacing these with more functional ones. These techniques were reinforced during in-session hypnotherapy and by the patients themselves during self-hypnosis.

2.3. Enhancement of coping skills: This involved improving the way patients react to their situations, pain experiences and environments and included the teaching and practising of active problem-solving strategies (for example, goal-setting, planning, activity pacing and time-management, assertiveness training) to improve coping and to deal with relevant interpersonal issues which were linked to pain experiences. Towards the end of treatment, this also included the generalising of techniques to other life situations and strategies for dealing with relapses.

4.5. Data Analysis and Interpretation

Researchers who employ behaviour modification research designs typically analyse their data without the use of statistical techniques that are more common in other areas of psychology (Martin & Pear, 1992). The evaluation of the effect of a particular treatment is made on the basis of two major sets of criteria: scientific and practical. Scientific criteria are used to evaluate whether or not there has been a convincing demonstration that the treatment was responsible for producing a reliable effect on the dependent variable. This judgement is commonly made by inspecting a graphical representation of the results. In this study there are 3 graphs, one for each of the hypotheses, proposed. The following considerations were born in mind when inspecting the data in order to judge whether a significant effect had occurred: the number of times the effect was replicated; whether there was any overlapping points between baseline and treatment phases; how soon the effect was observed following the introduction of the treatment; how large the effect was in comparison to baseline. As a complementary method in determining whether the results support the hypotheses or not, the Wilcoxon Signed Ranks Test was used. The Wilcoxon Signed Rank Test is a nonparametric test designed to test a hypothesis about the location (median) of a population distribution and often involves the use of matched pairs, for example, before and after data (in this study: baseline and follow up data), in which it tests for a median difference of zero. The Wilcoxon Signed Rank Test was selected for this study because it does not require the assumption that the population is normally distributed and because of the small sample size.

In evaluating the practical relevance of this type of research, Wolf (1978) suggests that behaviour modifiers need to socially validate their work on at least three levels 1. they must

examine the extent to which target behaviours identified for treatment programmes are really the most important for the client and/or society; 2. they must be concerned with the acceptability to the client of the particular procedures used and 3. they must ensure that the clients and/or caregivers are satisfied with the results. Thus, according to Wolf (1978), it is important that behavioural researchers are concerned with both the scientific value of their research and also its social relevance and its acceptability to the target population involved. The above were qualitatively assessed both during the process of treatment, and on termination via subjective evaluation in which clients, and in some cases significant others, were asked about their satisfaction with the goals, procedures and results.

5. Results

Table 1 (page 18) depicts the raw data for each patient for each of the 3 sets of quantitative data obtained (that is, average pain intensity levels, average daily pain hours and intake of medication). The pain intensity scores are an average score per treatment phase on a scale ranging from 0 to 10; the average daily pain hours scores are an average daily score per treatment phase on a scale ranging from 0 to 24, while the intake of medication scores are an average weekly intake in units per treatment phase with, for example, one paracetamol being equal to one unit.

Table 1**Raw Scores for the three sets of Quantitative Data obtained:****Pain Intensity, Average Daily Pain Hours and Intake of Medication**

	Baseline	1	2	3	4	5	Follow up
<u>Pain intensity</u>							
Case 1	6.1	1.9	1.8	3.1	1.8	1.3	1.4
Case 2	7	4.9	4.4	5.1	3.1	2.5	2.3
Case 3	4	1.5	1.9	2.2	2	1.6	0.4
Case 4	5.5	5.5	3.8	5.5	1.3	1	1
Case 5	6.2	9.9	6	4	3.2	4	3.3
Case 6	6.4	4	1.7	0	2.9	1.1	0
<u>Average daily pain hours</u>							
Case 1	7.43	2.29	3.14	4.43	2.29	1.29	1.43
Case 2	12.86	9.43	6.14	12.71	11.14	1.86	2.78
Case 3	8.07	1.29	1.43	3.43	4.85	1.38	0.29
Case 4	9.9	6.6	1.9	9.9	2.6	0.6	0.29
Case 5	24	24	24	19.5	22.8	22.21	19.5
Case 6	13.43	10.86	2.29	1.14	3.14	0.57	0
<u>Intake of medication</u>							
Case 1	23	3	1	11	1	1	2
Case 2	-	-	-	-	-	-	-
Case 3	10	2	2	6	2	6	2
Case 4	24	26.5	13	24	8	2	2
Case 5	-	-	-	-	-	-	-
Case 6	6	2	2	7	0	2	0

Figure 2 (page 22) depicts the average pain intensity levels for each of the 6 cases, across time from baseline to follow up and shows that pain intensity levels were reduced over the duration of the programme from baseline to follow up, for the group as a whole. The effect is replicated in all 6 cases. There are no overlaps between baseline and follow up scores. The effect is observed in 4 out of 6 cases immediately following the first treatment session. Finally, taking the means for each phase into account, the effect appears quite large when one compares follow up (Mean = 1.34) with baseline (Mean = 5.8667) (see Table 2, page 19). These results are complemented by the Wilcoxon Signed Rank Test which shows a significant difference between baseline and follow up scores ($z = -2.207$, $p = 0.027$) (see Table 2, page 19).

Table 2**Descriptive and Test Statistics for Pain Severity Data (as indicated by average weekly pain intensity levels over time)**

	f	Mean	SD	Minimum	Maximum	z score
Baseline	6	5.8667	1.0347	4.00	7.00	-2.207*
Follow up	6	1.3400	1.2937	0.00	3.30	

* $p < 0.05$

Figure 3 (page 23) depicts the average daily pain hours for each of the 6 cases across time from baseline to follow up and shows that the average daily pain hours experienced by patients were reduced over the duration of the treatment programme, thus minimising the interference of pain in the daily lives of the group as a whole, as well as for 5 out of the 6 cases (in case 5 average daily pain hours do not appear to have been significantly reduced). There are no overlaps between baseline and follow up scores. The effect is observed in 5 out of 6 cases immediately following the first treatment session which is a powerful indicator that the programme was responsible for the effect. Finally, taking the means for each phase into account, the effect appears quite large when one compares follow up (Mean = 4.0483) with baseline (Mean = 12.6150) (see Table 3). These results are complemented by the Wilcoxon Signed Rank Test which shows a significant difference between baseline and follow up scores ($z = -2.201$, $p = 0.028$) (see Table 3).

Table 3**Descriptive and Test Statistics for Interference of Pain in Daily Life Data (as indicated by average daily pain hours over time)**

	f	Mean	SD	Minimum	Maximum	z score
Baseline	6	12.6150	6.0870	7.43	24	-2.201*
Follow up	6	4.0483	7.6401	0	19.50	

* $p < 0.05$

Figure 4 (page 24) depicts the average intake of medication in units for 4 out of the 6 cases (cases 2 and 5 did not take any medication neither at pre or post treatment phases) across time

from baseline to follow up and shows that intake of medication was reduced over the duration of the programme from baseline to follow up for all 4 cases. The effect is thus replicated in all 4 cases. There are no overlaps between baseline and follow up scores. The effect is observed in 4 out of 4 cases immediately following the first treatment session. Finally, taking the means for each phase into account, the effect appears quite large when one compares follow up (Mean = 1.5) with baseline (Mean = 15.75) (see Table 4). The Wilcoxon Signed Rank Test could not be applied because of the small size of the sample.

Table 4

Descriptive Statistics for Intake of Medication Data (as indicated by average weekly intake of units across time)

	f	Mean	SD	Minimum	Maximum
Baseline	4	15.75	9.1057	6	24
Follow up	4	1.5	1	0	2

An analysis of the most important therapeutic components of the treatment programme as obtained from patient's self reports at followup is depicted in tabular form (Table 5, page 21) for ease of reference:

Table 5**Analysis of the Most Important Therapeutic Components of the Treatment Programme for each Patient as Obtained via Patient Self-Report**

Therapeutic components:	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Total
Interpersonal & dependency issues	1	1	1	1	1	1	6
Learning to express feelings (e.g anger)		1	1	1	1	1	5
Deep relaxation	1	1	1	1	1	1	6
Changing dysfunct. cognitions	1	1		1	1	1	5
Reducing pain via self-hypnosis		1	1	1		1	4
Reframing			1	1	1	1	4
Life goals - begin new activity	1		1	1	1	1	5
Use of positive self statements	1			1	1		3

