

THE EFFECTIVENESS OF A HOMOEOPATHIC COMPLEX
(GERMANIUM METALLICUM 30CH, NUX VOMICA 12CH,
KALIUM PHOSPHORICUM 6CH, PICRICUM ACIDUM 6CH) IN
THE TREATMENT OF JOB BURNOUT IN THE HUMAN
SERVICES FIELD.

By

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Master's Degree in Technology: Homoeopathy, in the Faculty of Health
Sciences at the Durban University of Technology.

I, Vimlen Vaithilingam, do declare that this dissertation is representative of my
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DEDICATION

This dissertation is dedicated to my father, Dr. P.S. Vaithilingam and to my grandfather, Mr. T. Moodley.

Gone but not forgotten.

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ABSTRACT

The purpose of this double blind placebo-controlled study was to evaluate the efficacy of a homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) in the treatment of job burnout in the human services field.

In total 30 participants were chosen according to specific inclusion and exclusion criteria. The sample group was then randomly divided into a treatment group consisting of 15 participants, and a placebo group consisting of 15 participants. The study was conducted at the Durban University of Technology. The Maslach Burnout Inventory – Human Services Survey (Appendix A) was used as a measurement tool.

There was an initial consultation with the researcher which consisted of a full consultation, physical examination and administration of the survey. Thereafter there were two follow-up consultations at 4 week intervals at which the survey was re-administered. Medication was dispensed to the participants at the initial and the first follow up consultations only.

The data obtained from the Maslach Burnout Inventory – Human Services Survey was statistically analysed using the SPSS[®] software package (Version 15). Due to the small sample size of the study non-parametric tests were conducted. The intra-group analysis was performed using Friedman's Test and Wilcoxon's Signed Rank Test. The inter-group analysis was performed using the Kruskal-Wallis Test.

Friedman's Test indicated a significant improvement in the emotional exhaustion subscale for both the treatment and placebo groups. The subscales of depersonalisation and personal accomplishment did not however reflect a significant difference.

The Wilcoxon's Signed Rank Test indicated that for both groups there was a significant improvement in the emotional exhaustion subscale between baseline and follow up 1 and between follow up 2 and baseline (i.e. $P < 0.05$).

The Kruskal-Wallis Test showed no significant difference between the treatment and placebo groups. This was the case for all three subscales of the Maslach Burnout Inventory – Human Services Survey.

The results of the study led to the conclusion that statistically the homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) was not effective in the treatment of job burnout.

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DEFINITIONS

Arndt Schultz Law

Minimum doses of a substance stimulate cellular activity, medium doses inhibit or depress cellular activity and large doses destroy it (De Scheeper, 2001:39).

Burnout

Burnout is defined as a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment. It occurs as a progressive syndrome among individuals who are faced with tremendous amounts of work-related stress such as those in the human services field (Maslach, Jackson and Leiter, 1996:4).

Complex

Multiple remedies combined to form a compound homoeopathic formula (Jouanny, 1991:97-98).

Constitutional Type

Refers to the combination of psychological and physical features of the individual and the manner in which they interact with the environment. It is the person's inherited and acquired physical, mental and emotional makeup (Geddes and Lockie, 1995:24).

Defensive stress reaction

Defensive reactions to stressors represent a more primitive mechanism in stress adaptation. The defensive reaction causes the individual to counteract stress by either becoming aggressive or by withdrawing from the perceived stressor (Maslach, 2001:405).

Depersonalisation

The development of a cynical attitude towards colleagues or clients, and the development a sense of alienation from others in the workplace (Maslach, 2001:402).

Dilution

To make smaller or less. Dilute doses are doses made minute through potentiation and through the use of smaller amounts (O'Reilly, 1996:301).

Emotional Exhaustion

Emotional exhaustion is a feeling of not being able to give of one's best at a psychological level anymore. Individuals are likely to develop feelings of apathy, hopelessness and indifference towards others (Maslach, 2001:401).

Emotion-focused Coping Response

In the emotion-focused coping response individuals react in an emotional way and destructive behaviours such as self-blame, substance abuse and avoiding the stressor develop (Bergh and Theron, 2003:401).

External Locus of Control

Those individuals who believe that their accomplishments are due to luck, fate or other people. They generally have a lower self-esteem and self-efficacy. In people with an external locus of control, burnout is higher (Maslach, 2001:409).

General Adaptation Syndrome

The body's reaction to sustained stress occurs in 3 major phases known as the General Adaptation Syndrome. These are the Alarm reaction, Resistance stage and Exhaustion (Whybrow, 1997:151).

Homoepathy

Homoeopathy is a system of medicine founded in the early 19th century by the German physician Samuel Christian Hahnemann. Homoeopathy is derived from the Greek *homoeo*, meaning 'similar' and *pathos*, meaning 'suffering' and functions by prescribing substances which are similar in symptomology to the disease afflicting an individual, thereby stimulating the body's own healing mechanisms to resolve illness (Geddes and Lockie, 1995:14).

Homeostasis

A tendency to equilibrium or stability in the normal physiological state of an organism (Saunders, 2004:410).

Internal Locus of Control

People who have an internal locus of control are those that believe that they have control over what they accomplish because of their personal behaviour and competencies (Maslach, 2001:409).

Law of Infinitesimal Dose

The minimum dose required to bring about cure, developed in accordance with the Arndt Schultz law by Hahnemann, in order to avoid the unwanted toxic effects of the drug (Kayne, 1997:26).

Law of Similars

Homoeopathy is based on the Law of Similars, or “like cures like.” This implies that a substance that produces certain symptoms in healthy people can cure the same symptoms in the sick. The homoeopathic remedy produces an artificial medicinal disease state that is similar and stronger than the natural disease but not the same. This is produced on the dynamic or energetic plane (De Schepper, 2001:26).

Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) is recognized as the leading measure of burnout (Maslach, Jackson and Leiter 1996:4).

Maslach Burnout Inventory – Human Services Survey

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS), developed by Maslach, Jackson and Leiter over a period of 8 years, is designed to measure the three aspects of burnout, namely, emotional exhaustion, depersonalisation and reduced personal accomplishment. Each aspect is measured as a separate subscale (Maslach, Jackson and Leiter 1996:5).

Placebo

A placebo is a presumably inactive substance used in controlled clinical trials for comparison with presumably active drugs or prescribed to relieve symptoms or meet a patient's demands for treatment (Beers and Berkow, 1999:2585).

Potentiation

A multi-step process (involving dilution and succussion, or trituration) by which the inner medicinal power of a crude substance is released or increased (O'Reilly, 1996:304).

Problem-focused Coping Response

Problem-focused coping response involves rational thinking and planning in response to stress take precedence. Individuals define their problems and find alternatives to solve the problem causing the stress (Bergh and Theron, 2003:401).

Proving

Homeopathic drug trials during which doses of a substance are administered to a healthy individual until a reaction to the substance occurs. These symptoms are then recorded and compiled into the remedy picture or materia medica (Ullman, 1991:9-10).

Reduced Personal Accomplishment

The final aspect is reduced personal accomplishment, which is a sense that one has not achieved the goals set for oneself due to various reasons pertaining to the job itself and to personal expectations (Maslach, 2001:402).

Simillimum

That medicinal potency capable of producing a set of symptoms which are the most similar to those in the case of disease to be cured (O'Reilly, 1996:350).

Stress

A state of physiological or psychological strain caused by adverse stimuli, physical, mental, or emotional, internal or external, that tend to disturb the functioning of an organism and which the organism naturally desires to avoid (Saunders, 2004:810).

Stressor

A stressor is defined as being any factor that has the ability to cause stress (Bergh and Theron, 2003:399).

Stress Hormones

Cortisol, adrenalin and noradrenalin are released from the adrenal glands (situated above the kidneys) as part of the hormonal response to stress. They are responsible for causing an increased heart rate, rapid breathing, muscle contractions, stimulation of the bladder wall, high blood sugar levels and increased metabolism (van der Merwe, 2001:12).

Stress Reaction

Any physiological or psychological reaction to physical, mental or emotional stress that disturbs an organism's homeostasis (Saunders, 2004:732).