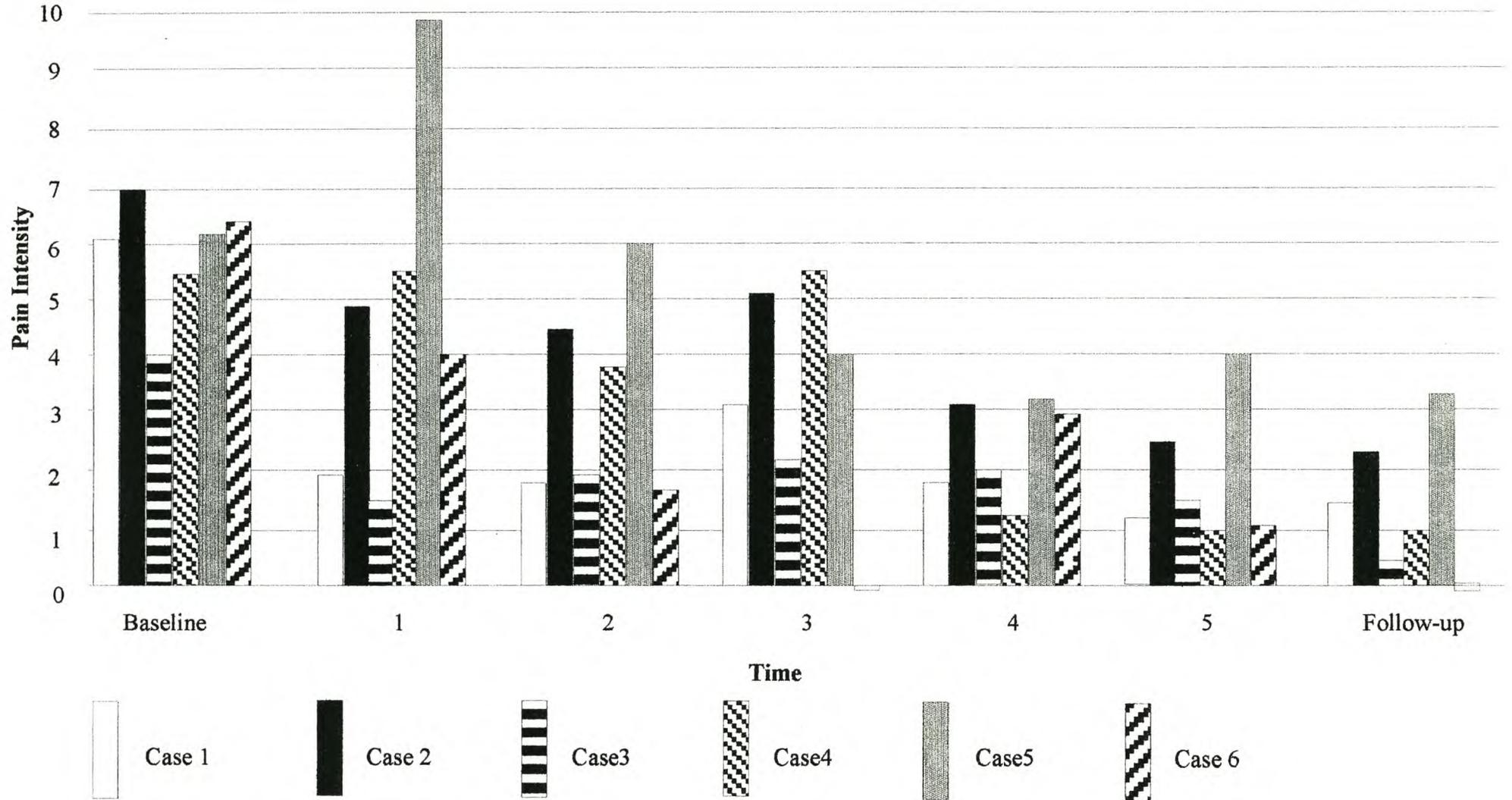


Figure 2: Pain Severity (as indicated by average weekly pain intensity levels over time).

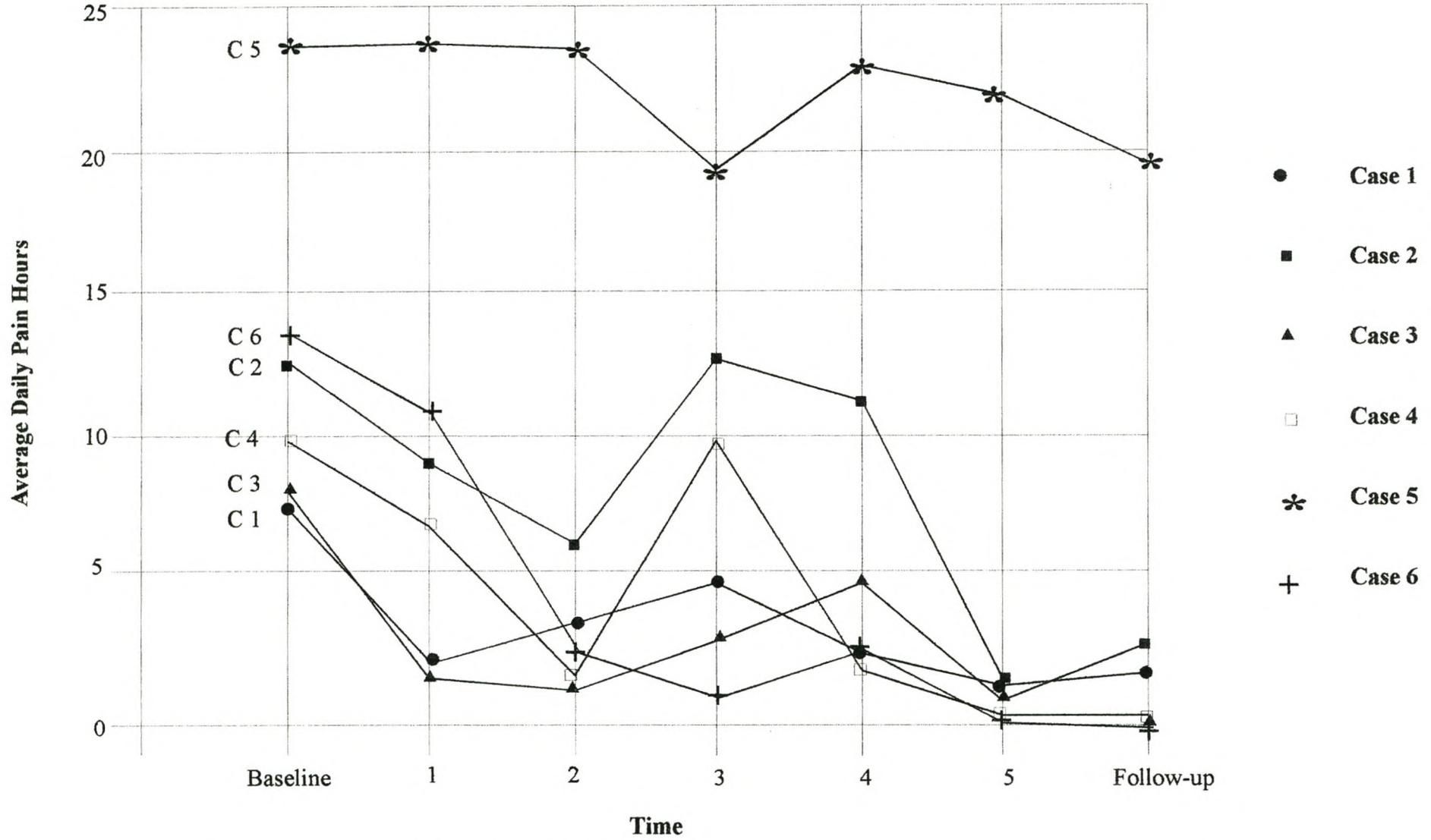


Figure 3: Interference of pain in daily life of FS sufferers (as indicated by average daily pain hours across time).

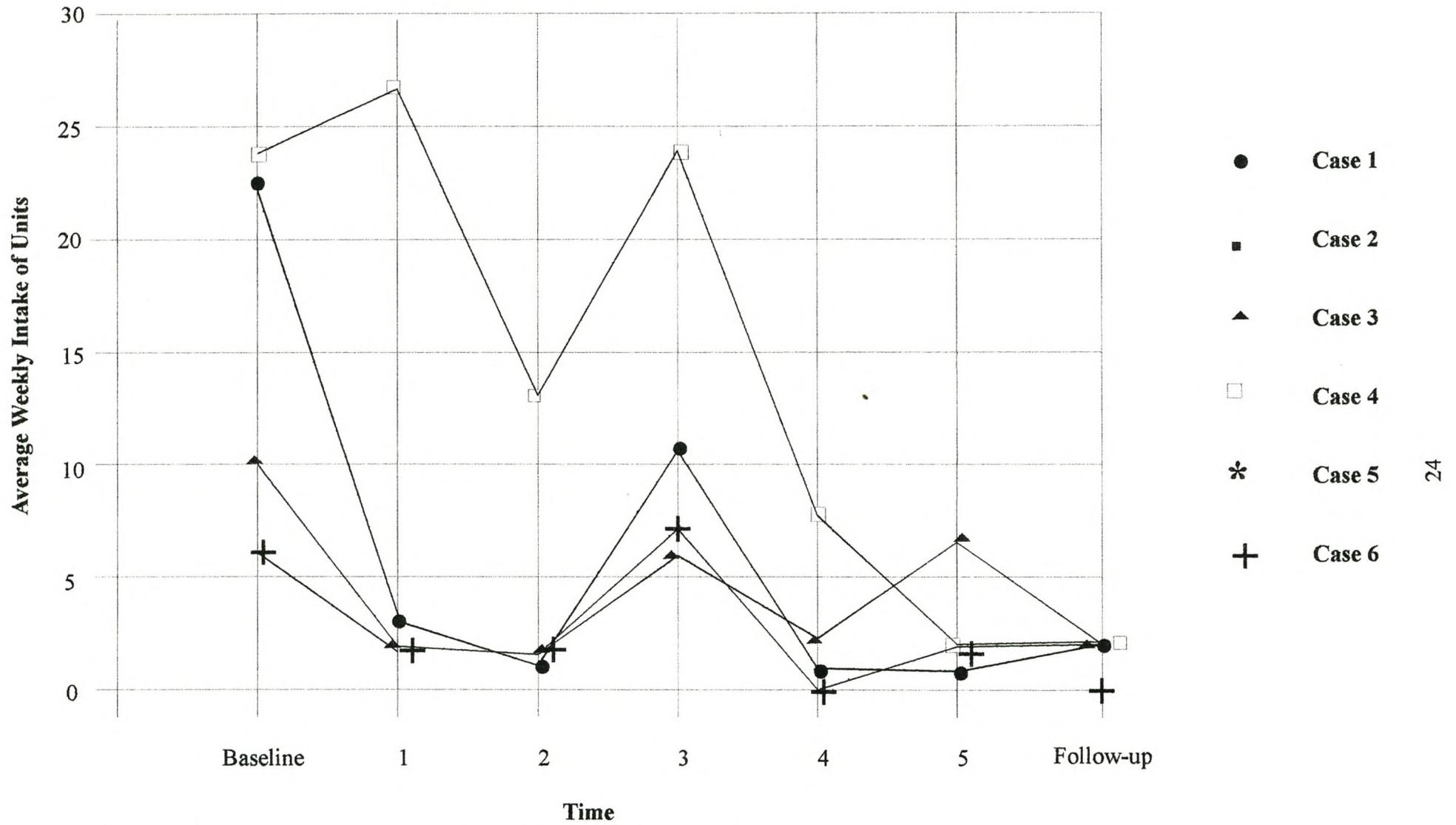


Figure 4: Intake of Medication (as indicated by average weekly intake of units across time).

6. Discussion

Results show that a multidimensional treatment programme aimed at intervening therapeutically on a number of levels simultaneously (multiple convergent therapy) and tailored to the specific needs of the individual patient, significantly reduced both the severity and duration (average daily pain hours) of pain experienced.

Figure 2 (page 22) shows that the programme was successful in reducing pain intensity levels from baseline to follow up, for the group as a whole as well as for each individual case, thus supporting the hypothesis that the introduction of a multidimensional treatment programme would reduce pain severity in the group of FS sufferers. These results are complemented by the Wilcoxon Signed Ranks Test which shows that the effect was also statistically significant.

Figure 3 (page 23) shows that average daily pain hours decreased significantly from baseline to follow up phases for the group as a whole as well as in 5 out of the 6 cases. Results thus support the hypothesis that introduction of a multidimensional treatment programme would reduce the interference of pain experiences in the lives of the group of FS sufferers by reducing average daily pain hours. Application of the Wilcoxon Signed Ranks Test showed that these results are also statistically significant.

Figure 4 (page 24) shows that the programme was successful in reducing the intake of medication for the group as a whole as well as for each individual case, thus supporting the hypothesis that introduction of a multidimensional treatment programme would reduce intake of medication in the group of FS sufferers. It is postulated that this effect is as a result of the above two main effects due to the fact that patients were not encouraged to reduce medication and reduction of medication was not targeted directly during treatment.

Treatment gains were maintained at follow ups ranging from 2 - 7 months after termination which may possibly be attributed to the fact that generalisation of techniques to other life situations and relapse prevention strategies were built into the programme.

Although no quantitative values exist, from self-reports and from the patient's pain logs, all patients experienced a marked improvement of mood as well as a relieving of affective distress

associated with pain; sleep patterns were restored to normal and activity levels increased in all cases and involved the following: beginning a new job, cane work, becoming actively involved in the building of a new house, gardening and sewing, fabric painting and walking. All patients reported feeling more in control of their lives, more optimistic, positive and self-confidence and self-efficacy were enhanced.

The study provided potentially valuable qualitative information in two important areas: 1. Possible etiological factors contributing towards FS and 2. Therapeutic components that may be especially relevant in the management of various FS symptoms.

1. Possible etiological factors contributing towards FS

1.1. In 5 out of 6 cases (see Appendix B, cases 2, 3, 4, 5 and 6), the patients had experienced a musculoskeletal injury before commencing with FS symptoms. In all cases the subjects' pains began at the site of the musculoskeletal injury and from there spread to other areas and in all cases the particular site of the old injury was where the patient reported experiencing the most severe pains. The existence of higher frequencies of musculoskeletal injuries in the histories of FS sufferers, as compared with the general population is now well established..

1.2. In 5 out the 6 cases (refer to Appendix B, cases 1, 2, 3, 4 and 6), the FS symptoms began in a particularly stressful period in the patient's life: Stressful situations involved both work and home issues and in one case, the patient had suffered a traumatic experience. These findings support other research findings (Hallberg & Carlsson, 1998) seeming to indicate that in some cases of FS a highly stressful life event acts as a trigger in the etiology of the syndrome.

1.3. In all 6 cases, the FS symptoms began to manifest AFTER the onset of sleep disturbances especially involving a lack of restorative deep sleep which left them feeling tired and irritable. In all cases the patients reported experiencing these sleep disturbances before the onset of the typical Fibromyalgia pains. Interestingly, although lack of REM sleep is not associated with FS, in 4 cases, the patients had complained at commencement of treatment that their sleep disturbances also involved a marked lack of dream activity, in fact they had not dreamed since their symptoms began and that one of the first signs that they reported experiencing during

treatment was a re-emergence of dreaming. These findings support other research which appears to indicate that sleep disturbances may be a precipitating factor in the development of FS (Moldofsky et al., 1975). In all 6 cases, frequency of pain experiences reduced dramatically when sleeping patterns were normalised.

1.4 In all 6 cases, the patients had had years of suppressing their emotions and had great difficulty expressing especially their anger and guilt feelings. The suppression of anger and related guilt feelings were of long-standing and involved: anger towards spouse (Cases 1, 3, and 4), a parent (Cases 1, 2, 5 and 6), a boss (Case 2) and anger towards others in general (Case 3). An important part of treatment for the majority of patients involved learning how to be more assertive and actively practising these skills in various life situations.

1.5. In all 6 cases, the patients had dependency issues and were typically overresponsible for others in their lives. These patterns of keeping their own feelings in while being oversupportive and overresponsible for other peoples emotional needs appeared to be of long duration stretching back into their families of origin: (for example, living with an alcoholic, living with an abusive spouse, being overresponsible for a parent & living with an emotionally dependent spouse). Patients were typically perfectionistic, and hard on themselves, that is they were people who disliked appearing weak. Other researchers have found these and similar traits to be present in FS sufferers (Alloway, 1999), however, other studies have failed objectively to support the existence of a so-called “fibromyalgia personality” (Raymond & Bergland, 1994). It is the researcher’s belief that patterns of living involving the suppression of especially negative emotions, being overresponsible for others whilst simultaneously being perfectionistic and hard on self greatly increases the internal stress levels both psychologically and physiologically within the FS sufferer thus contributing towards manifestation of the syndrome and/or exacerbation of symptoms.

1.6. In all 6 cases, the patients’ pain logs clearly revealed maladaptive cognitions related to the patients’ pain experiences. These were not in the form of catastrophising which has been until recently the main focus of research surrounding dysfunctional cognitions and the experiencing of pain, but rather the maladaptive cognitions were in all cases related to particular issues in the person’s life. The nature of the issues were often of an interpersonal

nature and when the related dysfunctional thoughts were targeted therapeutically, pain experiences diminished greatly.

1.7. Overall the life histories of the 6 cases were characterised by high levels of stress, including emotional and sexual abuse (see Appendix B, cases 1, 2, 4, 6) and a significant amount of loss (for example, loss of parent, cases 2, 3, 5, 6). These findings concur with research showing that loss and stressful life events are often found in the life histories of FS sufferers. (Bradley, 1998; Goldberg et al., 1999; Hallberg & Carllson, 1998). In a review of existing literature and a reanalysis of materials gathered for a research project which assessed the coping experiences of fibromyalgia sufferers, loss was found to be a major theme (Kelley, 1998). In none of the above cases did patients relate early losses to manifestation of FS symptoms, although there was clearly a lot of sadness attached to these losses and a need to talk about them. In the majority of the cases, working through feelings and thoughts attached to both losses and previous abuse/trauma and coming to terms with these, formed an integral part of treatment.

Taking the above into account, the following model (see Figure 5, page 29) is proposed as a possible etiological explanation for the development of the Fibromyalgia Syndrome. The model is a working model which naturally requires further substantiation via controlled clinical research. However, it is provided in the hope that it potentially provides a practical framework for those attempting to understand and manage this highly complex syndrome. Within this model, the Fibromyalgia Syndrome is seen within a systemic framework in which various variables (predisposing, precipitating and reinforcing) both psychological and physiological in origin, and operating on multiple levels: individual (biological, intrapsychic as well as life experiences); environmental (family and work factors) and on a macro level, socio-cultural factors (for example, ever increasing pace of change, increases in stress and role demands made on woman) interact in various ways to produce the Fibromyalgia Syndrome.

A SYSTEMIC MODEL FOR THE FIBROMYALGIA SYNDROME

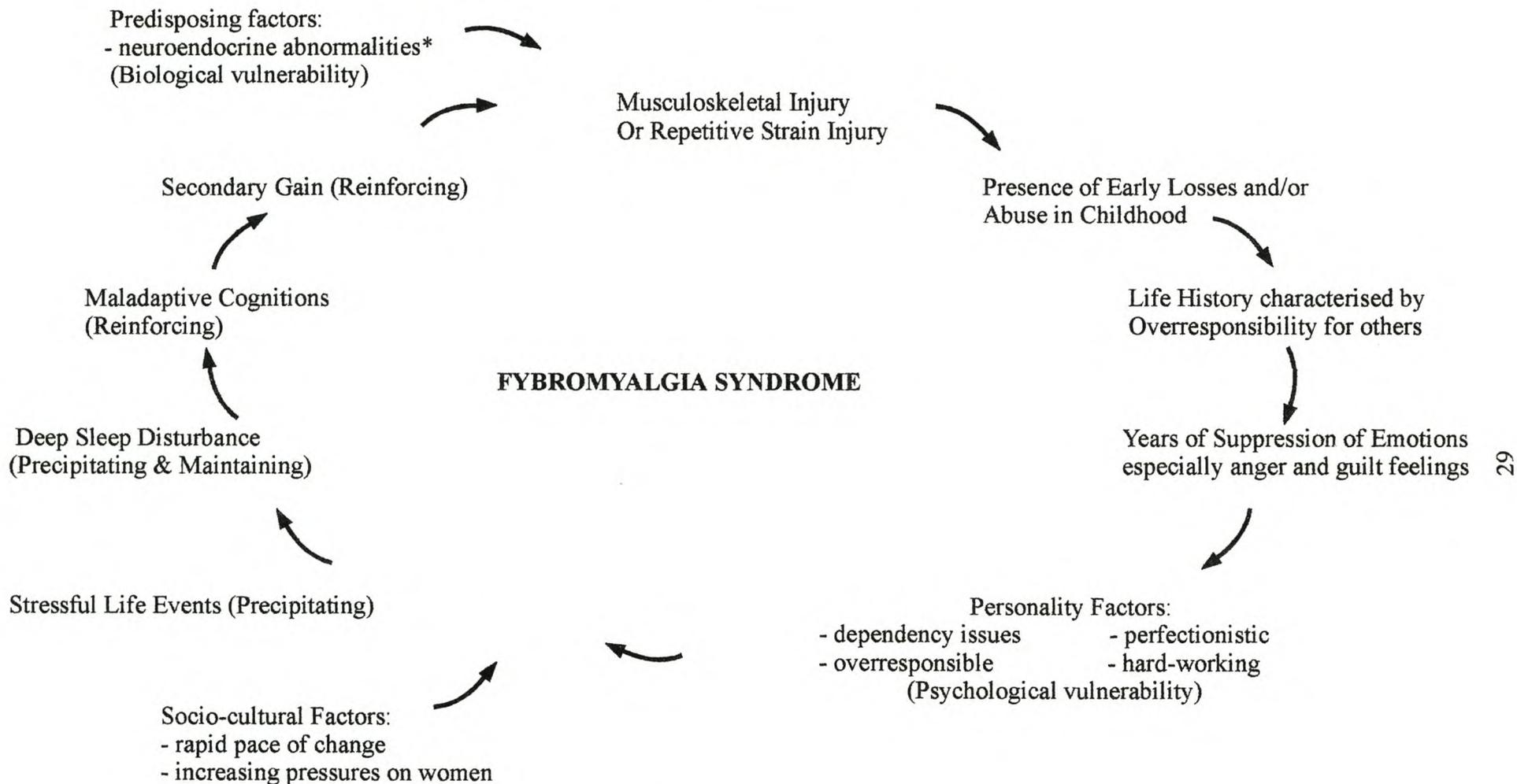


FIGURE 5: A Systemic Model for the Fibromyalgia Syndrome

* See Okifuji, A., & Turk, D.C. (1999), for more detail into subtle neuroendocrine abnormalities as a predisposing factor in their diathesis-stress model of fibromyalgia.

2. Therapeutic components applicable to various FS symptoms (see also Table 5, page 21)

Qualitative information obtained during sessions, at follow up and from the pain logs potentially indicates which aspects of treatment may be particularly relevant to certain FS symptoms.