Stress Tolerance

Stress tolerance refers to the ability of a person to withstand stress without becoming seriously impaired. The higher the level of tolerance, the lower the level of stress for that individual (Bergh and Theron, 2003:401).

Succussion

Vigorous shaking with impact. It is part of the multi-step process for potentiating substances to bring about their medicinal powers. Hahnemann suggested that substances be succussed by holding a vial of the properly diluted substance in the hand and striking a hard but elastic body such as a leather-bound book, using an up and down motion of the forearm (O'Reilly, 1996:353).

Type A and Type B Personality Types

Type A and B personality types represent two different ways in which people react in the work situation, perform tasks and cope with stress (Geddes and Grosset 1997:255).

CHAPTER 1

INTRODUCTION

Burnout is defined as a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment. It occurs as a progressive syndrome among individuals who are faced with tremendous amounts of work-related stress (Maslach, Jackson and Leiter, 1996:4).

The above factors contribute to the development of an individual who is prone to neurotic symptoms such as anxiety, hostility, depression, emotional instability, psychological distress and a variety of physical complaints such as fatigue, low energy, frequent headaches, muscle tension, insomnia and frequent prolonged attacks of colds and bronchial complaints. These complaints could cause the patient to develop pathological coping strategies, such as the excessive use of alcohol, cigarettes and tranquilizers, which provide only temporary relief and contribute to the worsening of the above complaints (Ellis, 1996:324).

The consequences of burnout present dire outcomes for the future of the human services field (that is, doctors, nurses, teachers, social workers, managers, lawyers, emergency medical and rescue personnel, shop stewards, police officers) in this country. The increased demands placed on human services providers, accompanied by the ever increasing rates of HIV infection and AIDS related deaths, could contribute to the development of burnout in human services workers. This then causes an increase in dysfunction, absenteeism and reduced productivity, which could have detrimental effects for persons under the care of burnt out individuals (Levert, Lucas and Ortlepp, 2000:41).

Current treatment of burnout is aimed mainly at counselling, support groups and the education of professionals with stress coping skills. Short courses of

drugs such as anti-depressants and tranquilizers may be indicated in cases of severe burnout (Ellis, 1996:325-327).

Research on the management and prevention of job burnout has yet to be conducted, more research into the feelings behind burnout and how it can be prevented is needed (Levert, Lucas and Ortlepp, 2000:41). The goal of treatment based research, such as this study, would be to facilitate the attainment of optimal stress levels.

Homoeopathy functions to increase the general health of an individual and decrease their susceptibility to disease by treating the whole person on a mental, physical and emotional level. Homoeopathy understands stress related illness as a reflection of how the whole person is coping with stress. The medicines employed address all the symptoms that an individual may present with. Homoeopathic treatment strengthens the body's vitality and it's ability to respond to stress without resorting to other medicines (Castro, 1997:26-28).

Homoeopathic medicines are produced from a wide variety of substances ranging from the plant, mineral and animal realms. The medicines employed are highly diluted and therefore do not contain toxic levels of compounds, which may cause delirious side effects and therefore represents a gentle and safe mode of treatment (De Schepper, 2001:27-29).

Complexes, or combinations of two or more homoeopathic remedies can also be prescribed in order to treat disease. Complex prescribing can cover a wide range of complaints associated with the burnout syndrome. The complex chosen for this study consists of *Germanium metallicum* 30 CH, *Nux vomica* 12 CH, *Kalium phosphoricum* 6 CH and *Picricum acidum* 6 CH. These remedies are all known to have an effect on the mental, emotional and physical symptoms that correspond to burnout (Ross, 2003).

Patients participating in the study were evaluated by the administration of the Maslach Burnout Inventory – Human Services Survey, which determines the

levels of distress experienced for each of the three aspects of burnout. Data obtained from the survey was then analysed using the SPSS software suite (version 15).

1.2 PROBLEM STATEMENT

The purpose of this double-blind placebo-controlled study was to evaluate the efficacy of a homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) in the treatment of job burnout in terms of the Maslach Burnout Inventory.

1.3 ASSUMPTIONS

- Participants regularly took the medication as prescribed.
- Participants did not have a change of lifestyle or resort to any other form of curative treatment for their symptoms of burnout for the duration of the study.

1.4 HYPOTHESES

It was hypothesised that the homoeopathic complex had a significant impact on job burnout in terms of the findings of the Maslach Burnout Inventory - Human Services Survey.

It was also hypothesized that the homoeopathic complex had a more significant impact on job burnout compared to placebo in terms of the scores of the Maslach Burnout Inventory – Human Services Survey.

For the above two hypotheses, the null hypothesis stated that there were no significant differences between the relevant variables. The alternate hypothesis states that there was a significant difference between the variables according to the measurement tool.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 DEFINITION

Burnout is defined as a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment. It occurs as a progressive syndrome among individuals who are faced with tremendous amounts of work-related stress (Maslach, Jackson and Leiter, 1996:4).

The main aspect of burnout are increased levels of emotional exhaustion, as emotional reserves are depleted, due to greater work demands, individuals begin to feel that they can no longer give of themselves on a psychological level and begin to lose a certain depth of emotional involvement with their recipients. This will result in a lack of interest and apathy towards a workers job and their patients or clients (Maslach, 2001:401).

The second category of burnout, depersonalisation, arises as a result of emotional exhaustion and apathy. The individual concerned will begin to isolate themselves from those around them and will begin to develop negative, cynical attitudes and feelings towards their recipient (Maslach, 2001:402).

A third facet of the burnout syndrome is a sense of reduced personal accomplishment, which refers to the individuals tendency to negatively evaluate oneself with regards to their career and interaction with clients. A decrease in personal accomplishment would result in reduced levels of self-

esteem and unhappiness about one's career achievements (Maslach, 2001:402).

2.2 STRESS AS A CAUSATIVE FACTOR IN BURNOUT

Stress can be defined as the pressure that is exerted on an individual, which in turn results in tension or strain. The term 'stress' refers to the cause as well as the accompanying state of tension and to the negative repercussions of this state (LeBlanc, de Jonge and Schaufeli, 2000:150-151).

Within certain limits individuals are able to manage this pressure effectively and adapt to the stress causing situation, with recovery from the experience of tension once the stressful period is over (Pillay, 2006:418). Although, if the pressure exerted on an individual is too large and exceeds the individuals coping reserves, which are influenced by personal characteristics such as stress tolerance and an individuals environment, the individual may not be able to recover from the stress engendering stimulus and may therefore remain in a state of tension, with the development of physical and psychological symptomology (LeBlanc *et al.*, 2000:151). This prolonged exposure to stressors in the workplace and the resultant biochemical and psychological responses to stress would result in the psycho-physiological symptoms of burnout (Schaufeli and Enzmann, 1998:36).

Therefore, as stress plays such a major role in the development of burnout and it's symptoms, it is vital that stress and all of it's facets are understood. This would include the nature of stressors in the workplace, stress coping mechanisms, individual pre-determinates to stress and the physiological and psychological responses to excessive prolonged stress, which ultimately results in the development of burnout syndrome.

2.2.1 CATEGORIES OF STRESSORS

Stressors are situations or stimuli in the workplace which generate a stress response in an individual (Bergh and Theron, 2003:398). Work related stressors can be categorized under 4 main headings:

2.2.1.1 Job Content

Unusually high expectations of those in organizational positions, combined with work deadlines, monotony of work, and a overload or underload of work will result in frustration, an increase in psycho-physiological symptoms and low self esteem as a result of not being able to meet work demands (Levert and Ortlepp, 2000:36-37). The individual may as a result develop passivity and a sense of weariness and dissatisfaction towards one's work, which leads to the emotional exhaustion, depersonalization and reduced sense of personal accomplishment seen in burnout (Ellis, 1996:294).

2.2.1.2 Working Conditions

This refers to the actual physical characteristics of the work environment. This would include negative working conditions such as noise pollution, exposure to toxic substances, poor lighting and work posture, lack of hygiene in the work environment and the lack of protective devices (LeBlanc et al., 2000:152). These factors would further tax an individual's emotional and physical reserves thereby contributing to a state of prolonged tension and the development of a negative attitude to one's working environment (Bergh and Theron, 2003:428).