2.1. In all 6 cases, patients found that in-session hypnotherapy resulted in a deep feeling of relaxation. These positive results were reinforced by self-hypnosis sessions which patients would practice before going to sleep. Sleeping improved dramatically and all patients related this to the self-hypnosis sessions. In turn, all 6 patients related improved sleeping patterns and a general feeling of being more deeply relaxed both mentally and physically to a reduction of pain experiences. These findings support other findings which highlight the crucial role of sleep in FS. For example, in a recent daily process analysis, Affleck et al. (1998) found that unrestorative sleep the night before predicted the following day's effort and progress toward accomplishing health fitness goals; In a study conducted by Agarguen et al. (1999) investigating sleep quality and pain threshold in patients with FS, the results showed a significant negative correlation between pain and sleep disturbances and concluded that increased pain sensitivity is associated with greater sleep disturbances.

2.2. Changing dysfunctional cognitions: the pain logs were invaluable to both the therapist and the patients in determining links between dysfunctional cognitions and particular pain episodes. In all cases clear patterns emerged whereby certain repetitive dysfunctional thought patterns were consistently linked to the emergence of pain episodes. Thus the pain logs provided clear therapeutic direction particularly in the application of cognitive-behavioural techniques. Five out of the 6 subjects believed that replacing these dysfunctional thoughts with more functional ones was a vital ingredient to their progress.

2.3. The pain logs also pointed towards key issues in the individual's life which were clearly linked to pain experiences. Via the pain logs, patients quickly obtained valuable insight into the full complexity of their symptoms, their personalities and how aspects of their lives interact and that knowledge in itself gave the patients a feeling of greater control over their situation, provided hope, and was a powerful motivator for change. In all 6 cases, working through

emotional issues, including relationship and separation issues were an important aspect of treatment.

2.4. In 5 out of the 6 cases a central element of treatment involved becoming more expressive. Two areas were of particular relevance here a) patients began to express themselves more fully, that is, patients made attempts to be themselves in a wider variety of situations, to express themselves more congruently and in 3 cases this also included expressing themselves via a creative enterprise; b) patients began to express their anger feelings more appropriately and became more assertive.

2.5. Reframing: In 4 out of the 6 cases, a crucial part of treatment, according to the patients themselves, involved a rejection of the Fibromyalgia diagnosis and a reinterpretation of their pain experiences in psychological terms, not in a broad generic sort of way but rather in terms *which were specifically related to themselves* and which embraced their own uniqueness as individuals within their unique life situation.

2.6. In 4 cases, reduction of pain levels via self-hypnosis was mentioned by the patients as being particularly beneficial to their treatment. The use of dissociative and mystical/spiritual type imagery were found to be most successful in reducing pain levels.

2.7. In 3 cases the use of positive self-statements outside and during self-hypnosis sessions were of particular benefit in restoring self-confidence, in generally improving their mood and as a form of self-motivation.

2.8. In 5 cases, the patients began a new activity, (creative, physical or a new hobby) which greatly enhanced self-confidence, provided a distraction from work or other worries in certain cases and created within them an enthusiasm which had a beneficial effect on all areas of their lives.

In evaluating the practical relevance of this study, the following conclusions were drawn by the researcher:

a) The study is of practical value to those involved in the management of FS because although FS is associated with a range of symptoms, high pain levels is the hallmark of FS and is that

aspect of the syndrome that for the majority of patients (including all cases in the study) is the most distressing and debilitating.

b) The methods used were highly acceptable to the patients themselves who found them very helpful, easy to apply, sensible and they liked the fact that they had acquired tools which they could use in other situations and at other stages in their lives (refer to Table 5, page 21, which shows the most important therapeutic components of the programme as obtained from patients' self reports for each of the 6 cases). When using hypnosis one has to be sensitive to the world-view of the patient and a conceptualisation of hypnosis in socio-cognitive terms rather than in special-state terms was found to be acceptable to all of the patients in the group.

c) All patients were highly satisfied with the results and felt that they were prepared and would be better able to cope, should symptoms reoccur because of the set of techniques they had acquired as well as the insight they had acquired into themselves, their life situations and their pain experiences.

There are obvious limitations to this research study (lack of control group, small sample size), which are only partially offset by the advantages associated with the multiple baseline across people research design that this study subscribed to. The results, however, are encouraging enough to warrant further research in this direction utilising greater resources (for example, making use of different therapists or possibly a multidisciplinary team) as well as including a control group and increasing sample sizes. It is also not evident to what extent the positive expectations of the patients could have influenced the results of the study. It is entirely possible that a highly motivating therapist coupled with receptive patients could have played the greatest role in achieving such positive results. Against this view, however, is the fact that the patients had had the FS symptoms for a number of years and had in most cases already been seen by a variety of different professionals and undergone different therapies. It is also unlikely that if positive expectations were the only or main factor responsible for the programme's success, that treatment gains would have been maintained at follow up.

Notwithstanding the above limitations, the study appears to highlight the following potentially fruitful directions for future research: a) That componential analyses of multidimensional treatment programmes will be important in being able to more accurately determine which therapeutic interventions are most suitable for which symptoms of FS; b) The importance of taking greater cognisance of socio-emotional issues in the lives of FS sufferers and how these

relate to pain experiences; c) Investigating the cost/benefit ratios associated with the use of customised/individualised treatment programs such as the one here versus more formal, generic multidimensional programmes. The latter is particularly relevant within the South African context.

In conclusion: abundant research has shown that hypnotherapy on the one hand and cognitive-behavioural therapy on the other are successful in the management of chronic pain in general and FS in particular, now the time has come for research in the field of pain management to become more discriminating in order to more accurately match therapeutic interventions to individual characteristics as well as in order to more effectively design treatment programmes.

7. Summary

In the study a Multiple Baseline across People design was used with a sample of six fibromyalgia sufferers in order to evaluate the efficacy of a multidimensional treatment programme. In the programme, hypnotherapy was combined with cognitive-behavioural techniques and interventions were tailored to the specific needs of the individual. Results showed that the programme was highly successful in reducing the intake of medication and both the severity and duration of pain levels in the group of FS sufferers thus greatly minimising the interference of pain into their lives. The research hypotheses are thus supported by the results. The study highlighted the importance of self-completed pain logs in the management of chronic pain, as in all cases these revealed consistent dysfunctional thought patterns and specific socio-emotional issues which were clearly linked to pain experiences. The study revealed that when these areas were therapeutically addressed, pain intensity levels decreased. The importance of maladaptive thought patterns and of taking account of individual interpersonal issues in the management of pain in FS sufferers is thus highlighted. The author postulates that the viewing of FS within a systemic framework in which a variety of variables operating at the individual, environmental and socio-cultural levels, as presented in the report, potentially provides a practical framework for the designing of multidimensional treatment programmes for FS and is in line with recent research highlighting the multidimensional nature of the pain phenomenon as well as the diverse and highly complex nature of the Fibromyalgia Syndrome.

8. References

Adams, R.D., & Martin, J.B. (1983). Acute and chronic pain: Pathophysiology and management. In R.G. Petersdorf, R.D. Adams, E. Braunwald, J.J. Isselbacher, J.B. Martin, & J.D. Wilson (Eds.), Harrison's Principles of Internal Medicine, 10th Edition (pp. 2-15). McGraw-Hill, Inc: New York.

Affleck, G., Tennen, H., Urrows, S., Higgins, P., Abeles, M., Hall, C., Karoly, P., & Newton, C. (1998). Fibromyalgia and women's pursuit of personal goals: A daily process analysis. Health Psychology, 17(1), 40-47.

Agarguen, M.Y., Tekeoglu, I., Guenes, A., Adak, B., Kara, H., & Ercan, M. (1999). Sleep quality and pain thresholds in patients with fibromyalgia. Comprehensive Psychiatry, 40(3), 226-228.

Alden, P., & Heap, M. (1998). Hypnotic pain control: Some theoretical and practical issues. The International Journal of Clinical and Experimental Hypnosis, XLVI(1), 62-76.

Alloway, L.H. (1999). Fibromyalgia syndrome: Symptoms, functional limitations and vocational impediments. Journal of Applied Rehabilitation Counseling, 30(2), 38-41.

Amir, M., Kaplan, Z., Neumann, L., Sharabani, R., Shani, N., & Buskila, D. (1997). Posttraumatic stress disorder, tenderness and fibromyalgia. Journal of Psychosomatic Research, 42, 607-613.

Anderberg, U.M., Forsgren, T., Ekselius, L., Marteinsdottir, I., & Hallman, J. (1999). Personality traits on the basis of the Temperament and Character inventory in female fibromyalgia syndrome patients. Nordic Journal of Psychiatry, 53(5), 353-359.

Bennett, R.M. (1989). Beyond fibromyalgia: Ideas on etiology and treatment. Journal of Rheumatology, 16(suppl 19), 185-191.

Bennett, R.M., & Jacobsen, S. (1984). Muscle function and origin of pain in fibromyalgia. Baillieres Clinical Rheumatology, *8*, 721-746.

Bennett, R.M., Campbell, S., Burckhardt, C., Clark, S., O'Reilly, C., & Weins, A. (1991). A multidisciplinary approach to fibromyalgia management. Journal of Musculoskeletal Medicine, *8*, 21-32.

Blanchard, E.D., & Malamood, H.S. (1996). Psychological treatment of irritable bowel syndrome. Professional Psychology: Research & Practice, *27*(3), 241-244.

Boissevain, M.D., & McCain, G.A. (1991). Toward an integrated understanding of fibromyalgia syndrome: Internal Medical and pathophysiological aspects. Pain, *45*, 227-238.

Bradley, L.A. (1998). Fibromyalgia: A model for chronic pain. Journal of Musculoskeletal Pain, *6*(3), 19-27.

Campbell, S.M., Clark, S., Tindall, E.A., Forehand, M.E., & Bennett, R.M. (1983). Clinical characteristics of fibrositis: A "blinded," controlled study of symptoms and tender points. Arthritis Rheumatology, *26*, 817-824.

Chaves, J.F. (1992). Hypnotic analgesia: The social-psychological perspective. In W. Bongartz, B. Bongartz, & V.A. Gheorghiu (Eds.), Hypnosis: 175 years after Mesmer: Recent developments in theory and application (pp. 109-117). Universitätsverlag Konstanz: Konstanz, Germany.

Chaves, J.F. (1993). Hypnosis in pain management. In J.W. Rhue, S.J. Lynn, & I. Kirsch (Eds.), Handbook of clinical hypnosis (pp. 511-532). American Psychological Association: Washington, DC.