2.2.1.3 Employment Conditions

Job insecurity and low payment may cause an individual undue anxiety and force one to negatively evaluate ones future goals and career prospects. Status incongruity would lead an individual to negatively compare themselves

to their colleagues in higher positions and would create feelings of inadequacy and apathy concerning ones own abilities in the work environment. A workers experience of poor employment conditions would result in job dissatisfaction and a limited sense of personal accomplishment (Bergh and Theron 2003:427).

2.2.1.4 Interpersonal work relationships

The human services professions require constant interaction with clients, but prolonged interaction with others eventually drains emotional resources and results in feelings of tension, emotional detachment, impatience, irritability, and the need for isolation from clients (Jones, 1997:34). Conflict with colleagues and management represented by unfriendly and hostile exchanges, conflicts of interest, lack of social support and discrimination would lead to the development of cynicism, aggression, anxiety and despondency, all of which form part of the symptoms of burnout (Maslach 2001:413).

2.2.2 PREDISPOSING FACTORS IN STRESS DEVELOPMENT

The severity of the consequences of the stress response of an individual is determined by the quality of a stressor, the individuals response to stress and ones internal and external resources.

2.2.2.1 Quality of a stressor

The degree to which a stressor alters normal functioning is influenced by the duration of a stressor, the importance of a stressor, the proximity of a stressor and the number of stressors impacting on an individual. Therefore the longer a stressor persists and the mores stressors that are present the more prolonged and severe will be the experience of stress and fatigue for the individual, which is seen in the chronic stress response associated with burnout. A higher number of stressors and proximity stressors, such as

frequent deadlines, would also engender an extreme stress response (Bergh and Theron, 2003 : 401).

2.2.2.2 Individual tolerance and perception of stress

Each individual handles and perceives stress differently. The ability to experience a stimulus as stress depends both on one's perception of an event as stressful and one's level of tolerance toward stress. Internal character dispositions such as personal hardiness, optimism, mental stamina, self efficacy and learned resourcefulness all serve as moderating and protective factors between the individual and stress (Levert and Ortlepp, 2000:37). These character dispositions determine whether an individual perceives themselves as being in or out of control of their stress, and whether a stressful event is perceived as being a positive challenge or a stress engendering threat (Bergh and Theron, 2003:400-401). Stress tolerance refers to the capacity of an individual to withstand stress, without serious derangement in normal functioning. The higher an individual's tolerance of stress, the less likely is it for that individual to experience an intense stress response and the less severe will be the consequences thereof. Conversely individuals with a weaker character disposition, a negative perception of stress and a lower level of stress tolerance will experience a more exaggerated and prolonged stress response, with the development of more extreme consequences such as burnout, depression, chronic anxiety and a host of other health issues (Bergh and Theron, 2003:402).

2.2.2.3 Social support as a moderating factor in stress

Social support refers to the existence of amicable, pleasant relationships with support structures both in and out of the workplace. A good organizational climate with accessible avenues of assistance and guidance, and out of workplace support networks (eg. Friends, family, social groups) function as buffers thereby reducing the impact of job stressors on the development of

severe stress reactions, especially where intense stressors are present (LeBlanc et al., 2000:168-169).

2.2.3 THE PHYSIOLOGICAL STRESS RESPONSE

Optimal health and well-being is dependent on the ability of the human body to maintain a state of internal equilibrium and stability, or homeostasis (van der Merwe, 2001:9). Whenever an individual is exposed to a stressor, irrespective of whether this is an actual threat to survival or a perceived psychological stressor, the body reacts by initiating a process consisting of a cascade of nervous system and biochemical reactions known as the fight or flight response (Pillay, 2006:420). Once the stressor has elapsed equilibrium must once again be restored to the body systems involved to restore normal bodily function. However if this balance is not restored, as in the case of prolonged stress, various organs and bodily systems will become depleted thereby manifesting in mental and physical symptoms (van der Merwe, 2001:9).

Upon exposure to stress, signals indicating a threat are transmitted to the higher centres of the brain via the senses. Messages are then transmitted from the hypothalamus, pituitary gland and brainstem by neurotransmitters which stimulate the sympathetic nervous system, thereby causing an increased heart rate, shortness of breath and an increase in metabolism (van der Merwe, 2001:11-12). The hypothalamus also stimulates the pituitary gland to release adrenocorticotrophic hormone, which acts on the adrenals glands to release stress hormones such as adrenaline, noradrenaline and cortisol (Pillay, 2006:420). These hormones mobilise the body's systems to enable an individual to either escape from a stressor or defend itself against a perceived threat. The effects of these stress hormones cause an accelerated heart beat, rapid breathing, muscular contractions, bladder stimulation, raised blood glucose levels and an overall increase in metabolism. However the urogenital, digestive and immune systems are suppressed as these systems are not deemed vital in the stress response (van der Merwe, 2001:12).The stress

response also stimulates the pituitary gland to release thyrotropic hormone, which stimulates the release of thyroid hormones from the thyroid gland, this has the effect of increasing the activity of most of the body's systems. Although high levels of thyroid hormone secretion does cause an increase in perspiration, anxiety, tremors, chronic fatigue and insomnia (Pillay, 2006:421).

Once the stressor is removed stress hormone levels should decrease and neurotransmitters involved in the process should replenish, thereby returning the body to a state of balanced functioning. However if the stress is prolonged, high levels of stress hormones will disrupt homeostasis therefore damaging internal organs and leaving the body vulnerable to developing a variety of mental and physical illnesses (Pillay, 2006:422).

Prolonged elevated levels of cortisol, adrenaline and noradrenaline are associated with the development of hypertension, muscular spasm, decreased bone density, blood sugar imbalances, increased cholesterol levels, impaired cognitive function, aggression and anxiety (van der Merwe, 2001:13-17). Hyperactivity of the hypothalamic-pituitary-adrenal axis, due to prolonged exposure to stressors, also disrupts neurotransmitters such as serotonin and dopamine, which are responsible for mood regulation, relaxation and the experience of pleasure. Low levels of serotonin and dopamine can lead to the development of depression, sleep disturbances, neuromuscular hyperactivity, reduced motivation and an inability to relax even when not exposed to stressors (Whybrow, 1997:205).

As the stress response involves all the body's systems, chronic stress will therefore result in a large variety of symptoms and illnesses. Some of the consequences of prolonged stress include irritable bowel syndrome, muscular pain and arthritis, increased susceptibility to infections, dermatitis, peptic ulcers, cardiovascular disease, insomnia, depression, anxiety, gout and diabetes, among others (van der Merwe, 2001:14-17). Many of these illnesses form part of the symptomology of burnout.

2.2.4 THE PSYCHOLOGICAL STRESS RESPONSE AND IT'S SYMPTOMS

An individual's reaction and adaptability to stressors is influenced by internal coping mechanisms triggered by stressful events.

Psychological responses to stressors can be divided into two groups, namely adaptive reactions and defensive reactions.

2.2.4.1 The Adaptive Reaction

This refers to forms of behaviour employed by individual's to adapt to daily stressful events and to alleviate stress. This reaction can be further divided into problem-focused coping reactions and emotion-focused coping reactions.

Individual's who employ a problem-focused coping reaction tend to define their problems, evaluate alternatives and institute plans to resolve these issues thereby reducing the experience of distress. People who react to stress in this way often possess a high level of self control and rational thinking (Bergh and Theron, 2003:401).

The emotion-focused coping reaction refers to an effort to cope with stressors by reacting to the stress emotionally, and not rationally as seen in the problem-focused reaction. Behaviours associated with this reaction include self-blame, substance abuse, excessive eating and drinking, withdrawal or isolation from people or the work environment and avoidance of perceived stressors (Bergh and Theron, 2003:401).

2.2.4.2 The Defensive Stress Reaction

Defensive reactions to stressors represent a more primitive mechanism in stress adaptation. The defensive reaction causes the individual to counteract stress by either becoming aggressive or by withdrawing from the perceived stressor (i.e. Fight or flight response). The aggression displayed may present itself overtly through actual physical violence and rage, or manifest in more

subtle forms such as cynicism and refusing to work. Withdrawal from the stressor will manifest as feelings of apathy, anxiety, depression and hopelessness, which also form part of the three categories of burnout (Maslach, 2001:405).

Coping mechanisms represent a normal way of dealing with stressors, and once the stressor has withdrawn, psychological homeostasis should be re-established. However if the stress persists for too long this mental balance may not be restored therefore causing the development of maladaptive coping patterns, in other words causing the person to react to stressors in a defensive and emotionally based manner (Bergh and Theron, 2003:402).

This would over time lead to the development of more severe mental symptoms such as anxiety, depression, rage, irritability and pessimism as emotional and mental reserves are depleted by the protracted presence of stress (Whybrow, 1997:152-154,166-167).

2.2.5 THE PROCESS OF BURNOUT DEVELOPMENT

Exposure to stress over prolonged periods results in depletion of physiological and psychological reserves leading to the mental and physical symptoms discussed earlier. The extent and severity to which an individual is impaired by prolonged stress can be shown in a three stage process known as the General Adaptation Syndrome (GAS) (Pillay, 2006:152).

2.2.5.1 The Alarm Reaction

This is the first stage of GAS and represents an individual's initial response to acute or short lived stressors. Biochemical reactions stimulating the release of catecholamines, would result in symptoms such as sweating, tremors, headaches, gastro-intestinal upsets, palpitations, insomnia, anxiety and aggression.

2.2.5.2 The Resistance Stage

This is a continued state of stimulation due to the prolonged presence of a stressful situation. The high levels of stress hormone secretion may cause damage to internal organs thereby leading to the development of stress related illnesses such as cardiovascular disease, renal disease, ulcerative colitis, sexual dysfunction and skin diseases.

2.2.5.3 The Exhaustion Stage

This occurs in a person after a prolonged state of resistance. During this stage the body's reserves are finally exhausted with the development of conditions such as depression, extreme fatigue and breakdown with the need for hospitalisation (Pillay, 2006:152-153).

Thus it can be seen that chronic exposure to stressors combined with an individual's inability to return to a state of balanced functioning, will result in the individual remaining in a state of abnormal coping, with the development of burnout and its associated symptoms as a consequence (Bergh and Theron, 2003:402).

2.2.6 THE STAGES OF BURNOUT

The progression of burnout from its inception to its development as an abnormal stress experience, can be categorized into four stages, with each stage representing a falling domino in the process of burnout development. In other words each stage is a progression from the stage before it (Ellis, 1996:295).

2.2.6.1 Idealistic Enthusiasm

At this stage an individual has higher reserves of energy, high hopes and high ideals combined with a personal drive to accomplish their goals. These personal goals and expectations are usually unrealistic and start to give way to external work demands towards the end of the first year of employment (Ellis, 1996:295).

2.2.6.2 Stagnation

At this point the individual starts to slow down as their energy levels are depleted, and will begin to experience disappointment and a sense that personal needs are no longer being met by their chosen career (Ellis, 1996:295).

2.2.6.3 Frustration

This is due to the individual being unable to achieve the goals they once aspired to, the person then becomes increasingly pessimistic towards their clients and also begin to see their colleagues and clients as impediments to their career ascension (Bergh and Theron, 2003:399).

2.2.6.4 Apathy

This final stage is a sign of exhausted coping mechanisms, an individual will begin to isolate themselves from others and resort to defensive rather than adaptive coping patterns. This stage is typified by interpersonal conflict, general job dissatisfaction, cynicism and disillusionment towards the work environment (Ellis, 1996:295).

2.3 FACTORS CONTRIBUTING TO BURNOUT

The causes of burnout are specific in being able to produce prolonged stress reactions and behaviours resulting in the constellation of symptoms typified by burnout. These contributing factors can be categorized as situational factors, individual factors and demographic characteristics.

2.3.1 SITUATIONAL FACTORS

This refers to the factors intrinsic to the work environment, including job characteristics and organizational factors which lead to burnout. The relationship between a worker and their work environment can be shown by three developmental models.

2.3.1.1 The Person – Environment Fit Model

This developmental model states that burnout can occur either as a misfit between a worker's skills and knowledge and work resources (e.g. Opportunities for career advancement) or as a misfit between a person's skills and organizational characteristics/environmental factors (e.g. Poor work conditions, impaired company structure, ambiguous job description). According to this model, large incongruities between an individual and their work environment will result in the individual developing a sense of role ambiguity and disillusionment, thereby leading to lower self-esteem, despondency and burnout (Bergh and Theron, 2003:426).

2.3.1.2 Demand – Control – Support Model

This model states that, high organizational demands, coupled with low decision making opportunities and reduced social support in the workplace, will result in extreme job-related stress reactions such as burnout and exhaustion. This model also postulates that an individual's abilities and skills may stagnate and decline in this sort of environment, thereby generating despondency and job dissatisfaction (LeBlanc et al., 2000:163-164).

2.3.1.3 The Effort – Reward Imbalance Model

This model describes a situation in which high personal effort and over-commitment at work combined with low rewards (ie. An adequate salary, respect and support, promotion prospects, job security and status consistency), may cause a state of emotional distress and therefore stimulate an extreme stress response. This model shows a higher risk factor for the individual developing stress-related illnesses and absenteeism (LeBlanc et al., 2000:166-167).

2.3.2 INDIVIDUAL FACTORS

2.3.2.1 PERSONALITY TRAITS

Individual characteristics determine how a person reacts and adapts to stress in the workplace, certain personality traits may render an individual more susceptible to developing burnout, whereas other traits may reduce an individual's chances of burnout.

2.3.2.1.1 The Type A Personality Type

This personality type is associated with a high risk factor for cardiovascular disease and other stress-related illnesses (Jones, 1997:55-56). The type A personality exhibits the following characteristics:

- Intense aspirational behaviour and aggressive competitiveness: This is categorised by strict performance criteria, high ambition, working long hours and competitive behaviour even during recreation and casual conversations.
- Increased sense of urgency: Characterized by impatience, restlessness, setting of impossible personal deadlines, increased speed in all activities and a feeling of constantly being under pressure.
- Impaired interpersonal relationships: Characteristics of this behaviour include hostility, lack of empathy for others, haughtiness and a sense of superiority towards others (Bergh and Theron, 2003:431).

2.3.2.1.2 The Type B Personality Type

Individuals with this personality type exhibit behaviours which are opposite to the behaviours of the type A personality. The type B personality is characterized by greater work satisfaction, working of shorter hours, satisfaction with less compensation, a more relaxed attitude, less competitiveness, more patience and empathy towards others, therefore reducing their risk of developing burnout (Jones, 1997:54-55).

2.3.2.1.3 Neuroticism

Individuals with a higher degree of neuroticism tend to possess more negative and pessimistic views about themselves and others. Persons with this character disposition experience and display higher levels of anxiety, cynicism, defensive behaviour, paranoia, depersonalisation, stress and frustration towards everyday stressful stimuli in the workplace, therefore increasing their susceptibility to developing burnout (Maslach, 2001:409).

2.3.2.1.4 Extraversion

Persons with this characteristic display traits such as talkativeness, assertiveness, positivism and cheerfulness. Extraverted and open individuals have a lower risk of developing stress-related disorders and burnout (Kagee and De Bruin, 2006:187).

2.3.2.1.5 Internal and External Locus of Control

This refers to a generalized expectancy that rewards, or outcomes, in life are controlled either by one's own actions (internality) or by forces outside of oneself (externality) (Foster, 2000:313). A worker's locus of control determines such occupational behaviours as motivation, performance, job satisfaction and job perception (Bergh and Theron, 2003:328). Workers with an internal locus of control are seen to be more successful in terms of work performance due to the fact that they are more efficient at the planning and execution of tasks, are easier to motivate, and take responsibility for their own decisions and work outcomes (Bergh and Theron, 2003:328). Individuals with an internal locus of control are less likely to develop burnout, as they are able to maintain a sustained level of motivation and a persistently positive job perception (Maslach, 2001:409).

Persons who exhibit an external locus of control (i.e. attributing events and achievements to others or to chance) are more vulnerable to psychological maladjustment and burnout development (Bergh and Theron, 2003:328), as they are less likely to be consistently motivated and have a lower expectation that their work efforts will result in a positive outcome (Foster, 2000:313).