Chaves, J.F. (1994). Recent advances in the application of hypnosis to pain management. American Journal of Clinical Hypnosis, *37*, 117-129.

Chaves, J.F., & Dworkin, S.F. (1997). Hypnotic control of pain: Historical perspectives and future prospects. The International Journal of Clinical and Experimental Hypnosis, XLV(4), 356-376.

Covino, N.A., & Frankel, F.H. (1993). Hypnosis and relaxation in medically ill. Psychotherapy and Psychosomatics, 60, 75-90.

Crawford, H.S., Knebel, L.K., & Venderia, J.M.C. (1998). Hypnotic analgesia: 1) somatosensory event-related potential changes to noxious stimuli and 2) transfer learning to reduce chronic low back pain. The International Journal of Clinical and Experimental Hypnosis, XLVI(1), 92-132.

Dane, J.R. (1996). Hypnosis for pain and neuromuscular rehabilitation with multiple sclerosis: case summary, literature review, analysis of outcomes. The International Journal of Clinical and Experimental Hypnosis, XLIV(3), 208-231.

De Benedittis, G. (1996). Hypnosis and spasmodic torticollis - report of four cases: A brief communication. The International Journal of Clinical and Experimental Hypnosis, XLIV(3), 292-306.

De Voogd, J.N., Knipping, A.A., & Van Rijswijk, M.H. (1993). Treatment of fibromyalgia syndrome with psychomotor therapy and marital counselling. Journal of Musculoskeletal Pain, 3/4, 273-281.

Edelson, J., & Fitzpatrick, J.L. (1990). Cognitive-behaviour and hypnotic treatments of chronic pain. New Ideas in Psychology, 6(1), 47-66.

Emmerson, G.J., & Trexler, G. (1999). An hypnotic intervention for migraine control. Australian Journal of Clinical and Experimental Hypnosis, 27(1), 54-61.

Epstein, S.A., Kay, G., Clauw, D., Heaton, R., Klein, D., Knupp, L., Kuck, J., Leslie, V., Masur, D., Wagner, M., Waid, R., & Zisook, S. (1999). Psychiatric disorders in patients with fibromyalgia: A multicenter investigation. Psychosomatics, 40(1), 57-63.

Fawcett, S.B., & Miller, L.K. (1975). Training public-speaking behaviour: An experimental analysis and social validation. Journal of Applied Behaviour Analysis, 8, 125-135.

Goldberg, R.T., Pachas, W.N., & Keith, D. (1999). Relationship between traumatic events in childhood and chronic pain. Disability and Rehabilitation: An International Multidisciplinary Journal, 21(1), 23-30.

Golden, W.C., & Gersh, W.D. (1990). Cognitive-behaviour therapy in the treatment of cancer patients. Journal of Rational-Emotive and Cognitive-Behaviour Therapy, 8(1), 41-49.

Goldenberg, D.L. (1987). Fibromyalgia syndrome: An emerging but controversial condition. JAMA, 257, 2782-2787.

Goldenberg, D.L. (1990). Fibromyalgia and chronic fatigue syndrome: Are they the same? Journal of Musculoskeletal Medicine, 7(19), 41-49.

Goldenberg, D.L. (1993). Fibromyalgia: Treatment programs. Journal of Musculoskeletal Pain, 1(3/4), 71-79.

Haanen, H.C.M., Hoenderdos, H.T.W., Van Romunde, L.K.J., Hop, W.C.J., Malle, C., Terwiel, J.P., & Hekster, G.B. (1991). Controlled trial of hypnotherapy in the treatment of refractory fibromyalgia. Journal of Rheumatology, 18, 72-75.

Hallberg, L.R.M., & Carlsson, S.G. (1998). Psychosocial vulnerability and maintaining forces related to fibromyalgia: In-depth interviews with twenty two female patients. Scandinavian Journal of Caring Sciences, 12(2), 95-103.

Hammond, D.C. (1997). Handbook of hypnotic suggestions and metaphors. New York: Norton & Company.

Henricksson, C. (1995). Living with continuous muscular pain: Patient perspectives. Scandinavian Journal of Caring Sciences, *9*, 67-76.

Henricksson, C., Gundmark, I., Bengtsson, A., & Ek, A. (1992). Living with fibromyalgia: Consequences for daily life. Clinical Journal of Pain, *8*, 138-144.

Holroyd, J. (1996). Hypnosis treatment of clinical pain: Understanding why hypnosis is useful. The International Journal of Clinical and Experimental Hypnosis, *XLIV*(1), 33-551.

Horven Wigers, S., Stiles, T.C., & Bogel, P.A. (1996). Effects of aerobic exercise versus stress management treatment in fibromyalgia. Scandinavian Journal of Rheumatology, *25*, 77-86.

Jacobson, E. (1938). Progressive relaxation. Chicago: University of Chicago Press.

Jenson, M.P., Turner, J.A., Ramona, J.M., & Karoly, P. (1991). Coping with chronic pain: A critical review of the literature. Pain, *47*, 249-283.

Kaplan, K.H., Goldenberg, D.L., & Galvin-Nadeau, M. (1993). The impact of a meditation-based stress reduction program on fibromyalgia. General Hospital Psychiatry, *25*(15), 284-289.

Keefe, F.J. (1998). Cognitive processes and the pain experience. Journal of Musculoskeletal Pain, *6*(3), 41-45.

Kelley, P. (1998). Loss experienced in chronic pain and illness. In J.H. Harvey, (ed.) Perspectives on loss: A sourcebook. Death, dying, and bereavement. (pp. 201-211). Philadelphia, PA, USA: Brunner/Mazel, Inc.

Kessler, R., & Dane, J.R. (1996). Psychological and hypnotic preparation for anesthesia and surgery: An individual differences perspective. The International Journal of Clinical and Experimental Hypnosis, *XLIV*(3), 189-207.

Kirsch, I., Montgomery, G., & Sapirstein, G. (1995). Hypnosis as an adjunct to cognitive-behavioural psychotherapy: A meta-analysis. Journal of Consulting and Clinical Psychology, 63(2), 214-220.

Lyddell, C. (1997). Soft-tissue disorders that may present with neck pain: Diagnosis and management. Continuing Medical Education Journal, 15(5), 551-557.

Martin, G., & Pear, J. (1992). Behaviour modification: What it is and how to do it. New Jersey: Prentice-Hall International Inc.

Masi, A.T., & Yunus, M.B. (1990). Fibromyalgia - whither the best treatment? A personalized, comprehensive, ambulatory, patient-involved management problem. Ballieres Clinical Rheumatology, 4, 333-370.

Mauer, M.H., Burnett, K.F., Quелlette, E.A., Ironson, G.H., & Dandes, H.M. (1999). Medical hypnosis and orthopedic hand surgery: Pain perception, postoperative recovery, and therapeutic comfort. The International Journal of Clinical and Experimental Hypnosis, 47(2), 144-161.

McCain, G.A., Bell, D.A., Mai, F.M., & Halliday, P.D. (1988). A controlled study of the effects of a supervised cardiovascular fitness training program on the manifestations of primary fibromyalgia. Arthritis Rheumatology, 31, 1135-1141.

Mengshoel, A.M., Komnas, H.B., & Forre, O. (1992). The effects of 20 weeks of physical fitness training in female patients with fibromyalgia. Clinical Experimental Rheumatology, 10, 345-349.

Mengshoel, A.M., Forseth, K.O., Haugen, M., Walle-Hansen, R., & Forre, O. (1994). Multidisciplinary approach to fibromyalgia: A pilot study. Clinical Rheumatology, 14, 165-170.

Meyer, H.P. (1997). Fibromyalgia syndrome: Part I: Family Medicine. South African Family Practice, 18(1), 32-35.

Miller, D.R., & Seifert, R.D. (1987). Management of fibromyalgia, a distinct rheumatologic syndrome. Clinical Pharmacology, 6, 778-786.

Mody, G.M. (1991). Fibromyalgia and generalised musculoskeletal pain. South African Journal of Continuing Medical Education, 9(3), 267-273.

Moldofsky, H.D., Scarisbrick, P., England, R., & Smythe, H. (1975). Musculoskeletal symptoms and non-REM sleep disturbance in patients with "fibrositis syndrome" and healthy subjects. Psychosomatic Medicine, 37, 341-351.

Morley, S., Eccleston, C., & Williams, A. (1999). Systematic review and meta-analysis of randomized controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, excluding headache. Pain, 80, 1-13.

Nielson, W.R., Walker, C., & McCain, G.A. (1992). Cognitive behavioral treatment of fibromyalgia syndrome: Preliminary findings. Journal of Rheumatology, 19, 98-103.

Nicassio, P.M., Radojevic, V., Weisman, M.H., Schuman, C., Kim, J., Schoenfeld-Smith, K., et al. (1997). A comparison of behavioral and educational interventions for fibromyalgia. Journal of Rheumatology, 24, 2000-2007.

Okifuji, A., & Turk, D.C. (1999). Fibromyalgia: search for mechanisms and effective treatments. in Gatchel, R.J. (Ed.), & Turk, D.C. (Ed.) Psychosocial factors in pain: Critical perspectives. 227-246. Guilford Press: New York.

Raymond, B., & Bergland, M.M. (1994). Psychosocial aspects of fibromyalgia syndrome. Journal of Applied Rehabilitation Counseling, 25(3), 42-46.

Reilly, P.A. (1990). Fibrositis/Fibromyalgia syndrome: The key to the puzzle of chronic pain. Medical Journal of Australia, 152(5), 226-228.

Shipton, E.A. (1993). Pain - Acute and Chronic. Johannesburg: Wits University Press.

Shipton, E.A. (1996). Intractable pain: Pharmacological and physical interventions. Continuing Medical Education Journal, 14(3), 287-296.

Simms, R.W. (1996). Is there muscle pathology in fibromyalgia syndrome? Rheumatology Discourse of Clinical North America, 22, 245-266.

Simms, R.W., Gunderman, J., Howard, G., & Goldenberg, D.L. (1988). The alpha-delta sleep abnormality in fibromyalgia [abstract]. Arthritis Rheumatology, 31(suppl 4), S100.

Spanos, N.P., & Chaves, J.F. (Eds.). (1989). Hypnosis: The cognitive-behavioral perspective. Prometheus: Buffalo, New York.

Spanos, N.P., Liddy, S.J., Scott, H., Gerrard, C., Sine, J., Tirabasso, A., & Hayward, A. (1993). Hypnotic suggestion and placebo for the treatment of chronic headache in a university sample. Cognitive Therapy and Research, 17(2), 191-205.