2.3.3 DEMOGRAPHIC FACTORS

- Individuals below 30 years of age and those older than 40 are shown to have a higher level of job burnout.
- While there is no large difference in burnout prevalence between males and females, males do exhibit higher levels of cynicism related to burnout, while females score higher with burnout induced exhaustion.
- Unmarried individuals experience a higher level of burnout compared to married persons.
- Those with a higher level of education report higher levels of burnout than less educated employees. This may be due to highly educated individuals having jobs with greater responsibilities and therefore higher stress levels or it may be that workers with a higher education have higher job expectations and are therefore more disillusioned if these expectations do not materialize (Maslach, 2001:408).

2.4 SYMPTOMS OF BURNOUT

TYPE/LEVEL	INDIVIDUAL	INTERPERSONAL	ORGANISATIONAL
Affective	Anxiety Tension Anger Depression Apathy	Irritability Being oversensitive	Job dissatisfaction
Cognitive	Helpless/powerlessness Cognitive impairments Difficulties in decision making	Hostility Suspicion Projection	Cynicism about work role Not feeling appreciated Distrust in peers, supervisors and management
Physical	Physical distress (headaches, nausea etc.) Psychosomatic disorders (gastrointestinal disorders, coronary diseases etc.) Impairment of immune system Changes in hormone levels		
Behavioural	Hyperactivity Impulsivity Increased consumption of stimulants (caffeine, tobacco) and illicit drugs Over and under eating	Violent outbursts Aggressive behaviour Interpersonal conflicts Social isolation/withdrawal	Poor work performance Declined productivity Tardiness Increased sick leave Poor time management
Motivational	Loss of zeal Loss of enthusiasm Disillusionment Disappointment Boredom Demoralization	Loss of interest in others Indifference Discouragement	Loss of work motivation Resistance to go to work Dampening of work initiative Low morale

Table 2.1 The symptoms of burnout (LeBlanc *et al.*, 2000:156).

2.5 CONSEQUENCES OF BURNOUT

2.5.1 WORK PERFORMANCE

As workers are placed under stress their work performance levels will increase and people begin to push themselves to their performance limits in order to accomplish the tasks at hand, however if the stress persists for too long performance will begin to decrease as burnout sets in (Jones, 1997:64-66). Lowered work performance would lead to a higher rate of absenteeism and early resignation or retirement from one's job, in an attempt to withdraw from an unpleasant work environment (Maslach, 2001:404). Burnout also contributes to lowered work effectiveness with an increase in work accidents, which would have adverse results for patients or clients of human-services workers for example, malpractice, accidental exposure to diseases such as HIV due to inattentiveness, injury to clients or damage of equipment due to negligence (Bergh and Theron, 2003:438).

2.5.2 INTERPERSONAL RELATIONSHIPS AT WORK AND HOME

Individuals experiencing burnout may have a negative impact on their colleagues due to increased conflict and aggression, this would have the effect of reducing the performance of one's surrounding colleagues thereby reducing the overall performance and efficacy of an organisation (Maslach, 2001:405). Conflicts and stress generated at work may also spill over into an individual's home environment. Persons who are burnt out often fail to 'shut off' their stress reaction after work, which would lead to displays of anger towards, or withdrawal from, family members. This would lead to possible negative consequences such as physical violence, sexual disinterest, substance abuse and strained interpersonal interactions (Bergh and Theron, 2003:434).

2.5.3 SUBSTANCE ABUSE

High levels of burnout are associated with an increase in substance abuse, in attempt to alleviate uncomfortable experiences as a result of stress, or to escape from the source of stress (Bergh and Theron, 2003:402). Individuals may begin to turn to 'socially acceptable' drugs such as nicotine or alcohol, or in the case of health care professionals, self medication with scheduled sedatives, painkillers and hypnotics (Bateman, 2001:98-100). Substance abuse would have the added impact of further impairing the burnt out individual's health, and if these substances are used in a work context this would lead to further derangement in work performance and turnover.

2.5.4 HEALTH

Burnout can be a contributing factor in the development of major illnesses such as heart disease, arthritis, ulcers, heart attacks, strokes and reduced longevity (Pillay, 2006:422-424). Furthermore the development of mental illnesses such as depression, anxiety and suicidal feelings are associated with the high levels of stress seen in burnout (Jones, 1997:79-80).

2.6 PREVIOUS RESEARCH ON JOB BURNOUT

2.6.1 BURNOUT AMONGST HEALTH CARE PROFESSIONALS

Smit (2006) conducted research into the prevalence and levels of burnout, compassion fatigue and compassion satisfaction amongst doctors and nurses employed at a South African public hospital. The sample group was 313, of which 76 were doctors and 237 were nurses. The final sample consisted of 31.3% male participants and 68.7% female participants with an average age of 40.

The Maslach Burnout Inventory and the Professional Quality of Life Scale were used as measurement tools to assess levels of burnout, compassion fatigue and compassion satisfaction among the respondents.

The results of the study were as follows:

- 56.2% of the participants reported high levels of emotional exhaustion.
- 26.2% reported high levels of depersonalisation
- 23% reported low levels of personal accomplishment
- High levels of compassion fatigue were reported by 26.8% of the participants.
- Only 26.2% of participants reported a high level of compassion satisfaction.
- It was also noted that while doctors and nurses report similar levels of depersonalisation, doctors report moderate levels of emotional exhaustion in comparison with nurses who report high levels. Doctors also reported moderate levels of personal accomplishment while nurses reported low levels. Doctors reported lower levels of compassion fatigue and higher levels of compassion satisfaction than nurses.
- It was observed that the levels of burnout were higher than American or European levels.

The study evaluated the levels and prevalence of burnout amongst health care professionals but did not provide interventions or a treatment regime which may be instituted to manage burnout.

2.6.2 THE HOMOEOPATHIC TREATMENT OF BURNOUT

Vaithilingam (2005) conducted a study at the Durban University of Technology to evaluate the efficacy of homoeopathic similimum in the treatment of job burnout in the human services field. 30 participants were selected for the study and randomly divided into 2 groups, with 14 participants receiving similimum treatment and 16 participants receiving placebo. The Maslach Burnout Inventory was used as a measurement tool. The results indicated an improvement in both the treatment and placebo groups, although statistically it was shown that homoeopathic similimum was not effective in the treatment of job burnout.

As homoeopathic similimum was statistically shown not to be an effective treatment for job burnout, the current study was therefore undertaken to evaluate the efficacy and viability of a carefully formulated homoeopathic burnout complex, which may, depending on the validity of the results, be provided as a potential over the counter or self-prescribed burnout treatment.

2.7 SUGGESTED BURNOUT PREVENTITION MEASURES

Due to burnout developing as a result of both organizational and individual factors, preventative measures need to be instituted at both these levels, to minimize the degree of individual stress.

2.7.1 ORGANIZATIONAL MEASURES

- Job stress audits: This enables the organization to evaluate the stress levels of employees and to take the necessary steps in assisting employees to reduce their stress levels, thereby increasing productivity.
- Improvement of job content and work environment: Typically this is aimed at reducing work overload, defining or clarifying an employee's

role within an organization, improving the physical work environment and the introduction of work rewards and incentives.

- Proper time scheduling: Reduction of working hours and the implementation of sabbatical leave or retreats.
- Corporate fitness and wellness programmes: Educating and training employees in stress management and health maintenance (LeBlanc et al., 2000:173-174).