Spinhoven, P., & Linssen, A.C.G. (1990). Education and self-hypnosis in the management of low back pain: A component analysis. New Ideas in Psychology, 6(1), 21-28.

Strong, J. (1998). Incorporating cognitive-behavioral therapy with occupational therapy: A comparative study with patients with low back pain. Journal of Occupational Rehabilitation, 8(1), 61-71.

Tan, S.Y., & Leucht, C.A. (1997). Cognitive-behaviour therapy for clinical pain control: A 15yr update and its relationship to hypnosis. The International Journal of Clinical and Experimental Hypnosis, XLV(4), 396-416.

Turk D.C. (1990). Customizing treatment for chronic pain patients: Who, what and why. Clinical Journal of Pain, 6, 255-270.

Turk, D.C., Meichenbaum, D., & Genest, M. (1983). Pain and behavioural medicine: A cognitive-behavioural perspective. New York: Guilford Press.

Turk, D.C., Okifuji, A., Sinclair, J.D., & Starz, T.W. (1998). Interdisciplinary treatment for fibromyalgia syndrome: Clinical and statistical significance. Arthritis Care and Research, 11(3), 186-195.

Vaeroy, H., Qiao, Z.G., Morkrid, L., & Forre, O. (1989). Altered sympathetic nervous system response in patients with fibromyalgia (fibrositis syndrome). Journal of Rheumatology, 16, 1460-1465.

Van Denderen, J.C., Boersma, J.W., Hollander, A.P., & Neerbos, B.R. (1992). Physiological effects of exhaustive physical exercise in primary fibromyalgia syndrome: Is PFS a disorder of neuroendocrine reactivity? Scandinavian Journal of Rheumatology, 21, 35-37.

Van Dyck, R., Zitman, F.G., Linssen, A.C.G., & Spinhoven, P. (1990). Autogenic training and future oriented hypnotic imagery in the treatment of tension headache: Outcome and process. New Ideas in Psychology, 6(1), 6-20.

Weisenberg, M. (1998). Cognitive aspects of pain and pain control. The International Journal of Clinical and Experimental Hypnosis, XLVI(1), 44-61.

Wolf, M.M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. Journal of Applied Behavior Analysis, 11, 203-214.

Wolfe, F. (1990). Fibromyalgia. Rheumatic Disease Clinics of North America, 16, 681-698.

Wolfe, F., Smythe, H.A., Yunus, M.B., Bennett, R.M., Bombardier, C., & Goldenberg, D.L. et al. (1990). The American College of Rheumatology, 1990 criteria for the classification of fibromyalgia. Report of the multicentre criteria committee. Arthritis and Rheumatology, 33, 160-172.

Yunus, M.B. (1989). A controlled study of primary fibromyalgia syndrome: Clinical features and association with other functional syndromes. Journal of Rheumatology, 16,(suppl 19), 62.

Yunus, M.B., Masi, A.T., Calabro, J.J., Miller, K.A., & Feigenbaum, S.L. (1981). Primary fibromyalgia (fibrositis): Clinical study of 50 patients with matched normal controls. Seminar of Arthritis Rheumatology, 11, 151-171.

APPENDIX A: Pain Log for Self-Monitoring of Pain

DATE	TIME	SITUATION	THOUGHTS	FEELINGS	ACTIONS	INTENSITY (0-10)	DURATION	MEDICATION

APPENDIX B - Case Summaries

Case 1

The patient was a vivacious 50 year old mother of 3 who had a 6-year history of severe pains of the upper body area (head, neck and back). She had a history of high anxiety levels and had been on treatment for depression for the preceding 3 years. She came from a very close family who all lived in close proximity to each other and were involved in a family business. Approximately 6 years before commencing treatment, the business started losing a lot of money and has recently been liquidated. At that time the patient had a huge fallout with her brother who she blamed for destroying the business as well as wasting their family's money. Subsequent to this she also had a fallout with her mother because she believed that her mother was siding with the brother. At the time she was also having severe problems with her husband because of his drinking.

It was at this time that she started experiencing pain mainly in the upper body area (head/neck/back) but sometimes travelling right down to her feet. Initially she attributed the pains to her work and the fact that she was standing for most of the day. The pains increased in intensity to the extent that she was forced to give up work. Tests were conducted and she was eventually diagnosed with FS approximately 5 years ago. The patient had had a difficult married life - she married young and for the bulk of her married life her husband was an actively drinking alcoholic. Typical of what has been found with other FMS patients, the patient was overresponsible within her family as well as her family of origin. She was the emotional backbone of the family, she supported her husband emotionally through his years of drinking and his subsequent recovery and she was the parent to whom her children would turn to. Within her family of origin, as a child, she was the one whom the rest of the family would turn to and later on in life this pattern of being the emotional backbone of the family continued, as for example, she would always organise everything and they would always have family celebrations at her house. Throughout her married life she largely suppressed her feelings of anger and would "try to be strong".

It became apparent that the patient had clear dependency issues as well as difficulties expressing especially her negative emotions. She also carried a lot of guilt especially about having these negative feelings and also about having FS and not being able to work. Apart

from the pains she experienced, the following were also important components of her syndrome: fatigue, insomnia, feeling anxious and depressed, concentration difficulties and difficulties maintaining attention as well as forgetfulness. Before commencing the programme, she had had unremittingly high pain levels which could not be controlled even with high doses of medication (analgesic and antidepressant); she had also tried physiotherapy, which only helped temporarily.

The following aspects of treatment are highlighted as being particularly relevant for this patient:

1) socio-emotional issues:

- Dealing with issues of separation: In the first session she came to realise that she had never separated properly from her mother and felt that she still needed her mother's approval too much. She felt that she needed to let go more and become more her own person. Throughout treatment the patient took positive steps in this direction which greatly enhanced her self-confidence.
- Relationship issues: from her pain log, it was clear that thoughts about her husband and marriage and related feelings of anger, frustration and guilt were positively linked to higher pain levels. Working through these feelings were an important part of treatment; She also made crucial decisions and goals vis-a-vis her marriage and took positive practical steps to improve her relationship which were very successful and which have been maintained up to the present.
- Feelings of inadequacy regarding her working situation: by the third session, the patient had entirely on her own initiative and without previously talking about it in the session, obtained a part-time job which she has maintained and which has also greatly enhanced her self-confidence and sense of self-efficacy.

2) Improvement of coping resources:

- Positive self-statements: Initially the patient's self-esteem was very low thus in both in-session hypnotherapy and self hypnosis the use of positive self-statements were important.
- Reframing: the patient began to see herself not as a victim (of FMS and of being married to an alcoholic) but rather as a survivor, a strong vibrant woman who almost single-handedly raised three responsible, successful children.

- Deep relaxation and self-hypnosis: The patient felt these interventions were vital in restoring her sleeping patterns to normal as well as in reducing pain levels during the day.
- Cognitive restructuring: Understanding and becoming aware of how her negative thoughts and feelings of particularly anger were linked to pain experiences and the altering of dysfunctional cognitions as well as becoming more assertive and expressive about her feelings were also important for her.

3) Physical: The patient became more active because she started working and she also set goals to do more walking on the beach with her husband and dogs. She continued with the occasional physiotherapy (massage) sessions because she enjoyed these.

As is clear from her pain logs, both the amount of interference into her daily life and the severity of the patient's pain experiences dramatically improved and as would be expected, her intake of medication also reduced significantly. She also reported feeling much more positive about herself and her situation, her self-esteem and confidence greatly improved as did her feeling of self-efficacy and of being in control. These changes have been maintained over a period of 7 months.

Case 2

The patient was a 60 year old single woman who has never married and has no children. She had a 2 year history of severe pains predominantly in the upper body area (head, neck & back) and although she had an old back injury this was not considered enough in itself to be causing these pains. After various tests, she was diagnosed with FMS. The patient had a highly responsible managerial position within the textile industry and reported directly to the owner of the business.

From the first session it was clear that work fears and anger towards her boss dominated her life. This was confirmed by her pain logs where angry thoughts about her boss and fears that the business was going under were clearly positively linked to pain experiences - the more intense the fears and anger feelings the more intense the pain experiences were. Mainly, the patient was angry that her boss didn't take any interest in the business and that he put nothing into it even when she had the orders and thus she often was not able to meet orders or had to

turn business away which was for her very frustrating. She was worried that her boss was winding down the business and would soon close it. The onset of her FMS symptoms also can be linked to the time when she first began to have these worries. She did not belong to a pension scheme but had lived a really Spartan existence in order to ensure financial security when she eventually has to stop working.

She was perfectionistic and had worked very hard all her life from age 15 when she left school early. She had a difficult childhood: at 5 years, she was placed in an orphanage with her older sister because her parents were too poor to take care of them. At 7 years, the patient and her sister came back home and a couple of months later her older sister died and a day later her father whom she adored died. She says that she was devastated because her older sister had been like a mother to her when they were in the orphanage. She then lived with her mother and younger sister. It appears that her mother was extremely inadequate and the two girls had to virtually bring themselves up as well as take care of her, as she had a drinking problem and was unable to work. It was clear that the patient's own dependency needs were not met and that she had real trust issues to the extent that she had lived a very solitary existence. When she was younger she was very attractive and thus had no shortage of boyfriends but problems with intimacy resulted in her never being able to get really close to any of them long enough to form a meaningful relationship. In her mid-thirties, she met a divorced man whom she fell in love with. They went out for 7 years but never married. This man suffered a fatal heart-attack and after his death she closed herself off and never got involved with anyone else. Over the years she became increasingly reclusive with her only social outlet being talking to people that she had met on the train going to work and her sister and niece and her 2 children who live nearby and whom she only occasionally saw.

Before commencing treatment, the patient had had high pain levels for 2 years but after being diagnosed with FMS and once she had read in the literature of the poor prognosis for FMS sufferers, she had not sought any further medical treatment. She refused to take any analgesic medication, as she doesn't believe in "taking pills". She was at the time also experiencing sleeping difficulties especially a lack of deep restorative sleep which she reported made her more irritable and exacerbated feelings of frustration and anger.