2.7.2 INDIVIDUAL STRATEGIES

- Self monitoring and behaviour modification: This stimulates the worker to monitor their negative reactions to the work environment and to implement positive behaviours and coping reactions to reduce their levels of distress. This would include developing a problem-focused reaction to stress rather than a disruptive or defensive reaction to work stressors (Bergh and Theron, 2003:438-439).
- Seeking social support: Burnt out individuals should confide in stable social networks or counselling groups in order to constructively express their issues in a non-threatening environment (Jones, 1997:219).
- Health maintenance: Implementation of regular health check ups to monitor the development of stress-related illnesses, starting an exercise programme and paying attention to one's nutrition and lifestyle habits (e.g. vitamin and mineral supplementation, reduction of alcohol and caffeine consumption, cessation of smoking and consumption of more whole grains and vegetables) (Pillay, 2006:424-425).
- Relaxation techniques: Meditation and various techniques, which enable an individual to 'shut off' the stress response, thereby reducing the physiological damage of prolonged stress and also leading to the development of positive coping mechanisms (LeBlanc et al., 2000:175).
- Medication: Medication such as hypnotics, anxiolytics and anti-depressants are often prescribed to regulate and treat symptoms

associated with burnout such as insomnia, anxiety and depression. However these substances often produce unwanted side effects which may impair an individual's performance and health. Some of the side effects associated with these substances are insomnia, sexual dysfunction, hypertension, confusion, excessive sedation and drowsiness, nausea, precipitation of manic disorders, liver and thyroid dysfunction (Whybrow, 1997:262-267). Sedatives and anxiolytics also lend themselves to abuse if used over a long period, especially amongst human services professionals who have access to these drugs (Bateman, 2001:100).

2.8 THE MASLACH BURNOUT INVENTORY-HUMAN SERVICES SURVEY

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) is designed to measure the three aspects of burnout, namely, emotional exhaustion, depersonalisation and reduced personal accomplishment. Each aspect is measured by a separate subscale namely, the emotional exhaustion (EE), depersonalisation (Dp) and reduced personal accomplishment (PA) subscales. The survey consists of 22 questions, with a scoring key of 0-6 for each question. Depending on the final score for each subscale, an individual may be rated as having a high, average or low degree of burnout. A high degree of burnout is reflected in high scores on the emotional exhaustion and depersonalisation subscales and in low scores on the personal accomplishment subscale. An average degree of burnout is reflected in average scores on the three subscales. A low degree of burnout is reflected in low scores on the emotional exhaustion and depersonalisation subscales and in high scores on the personal accomplishment subscale. The numerical cut off points are as follows:

RANGE OF EXPERIENCED BURNOUT

	LOW	AVERAGE	HIGH
Emotional Exhaustion (EE)	≤16	17 – 26	≥27
Depersonalisation (Dp)	≤6	7 –12	≥13
Personal Accomplishment (PA)	≥39	38 – 32	≤31

(Maslach, Jackson and Leiter 1996:5)

2.9 HISTORY AND DEFINITION OF HOMOEOPATHY

Homoeopathy is a system of medicine founded in the early 19th century by the German physician Samuel Christian Hahnemann. Homoeopathy is derived from the Greek *homoeo*, meaning ‘similar’ and *pathos*, meaning ‘suffering’ and functions by prescribing substances which are similar in symptomology to the disease afflicting an individual, thereby stimulating the body’s own healing mechanisms to resolve illness (Geddes and Lockie, 1995:14). Homoeopathy is based on the premise that all illness begins at an energetic level, which then impacts on the organs and systems of the body to produce disease (De Scheeper, 2001:27-28).

2.9.1 CLASSICAL HOMOEOPATHY

This is the system of prescribing expounded by Hahnemann and his students. In classical homoeopathy a single remedy is administered to the patient based on the similarity between the patient’s entire disease presentation (both mental and physical) and the characteristics or symptomolgy of the homoeopathic remedy (Geddes and Grosset, 1997:402). Arrival at the most appropriate remedy for a patient is determined by a consultation during which a detailed case history is taken and a physical examination is performed, to obtain the entire symptom picture of the patient. This form of prescribing

requires one on one consultation with a homoeopath in a clinic or private practice setting (Geddes and Lockie, 1995:14).

2.9.2 COMPLEX PRESCRIBING

This method of homoeopathic prescribing was developed in the late 1800's predominately amongst French and German homoeopaths (Geddes and Grosset, 1997:404-405). This system advocates the prescription of multiple low potency remedies at the same time, or as multiple remedies combined to form a compound homoeopathic formula (Jouanny, 1991:97-98). Prescriptions are based on the presenting symptoms of a disease, and a complex may be administered to treat more than one symptom of the same condition (Kayne, 1997:105). Complexes are also prescribed when the individually prescribed remedy is not available, or when the prescriber is not certain of which single remedy should be given (Ullman, 1991:22-23).

Complex prescribing further differs from classical homoeopathy in that a full consultation, to obtain the entire symptom picture of a patient, is not required as complexes are formulated to contain most of the commonly prescribed or indicated remedies for a particular condition. Therefore a homoeopathic complex has a wide range of action and may be used by most of the individuals afflicted by a certain condition (Cook, 1989:73). Complexes therefore lend themselves to over the counter and self prescribing.

2.10 THE INFINTESIMAL DOSE

In the early days of homoeopathy some of the substances administered to patients were toxic and had to be diluted to reduce any adverse effects. Hahnemann discovered that by diluting and vigorously shaking (succussing) a substance, the potency and latent healing properties of a substance was increased, without burdening the body and without producing uncomfortable physiological side effects associated with material doses of drugs (Geddes and Lockie, 1995:15). This principle can be compared to the Arndt-Schultz

Law of biochemistry, which states that minimum doses of a substance stimulate cellular activity, medium doses inhibit or depress cellular activity and large doses destroy it. Therefore, homoeopathy maintains that smaller minute doses of a drug or substance are needed to elicit a healing reaction within the body (De Scheeper, 2001:39).

2.11 PREVIOUS REASERCH ON HOMOEOPATHIC COMPLEXES

Main (2004) conducted a double blind placebo-controlled study to determine the efficacy of Natura Laboratories Nasosinus[®] (*Hepar sulphuris calcareum* D3, *Nux vomica* D3, *Pulsatilla pratensis* D3) in the treatment of acute sinusitis. 30 participants were selected for the trial and randomly divided into 2 groups, with 15 participants in the treatment group and 15 participants in the placebo group. The Patient Perception Questionnaire was used as a measurement tool. The conclusion of the study was that Nasosinus[®] was not statistically effective in the treatment of acute sinusitis. The researcher determined that this could have been due to the placebo effect, the small sample size, the short duration of patient treatment and monitoring, and the need for a more objective measurement tool.

Lockyear (2003) carried out a double blind placebo-controlled study on the efficacy of a homoeopathic complex (*Cantharis vesicatoria* 12CH, *Equisetum hiemale* 12Ch, *Sarsaparilla* 12CH, *Delphinium staphysagria* 12CH, *Uva ursi* 12CH) in the treatment of nocturnal enuresis, with regards to the number of wet nights per week. 31 children were selected and randomly divided into 2 groups (treatment and placebo). Results showed that the homoeopathic complex did not reduce the incidence of bedwetting in a statistically significant way, although both groups showed an improvement. The researcher concluded that the results could have been due to the placebo effect and the possibility that the complex was inappropriate for treating enuresis as it was formulated to focus only on the urogenital system and enuresis as opposed to the mental and emotional aspects associated with the disorder.

Botha (2001) performed a study to determine the role of Herpin 2[®] (*Arsenicum iodatum* D10, *Bovista gigantean* D6, *Fluoricum acidum* D6, *Graphites* D30, *Hydrastis canadensis* D8, *Lycopodium clavatum* D4, *Sulphur* D30, *Urtica urens* D4) in the treatment of atopic eczema. The sample size was 30 with 15 patients receiving treatment and 15 patients receiving placebo. The study showed an improvement of subjective symptoms in both groups and an improvement in objective symptoms in the treatment group only. However statistically there was shown to be no difference between the groups. This may have been due to the placebo effect and the inclusion of remedies in the complex which antidote each other in action.

Searches of the available literature revealed no other research into the efficacy of a homoeopathic complex in the treatment of job burnout.

2.12 CONSTITUENTS OF THE COMPLEX

The complex utilised in the study was formulated to contain remedies which are known to cover the mental, emotional and physical symptoms associated with burnout (Ross, 2003). The following remedies were included in the complex.

- *Germanium metallicum* is of value for individuals who experience symptoms such as anxiety and nervousness felt in the stomach, intense irritability with an aversion to answering questions. Feelings of impatience and pressure, sudden explosive anger towards those around them. Feelings of despair, failure, demotivation, lethargy, isolation from others, depression and hopelessness (Sherr, 1997:187-196).