The following aspects of treatment are highlighted as being of particular relevance to this patient:

1) Improvement of coping resources:

- Cognitive restructuring surrounding work issues and issues about her future: Analysing the pain logs was very beneficial for this patient who gained a lot of insight. It was obvious from her pain log that work issues and related anger and anxiety feelings were clearly linked to pain experiences. Altering dysfunctional cognitions, looking at and investigating her options, obtaining financial advice, setting goals and planning ahead helped her to feel more in-control of her life and increased her self-esteem. Her anxiety levels dropped dramatically and she reported that she felt more positive.
- In-session hypnotherapy: Cognitive restructuring surrounding work issues and anger management were reinforced during in-session hypnotherapy. Two types of hypnotherapy pain techniques worked well to reduce pain in this patient: a) displacement of pain technique (for example, putting pain in a balloon and watching it fly away over the sea and also leaving pain behind and then walking away from it) and b) gradual pain reduction techniques like imagining the sun warming right through skin, muscles to bone relieving pain. She also enjoyed giving herself positive affirmations during self-hypnosis and going through a beautiful/mystical type experience which she reported made her feel very centred and greatly helped restore her sleeping patterns to normal.

2) Socio-emotional issues:

- Inability to express anger feelings: it was clear from the patient's history and from her pain logs that she had great difficulty expressing anger feelings and this led to her becoming increasingly frustrated and angry with herself, especially as regards her situation with her boss. Thus an important part of her treatment was helping her deal more effectively with conflict and with her angry feelings. Although she wasn't always able to be as assertive with her boss as she would like, she was proud of the strides that she made in that direction and her self-esteem improved.
- Addressing interpersonal difficulties and dealing with feelings of loneliness: This area was highlighted in the middle of treatment after a week in which her pain levels went up after initially going down (week 4). Treatment here was on two levels, a) dealing with her feelings of loss (important people in her life as well as never having children)

led to greater understanding of herself and greater self-acceptance whilst b) problem-solving and goal-setting helped her to make a start at widening her social life.

As is clear from her pain logs, both the severity and interference into daily life of the patient's pain experiences improved from the first hypnotherapy session. She reported feeling much more positive about herself and much more in control of her own life. She also expressed greater self-acceptance and self-understanding. These changes have continued to be maintained over a period of 7 months since completing treatment

Case 3

The patient was a 48 year old married man with 3 children who had a 2 year history of FMS. The patient was a professional in a top management position. Two years ago, the patient, was under tremendous stress at work and also experiencing stress at home, particularly in his relationship with his oldest daughter. He suffered an emotional breakdown with symptoms of burnout and was put off work for a few weeks. He was depressed, physically extremely tired to the extent that he "felt lame and literally couldn't move" and he also experienced severe pains in the head and neck area shooting down both arms as well as over the chest. In fact, he was initially hospitalised for cardiac investigations because of the radiating chest and arm pains. These examinations revealed that his heart was functioning well and after further investigations he was diagnosed with FMS. His depression lifted and his energy levels increased and he was soon back at work functioning well as always. The worst of his pains improved. However, since then he started experiencing chronic pain in the head and neck area on a daily basis.

He noticed that these pains were exacerbated by stress especially a day or so after the worst of a crisis was over. A particular stressor in his life which had increased his general stress levels over the past year and appeared to exacerbate his condition, was the fact that approximately 18 months before his wife had decided that she wished to have another child. About a year ago, his wife did in fact fall pregnant but miscarried 5 months later. His wife then increased pressures on him to "perform" until it came to the stage that the patient could not take anymore of it and suggested that they rather consider adopting a baby, taking into account her age as well. She happily accepted this alternative and they went ahead with adoption procedures. However, on commencing treatment the patient had markedly ambivalent feelings

about becoming a father again which increased his general stress levels and which he felt could be exacerbating his symptoms.

Pertinent to his condition was the fact that as a young man he had had a head-on collision on his motorbike which was almost fatal and which, in it, he suffered severe head and neck injuries. According to his orthopaedic surgeon, he had osteoarthritis with a lot of calcification in the upper cervical spinal area, although this in itself should not have been causing him such pains. After the trauma, the patient underwent psychotherapy for post-traumatic stress disorder and depression.

The patient was a very responsible hardworking man who was perfectionistic and hard on himself. Within his family of origin, he was overresponsible and was the child that was there for his parents throughout their lives. A year before commencing treatment, the patient's father died which he took very hard and which further increased his general stress levels and his FS symptoms. Within his own family, he was also very responsible. He reported that his wife had had a very unhappy childhood and that she had a low self-esteem and needed a lot of affirmation from him. It seemed that while his wife was quite emotionally dependent on him, he usually kept his feelings in. The patient reported being a very emotional, sensitive person but that he usually kept his feelings in. He also purported to be a chronically angry person and had been all his life yet he had difficulty expressing his anger.

On commencing treatment, the patient was coping relatively well with his condition: he spent time relaxing on the weekend and he also said that he used a lot of 'cognitive therapy' on himself (that is, he tended to look critically at his own thoughts and would have a good talk with himself, disputing any irrational ones).

The following aspects of treatment are highlighted as being of particular relevance to this patient:

1) Improvement of coping resources:

- In-session hypnotherapy and self-hypnosis: were crucial in restoring normal sleeping patterns and in reducing pain levels. This patient especially enjoyed the technique of reducing pain levels via a light dimmer switch as well as the use of mystical experiences. In fact in week 3 when his pain levels went up, he admitted to not

practising self-hypnosis and from then on made concerted efforts to include the latter into his daily life.

- Deep relaxation: This patient also made use of deep relaxation on its own (for example, during lunch-time at work) because he said that it made him feel less tense and generally more relaxed.

2) Socio-emotional issues:

- An important aspect for this patient involved working through his feelings regarding a new baby and becoming a father again.
- Relationship issues: It was important for this patient to learn to understand his eldest daughter (who was dealing with adolescent issues) and to work on improving communication between them.
- Expressing feelings more openly: This patient also really began to express himself and his feelings more fully and this included expressing himself also creatively.

3) Physical: The patient started walking more, he began doing cane work and he also started becoming actively involved in the building of a new house. The latter two aspects, he felt were really beneficial to his progress because he began to feel a new enthusiasm for life and also generally more energised.

4) Medication: The patient said that he learnt to be more discriminative regarding pain experiences and also leaned to use analgesic medication more correctly preferring sometimes to nip pain in the bud rather than letting it go on, as before.

His pain levels dropped to practically normal levels; interference in his life became minimal; he reported feeling like 'a new man'; he was visibly more relaxed and expressive and his sleeping patterns had returned to normal soon after commencing with hypnotherapy which included the re-emergence of dreaming which he had not experienced in years. These gains have been maintained at 4 month followup.

Case 4

The patient was a 48 year old divorced woman with 2 children of school going age who had experienced chronic pain for approximately 3 years and was diagnosed with FS about 2 years

before commencing treatment. Her pains first began in her right hand where she suffered repetitive strain injury from typing/writing. This spread, however, to both arms and eventually to include the head/neck and chest areas. She also experienced stomach pains as well as IBS.

The patient had had a difficult childhood in that although she said that she had come from a close family, her mother was not the type to listen to her problems but rather showed how much she cared by doing things for her. She was sent to a Catholic boarding school at 6 years old and only came home on holidays. She found the experience traumatic and still remembered wetting her bed and the shame that she felt regarding this. She claims to have been a shy reticent child who always felt awkward. From approximately 12 to 16 years old she was sexually abused by a friend of the family. She was unable to tell her mother until years later. She was also on 3 occasions sexually abused by her older brother which she was never able to speak about. She married young and from the start she had difficulties with her husband. They had sexual problems and he was verbally abusive and controlling. The patient reported that she had learnt from early on in her childhood to keep her feelings to herself and to cope on her own and this pattern continued into her marriage where she said that she kept her feelings to herself and carried out a traditional submissive female role although she also managed the administrative and financial side of their business while he was responsible for sales. About 5 years prior to commencing treatment, she divorced her husband and 3 years ago she ended their working relationship. This was a traumatic time for her as she felt that her husband had really pushed her out of the business by making things so unpleasant for her that she was forced to leave and on leaving she felt a deep sense of loss. She said that she had invested so much of herself in the business that leaving it was even more traumatic than the ending of her marriage. It was at this time that her pains began and understandably her self-esteem plummeted. She does however acknowledge that at the time she felt a sense of relief that she couldn't/didn't have to work for herself because of the pain thus she was aware in part of secondary gain connected to her pain experiences. About a year before commencing treatment, she got herself a half-day job as a secretary/bookkeeper and she made a concerted effort to get over her divorce. She still, however, got very upset with the way her husband treated her children and thus he was still having a major impact on her life.

On commencing treatment, the patient was positive about the future, she felt proud of how far she had come since the divorce and was highly motivated to begin treatment. The following aspects of this patient's treatment are highlighted as being of particular relevance to her recovery:

1) Improvement of coping resources:

- Cognitive restructuring surrounding thoughts related to her husband: It was clear from her pain logs that when her thoughts were positive and she was feeling good, her pain levels were low while when she felt irritable or depressed, her pain levels would shoot up. It was also clear that negative thoughts about her husband were still having a very negative effect on her emotional state and that these negative thoughts were linked to increased pain levels. She went as far as to see that different types of thoughts and related emotions, for example, anger thoughts as opposed to anxious thoughts, led to different types of pains. Anxious thoughts led to stomach pains while thoughts producing anger feelings were more related to head/neck and chest pains. The patient worked hard on learning to let go of her husband and also learning that she can't protect her children totally (she could love and support them but they would have to deal with their father in their own way). She came to realise that she couldn't take control of their lives nor was she totally responsible for their emotional state.
- Reframing: The patient gained a lot of insight and self-understanding and early on in treatment rejected the FS diagnosis and reinterpreted her pain experiences in psychological terms which gave her more hope that she could do something about her situation. She thus felt more in control and this greatly increased her sense of self-efficacy and confidence, which went a long way towards improving her symptoms.
- Use of positive self-statements: both outside of and during in-session hypnotherapy and self-hypnosis sessions greatly improved her self-confidence and her general mood.
- In-session hypnotherapy and self-hypnosis: The use of dissociative hypnotherapeutic pain reduction techniques worked very well for this highly hypnotisable patient to reduce pain levels whilst using imagery and mystical/spiritual experiences in self-hypnosis helped greatly to enhance sleeping and helped her to feel more centred.

2) Socio-emotional issues:

- Dealing with separation issues: It was clear that the patient had certain dependency issues and there seemed to be an intergenerational cycle of dependency as well as of

somatising, thus becoming her own person, learning to separate from her parents and her children to a much greater extent were all important issues for her.

- Becoming more able to express her feelings: This patient was more easily able to express her emotions than some of the other FS patients, but she still had great difficulty expressing her anger and more negative emotions.

3) Physical: During treatment we discussed her eating patterns and she also started doing some gentle exercise (stretching and walking) which also improved her self-confidence.