This remedy represents mostly the mental and emotional symptoms of burnout, therefore it was utilised in a potency of 30 CH, which is

suited to the treatment of the mental and emotional symptoms of burnout (Jouanny, 1991:96).

- *Nux vomica* is of use in the mental, emotional and physical aspects of burnout. Individuals are mentally sluggish, easily offended, abusive, angry, excitable, impatient and anxious. Of use in people who have become run down by over-work and the resultant abuse of stimulants such as alcohol, coffee, cigarettes and medication in an attempt to cope. Physical symptoms include backache, diarrhoea, vomiting, headaches, palpitations, nervous exhaustion with trembling and insomnia (Castro, 1996:317-321).

This remedy was chosen in a potency of 12 CH, which is an intermediate potency, which covers the treatment of both the mental and physical symptoms of burnout (Jouanny, 1991:94-95).

- *Kalium phosphoricum* is also suited to the treatment of the physical symptoms associated with nervous exhaustion due to prolonged stress and overwork. Symptoms represented by this remedy include mental breakdown after periods of enormous stress, mental fatigue and dullness, headaches from mental exertion, insomnia, offensive diarrhoea and hypersensitivity to stimuli (Kent, 2000).

This remedy was chosen in a potency of 6 CH as this potency is suited to the treatment of mainly physical symptoms (Jouanny, 1991:94-95).

- *Picricum acidum* is best suited to the nervous exhaustion associated with burnout. This remedy treats such symptoms as lack of willpower, disinclination to work and mental prostration after reading or writing. Desire to be alone, inability to collect thoughts. Loss of appetite, insomnia, exhaustion and twitching of muscles. Diarrhoea in persons exhausted by over-work (Morrison, 1993:299-300).

This remedy was included in the complex in a potency of 6 CH, as once again this potency level addresses the treatment of physical symptoms (Jouanny, 1991:94-95).

2.13 RATIONALE FOR A BURNOUT COMPLEX

- Medication such as anxiolytics and anti-depressants, which are often prescribed for burnout, present with their own set of side effects and the possibility of dependence on these drugs, therefore further impairing the burnt out individual's health and work performance (Whybrow, 1997:36). Homoeopathic substances, such as the complex used in the study, are non-addictive and stimulate healing without producing side effects and dependence which would hinder work productivity (Geddes and Grosset, 1997:403).
- One of the aspects of burnout amongst human-services professionals is that of denial, which means that individuals experiencing burnout will not necessarily report their levels of distress or seek professional help for fear of peer ridicule, or for fear of falling short of their own high expectations of themselves. These individuals often seek to relieve their symptoms by self-prescribing of over the counter medication and other substances such as alcohol and illicit drugs (Bateman, 2001:98-100). Therefore the over the counter provision of a viable and safe homoeopathic burnout formulation could benefit burnt out individuals in helping them to prevent and treat their condition safely and independently.
- Organizations and individuals often do not implement burnout intervention strategies due to the cost and time required to do so (Jones, 1997:107-108). Therefore an effective easily available, self-prescribed treatment would eliminate the need for regular time and financially consuming consultations and treatments, while at the same time providing the individual with an introduction to homoeopathy,

thereby opening the avenue to further consultation and treatment with a homoeopathic practitioner for classical constitutional prescribing.

2.14 THE PLACEBO EFFECT

A placebo is a presumably inactive substance used in controlled clinical trials for comparison with presumably active drugs or prescribed to relieve symptoms or meet a patient's demands for treatment (Beers and Berkow, 1999:2585). Placebo can be further defined as a dummy treatment administered to the control group in a controlled clinical trial in order that the specific and non specific effects of the experimental treatment can be distinguished (Saunders, 2004:676).

Although placebos are inactive, clinical studies have shown them to produce beneficial changes in subjective disorders such as anxiety, tension, depression, pain, headaches, angina, bronchitis, insomnia and nausea amongst others (Beers and Berkow, 1999:2585). Changes in objective signs such as blood pressure, skin temperature and heart rate have also been noted (Hart, 1999:31).

Three mechanisms are thought to play a role in placebo-evoked improvement.

- The opioid model: Improvement of condition due to the release of endorphins in response to the placebo stimulus.
- The conditioning model: Previous benefits from taking medication or interacting with a 'white-coated' doctor serve as a conditioning stimulus, to provoke a healing response in an individual, regardless of the inactive status of the placebo.
- The expectancy model: The degree of expectation placed on a treatment will determine the corresponding level of therapeutic change in an individual, therefore the higher the expectancy surrounding a treatment, the higher greater the therapeutic response (Hart, 1999:32).

It has been noted that relief with placebo can occur in >50% of patients thereby making it difficult to ascertain the active drug's efficacy. Therefore in a clinical trial the effects of placebo must be subtracted from those of the active drug, with the active drug performing significantly better than the placebo to demonstrate efficacy (Beers and Berkow, 1999:2586).

CHAPTER 3

RESEARCH AND STATISTICAL METHODS

3.1 SELECTION OF PARTICIPANTS

The method of sampling used was convenience sampling. Volunteers were recruited via advertisements distributed at local health shops, pharmacies, local sports clubs, libraries and in local newspapers. Altogether, 30 participants were selected for the study, based on the inclusion and exclusion criteria listed below. The study was a double blind study. The supervisor drew up a randomization sheet (Appendix E) and the participants were given either treatment or placebo according to this sheet, by the laboratory technician. The group was divided in half with 15 patients in the treatment group and 15 patients in the placebo group. The participants on placebo, though they did not receive medication, did have the benefit of a homoeopathic consultation, which in itself is regarded as therapeutic, as patients got to talk about their problems confidentially. If subjects required further psychological management they were referred to a psychologist. On completion, the study was un-blinded, and the researcher learnt which patients received treatment and which received placebo. At the end of the study, participants who received placebo were given treatment.

3.2 INCLUSION AND EXCLUSION CRITERIA

In order to participate in the study, participants had to be screened according to certain inclusion and exclusion criteria.

3.2.1 INCLUSION CRITERIA

- Participants had to be between the ages of 18-60 years of age.
- Participants had to have a full time job in the human services field.
- Participants had to be literate in English.
- Participants had to exhibit the signs and symptoms of burnout, that is, emotional exhaustion, depersonalisation and reduced personal accomplishment, intense weariness often combined with an inability to sleep, decreased energy, chronic fatigue, recurrent colds, headaches, gastro-intestinal tract disturbances, shortness of breath general aches and pains, depression, hopelessness, irritability, weeping, anger outbursts and sadness (Ellis 1996: 295).

3.2.2 EXCLUSION CRITERIA

- Pregnant females were excluded as symptoms produced during pregnancy are not characteristic symptoms of the patient, but occur for the duration of the pregnancy.
- Participants who had a recent history (over the past 3 months) of the use of barbiturates, tranquillisers, anti-depressants and recreational drugs. Herbal preparations for insomnia and depression are also prohibited.
- Participants must not have a change of lifestyle during the research period including extensive leave, stress relief programmes etcetera.

- If the degree of burnout was too severe or if another psychological condition existed, the patient was referred to a psychologist.

3.3 BOOKING OF APPOINTMENTS

Appointment bookings were done by the researcher at the Homoeopathic Day Clinic at the Durban University of Technology. Each participant was allocated a number according to the randomisation sheet and appointments were made accordingly. Before selection, participants were given the subject information letter to read (Appendix C), and if willing to participate and if they met the criteria, they were given a consent form (Appendix D) to sign.

3.4 PREPARATION OF EXPERIMENTAL MEDICINES

The laboratory technician prepared the placebo drops and the homoeopathic complex in the Homoeopathic Day Clinic dispensary. 1ml of each remedy (*Germanium metallicum* 30 CH, *Nux vomica* 12 CH, *Kalium phosphoricum* 6 CH and *Picricum acidum* 6 CH) was combined and produced to a volume of 5ml in 73% alcohol.