4) Medication: the patient was not encouraged to give up any medication but of her own accord she gave up sleeping medication but still used analgesic medication when she experienced tension headaches. The patient was much more able to differentiate her pain experiences and began to use medication more discriminately.

The patient responded well to treatment and after the second session the frequency of pain experiences dropped significantly. In the third week of treatment the patient had the flu and thus her pain intensity levels are somewhat falsely high for that week as the pains that she reported experiencing for that week were flu-like pains and not the typical FS type pains. These pains dropped off completely from session 2 and 4 months later there has been no reoccurrence. On follow up the frequency of pain experiences are minimal and apart from the occasional tension headache she reported experiencing none of the typical FS type pains. She was extremely enthusiastic about her progress and feels very much more in control of her life.

Case 5

The patient was a 40 year old married woman with 1 child who for the past 7 years had suffered from debilitating pains mainly in the back area but also spreading into the hips, and head/neck and arms. Her pains first began after a back operation but according to her orthopaedic surgeon, her spine should not have been causing her that amount of pain if any; she underwent numerous tests to determine cause and was eventually diagnosed with FS about 5 years ago.

On commencing treatment, the patient was in severe pain for much of the time and this had had a crippling effect on her life: she had stopped all exercise even walking which she had

previously enjoyed; she had stopped gardening which again had previously given her much pleasure; she had also stopped sewing and craft-work. Although never a social person, she had become completely withdrawn. She had been a housewife for most of her married life. The patient did not express her emotions easily, she had learned to keep everything in and felt incredibly guilty if “she let her guard down”. She showed marked dependent traits and was still very much tied to her mother who lives with her. This intergenerational cycle of dependence was carried down to her son whom she seemed overly involved with and he, too, manifested various vague physical complaints over a number of years. She was an extremely negative, pessimistic woman especially about herself and it was clear that her self-esteem was very low. She was also a highly religious pious woman who appeared to like to play the martyr. Thus it was clear that her pain symptoms carried a lot of secondary gain for her although the patient, herself, had little insight and was highly defended.

In the first session, the patient was very emotional and cried for much of it. She spoke about her childhood and said that she was always the responsible one and how her brother had always been the carefree one and how she had secretly envied him that. When her father died in her teens she was devastated because she had always been the one closest to her father. Right after his death, her brother left home without a word and her mother and her never heard a thing from him for over a year. She was left with mother and said that she felt very responsible for her and they turned to each other. After that she felt that she could never leave her mother alone and remained with her until she married at age 28. A few years later her mother came to live with them where she has remained to the present. Her overresponsibility for mother is highlighted by the fact that the patient, her husband and son had not been away from her mother for as much as a weekend in 5 years because the patient was too afraid to leave her mother alone. 5 years previously when they had gone away for a week, she had phoned her mother constantly and when her mother said that she wasn't enjoying herself, the patient was unable to enjoy herself and they had returned home.

It was anticipated that this patient would be very difficult to treat because of the fact that she had such a low self-esteem that much of her identity was wound up with being a pain victim or “FS sufferer”, that, unconsciously, she would probably resist and/or sabotage treatment. Another factor which it was anticipated would potentially hamper treatment, was the fact that this patient had great difficulty relaxing, was highly tense and had very weak visual imaging

skills. However, because she was hard on herself, perfectionistic and a conforming type of person, it was anticipated, that she would comply readily with the overt demands of the programme (for example, practising self-hypnosis and relaxation). Nevertheless, as can be shown from her pain intensity graph, the patient (against all expectations) did quite well on the programme although not as well as the other cases. On completion of the programme the severity of her FMS pains had dropped by approximately half and these gains have even increased slightly on followup (4 months) showing that the trend continued after termination of treatment. Unfortunately, treatment had no real effect on the duration of pain experiences as her average daily pain hours were not significantly altered from pre-treatment to post-treatment.

The following aspects of treatment are highlighted as being of particular relevance to this patient:

1) Improvement of coping resources:

- Cognitive Restructuring: Altering dysfunctional cognitions especially regarding herself greatly improved self-esteem.
- Positive self-statements: The use of these both outside of and during in-session hypnotherapy and self-hypnosis sessions reinforced cognitive restructuring, above, and improved her self-esteem.
- Reframing: It was vital for this patient to stop seeing herself as a victim and to start seeing herself as a strong woman who has been there for everyone else emotionally and who was an excellent mother and homemaker.
- Deep relaxation and self-hypnosis: Learning to relax was also vital for this patient because she was initially so tense, thus deep relaxation sessions and self-hypnosis where she liked to use spiritual/mystical type imagery which were in line with her religious world-view and which helped her to feel centred and unified (mind/body/spirit) were highly beneficial to her.

2) Socio-emotional issues:

- Dealing with separation issues: The patient gradually gained greater insight into these issues and made positive steps to separate from her mother and to allow her son to become his own person. Of her own accord, she went to book a holiday for her and

her family (without mother, whom she arranged to stay with her brother). On completing treatment she was looking forward to going away.

- Learning to express her feelings and to be herself as well as to nurture herself: The patient became visibly more animated and much more relaxed during treatment. She also started gardening and sewing again.

3) Physical: As the patient's mood improved, so she started increasing her activities: she started light gardening as well as sewing again which in turn increased her mood and self-confidence.

Case 6

The patient was a 33 year old married woman with no children who had a 3 year history of severe pains especially in the lower back area but also the ribs, just below the collarbone, the hip area, knees and ankles. Approximately 8 years previously, the patient had suffered a slipped disc in the lower lumbar area but had made a full recovery. After a thorough investigation the patient was diagnosed with FS 2 years ago.

Approximately 3 years ago, the patient suffered an attack on the train where she was mugged and almost strangled. Naturally, she was shocked and very shaken but instead of seeking counselling, she decided to get on with her life and turned more to her husband for support. Soon after this incident her FS symptoms began although the patient did not at the time make a link between the two. She also began experiencing typical post-traumatic stress response symptoms including flashbacks and disturbing thoughts, avoidance behaviour, a heightened startle response, hypervigilance, bouts of crying. Her response to the flashbacks and distressing thoughts was to try her utmost to block them out and to "be strong and carry on". She felt that she had been fairly successful in doing so. However, while she was increasingly able to block out thoughts of her attack, she began to experience phobias (especially related to the weather, for example, thunder, lightening, strong winds) which she had never had before. Related to these fears, she began to develop obsessive behaviours such as phoning her neighbours from work to check that the roof was still on in windy weather and organising the house into regimental order when she was at home and the weather was windy/stormy. The fears and obsessive behaviour became progressively worse and although the patient realised that she was being irrational she felt completely out of control and on commencing treatment

she reported to being emotionally at breaking point. Coupled with this, she had to contend with the FS pains which continued daily unabated by any medication she received. On commencing treatment she was also experiencing chronic sleep disturbances and fatigue.

The patient showed a marked overresponsibility for others. In her family of origin, she was the youngest of 6 children but because of the age difference between herself and her siblings, she grew up an only child; her father was an alcoholic and although she says that her mother was a strong person, it was clear that she emotionally depended on the patient from a young age and that the patient learned to keep her own feelings in and to cover up. Thus, as was the case with the other subjects, her own dependency needs were not met in the crucial formative years. At work, she was highly efficient and conscientious and was the one whom others would dump their excess load on. She had great problems being assertive and in expressing especially negative feelings. Although she had a good marriage, she appeared to be overly dependent on her husband and there appeared to be significant amount of secondary gain attached to her symptoms.

The patient was highly motivated for treatment and an instant rapport was established. Treatment was highly successful, her phobias and obsessive behaviours were completely eliminated (and this was maintained on followup) and her anxiety levels reduced to normal levels. She became far more assertive and expressive. As her pain severity graph reveals, her pain experiences diminished steadily and were virtually eliminated. During treatment, she became able to differentiate the typical FS pains from the normal tension type headache and flu-type pains. FS pains disappeared completely and the only pains she has experienced since termination has been the occasional headache. Most importantly, her sleeping patterns were restored to normal which she felt had a profound effect on her symptoms. On followup these treatment gains were being sustained and she appeared relaxed and reported being positive, confident, more assertive at work (surprising some of her colleagues!) and much more in control of her life.

The following aspects of treatment are highlighted as being of particular relevance for this patient:

1) Socio-emotional issues:

- Dealing with the patient's feelings and thoughts surrounding the traumatic attack she experienced: the first session was devoted largely to this; supporting her while she expressed her feelings and thoughts regarding the trauma, providing reassurance and explanations as regards her symptoms, went a long way towards helping to reduce her anxiety levels and to gain understanding. In a highly productive first session, the patient gained much insight into herself, her symptoms and how things linked together and reported to feeling as though a great weight had been lifted off of her.
- Learning to be more assertive: Learning to express especially her negative feelings more appropriately and becoming more assertive improved her self-confidence greatly;
- Becoming more self-nurturant and more self-expressive: During treatment she became far more expressive, for example, in her dress, the way she related (more animated) and she also started fabric painting which provided an channel for self expression.
- Dealing with dependency issues: She gained insight into how she overly depends on her husband for emotional support and she made real strides in becoming more independent.

2) Improvement of coping resources:

- Cognitive restructuring surrounding dysfunctional thoughts related to phobias: It was clear from her pain logs that fearful thoughts were positively linked to pain experiences. The patient began practising cognitive disputation surrounding these irrational thoughts after the first session which successfully helped to diminish her phobias to the extent that she very soon started to forget all about them. It is important to note that although she became equipped with the cognitive-behavioural skills to deal with her fears, the general approach in dealing with the trauma was to defocus from the 'symptoms' (phobias and obsessions) and rather to provide her with the emotional space for her to work through her feelings and to gain greater understanding.
- Reframing: The patient rejected the monolithic FS diagnosis and reinterpreted her pain experiences in psychological terms which greatly enhanced her sense of self-efficacy and of having control in the situation.
- The use of self-hypnosis, especially mystical/spritual imagery to restore normal sleeping patterns: The patient felt that this was possibly the most vital ingredient in eliminating pain experiences.

- The use of self-hypnosis to reduce pain levels: The patient was successful in reducing pain levels via self-hypnosis but the major benefit according to her of the self-hypnosis was in restoring normal sleep patterns.

3) Physical: During treatment the patient started fabric painting and started going out much more to friends, out shopping and for walks with her husband.

4) Medication: The patient was not encouraged to give up medication and continued to take analgesic and flu medication. From her graph, her medication intake greatly reduced from baseline levels although was not always in line with pain intensity levels. For example, in session 4, her medicine intake is very high because she had the flu in that week and took flu medicine, however, she experienced no pain symptoms and in session 5 where pain levels were slightly up, she took no pain medication.