3.4.1 PREPARATION OF THE COMPLEX REMEDY

- 10 ml of lactose granules were medicated at 1% v/v with the complex remedy.
- 10 of these granules were then added to a 25ml bottle containing 18ml of distilled water and 2ml of 96% alcohol, to make up 20ml.
- Each participant from the treatment group was given one 25ml bottle of the complex remedy. One bottle was measured to last a month at a dosage of 10 drops per day.

3.4.2 PREPARATION OF PLACEBO

- 10 unmedicated lactose granules were added to a 25ml bottle containing 18ml of distilled water and 2ml of 96% alcohol, to make up 20ml.
- Each participant from the placebo group was given one 25ml bottle. One bottle was measured to last a month at a dosage of 10 drops per day.

3.5. CONSULTATIONS

Consultations were conducted at the Homoeopathic Day Clinic at the Durban University of Technology. Qualified homoeopaths supervised consultations. The researcher was available to patients at all times if a patient needed help at any point in the trial.

3.5.1. FIRST CONSULTATION

- This began as soon as the subject information letter (Appendix C) was read and the consent form (Appendix D) was signed.
- During this consultation, the researcher took a full homoeopathic case history and performed a physical examination (Appendix B) .
- Participants completed the Maslach Burnout Inventory-Human Services Survey (Maslach, Jackson and Leiter, 1996:43) (Appendix A). Participants were then sent to the clinic reception area to collect their medication, once the case had been discussed with the clinician on duty.
- Medication was dispensed to the respective groups according to the randomisation sheet by the laboratory technician.

- Participants were instructed to take 10 drops of the medication in 1cm of water 30 minutes before breakfast.
- Participants were asked to return after 4 weeks for the second consultation and an appointment was booked.

3.5.2 SECOND CONSULTATION

- During this consultation, participants completed the Maslach Burnout Inventory-Human Services Survey (Appendix A) for the second time.
- The researcher conducted a follow up consultation.
- Patients received their second bottle of treatment. This was a continuation of the treatment they were on (either placebo or complex).
- They were instructed to return after 4 weeks for their final consultation.

3.5.3 THIRD CONSULTATION

- During this consultation, patients completed the Maslach Burnout Inventory-Human Services Survey (Appendix A) for the final time.
- Another follow-up case was taken.
- No further medication was dispensed.

3.6 STATISTICAL ANALYSIS

Statistical Analysis was conducted using the SPSS[®] (version 15) software suite. This statistical software program is manufactured by SPSS Inc, 444N. Michigan Avenue, Chicago, Illinois, USA. Various descriptive and inferential statistical techniques were used. The descriptive procedures used were various tables and graphs and a few summary statistics including, but not limited to, means, proportions and percentages. Inferential statistics included various hypothesis testing techniques. Due to the size of the samples, non-parametric statistical tests were utilised. All the tests set the type 1 error at 5%, or mentioned differently, $\alpha = 0.05$. If the P value was reported as less

than 0.05, a significant result was declared and the Null Hypothesis was rejected.

3.6.1 Procedure 1 – Friedman’s Test

The intra-group analysis was performed using the Friedman’s method. The survey scores between the initial consultation, follow up 1 and follow up 2 were compared. This was done for both the treatment and placebo group. Each subscale of the survey was compared separately.

(i) Hypothesis Testing

The null hypothesis H_0 , states that there is no significant difference between the three consults being compared at the $\alpha = 0.05$ level of significance. The alternative hypothesis H_1 , states that there is a significant difference between the three visits being compared.

ii) Decision Rule

At the $\alpha = 0.05$ level of significance, the null hypothesis is rejected if $P \leq \alpha$ where P is the observed significance level. Otherwise the null hypothesis is accepted at the same level of significance.

3.6.2 Procedure 2 Wilcoxon’s Signed Rank Test

This test was performed to determine between which consultations the difference lay. The test was only performed on the subscales for which Friedman’s Test indicated a significant improvement. This was done for both groups.

(i) Hypothesis Testing

The null hypothesis H_0 , states that there is no significant difference between the three consults being compared at the $\alpha = 0.05$ level of significance. The alternative hypothesis H_1 , states that there is a significant difference between the three visits being compared.

ii) Decision Rule

At the $\alpha = 0.05$ level of significance, the null hypothesis is rejected if $P \leq \alpha$ where P is the observed significance level. Otherwise the null hypothesis is accepted at the same level of significance.

3.6.3 Procedure 3 – Kruskal-Wallis Test

The inter-group analysis was done using the Kruskal-Wallis non-parametric method. Groups one and two were compared to each other in terms of the scores given in each subscale of the survey at each consultation.

(i) Hypothesis Testing

The null hypothesis H_0 , states that there is no significant difference between the three consults being compared at the $\alpha = 0.05$ level of significance. The alternative hypothesis H_1 , states that there is a significant difference between the three visits being compared.

ii) Decision Rule

At the $\alpha = 0.05$ level of significance, the null hypothesis is rejected if $P \leq \alpha$ where P is the observed significance level. Otherwise the null hypothesis is accepted at the same level of significance.

CHAPTER 4

RESULTS

4.1 INTRA GROUP ANALYSIS

4.1.1 GROUP ONE – TREATMENT GROUP

4.1.1.1 Friedman's Test

		Means		P- Value
Subscale	Baseline	Follow up 1	Follow up 2	
Emotional exhaustion	2.67	1.67	1.67	.007*
Depersonalization	2.33	1.90	1.77	.225
Personal accomplishment	2.00	2.10	1.90	.859

*= P-Value of significance

Table 4.1 The Friedman's Test indicated a significant difference in only the emotional exhaustion subscale i.e. the P-Value < 0.05. Therefore further analysis was conducted on the emotional exhaustion subscale using Wilcoxon's Signed Rank Test, which determined between which consultations the significant differences lay. Further analysis of the depersonalisation and personal accomplishment subscales was not conducted as these areas had not displayed a significant difference in P-Values.

4.1.1.2 Wilcoxon's Signed Rank Test

Emotional exhaustion Baseline-Follow up 1	Emotional exhaustion Follow up 1-Follow up2	Emotional exhaustion Follow up 2-Baseline
P-Value= 0.012*	P-Value= 0.333	P-Value= 0.011*

* = P-Value of significance

Table 4.2 The Wilcoxon's Signed Rank Test determined that for the subscale of emotional exhaustion there was a significant difference between baseline and follow up 1, and between follow up 2 and baseline ($P < 0.05$). However there was no significant difference between follow up 1 and follow up 2 ($P > 0.05$).

4.1.2 GROUP TWO – PLACEBO GROUP

4.1.2.1 Friedman's Test

		Means		P-Value
Subscale	Baseline	Follow up 1	Follow up 2	
Emotional exhaustion	2.67	1.80	1.53	0.005*
Depersonalisation	2.43	1.80	1.77	0.091
Personal accomplishment	1.77	1.87	2.37	0.207

* = P-Value of significance

Table 4.3 The Friedman's Test indicated a significant difference in only the emotional exhaustion subscale i.e. the $P\text{-Value} < 0.05$. Therefore further analysis was conducted on the emotional exhaustion subscale using Wilcoxon's Signed Rank Test, which determined between which consultations

the significant differences lay. Further analysis of the depersonalisation and personal accomplishment subscales was not conducted as these areas had not displayed a significant difference in P-Values.

4.1.2.2 Wilcoxon's Signed Rank Test

Emotional exhaustion Baseline-Follow up 1	Emotional exhaustion Follow up 1-Follow up2	Emotional exhaustion Follow up 2-Baseline
P-Value= 0.002*	P-Value= 0.232	P-Value= 0.004*

* = P-Value of significance

Table 4.4 The Wilcoxon's Signed Rank Test determined that for the subscale of emotional exhaustion there was a significant difference between baseline and follow up 1, and between follow up 2 and baseline ($P < 0.05$). However there was no significant difference between follow up 1 and follow up 2 ($P > 0.05$).

4.2 INTER GROUP ANALYSIS

4.2.1 Kruskal- Wallis Test

Subscale		Means		P- Values
		Group 1	Group 2	
Emotional Exhaustion	Baseline	14.23	16.77	0.430
	Follow up 1	13.83	17.17	0.299
	Follow up 2	14.60	16.40	0.575

Depersonalisation	Baseline	15.33	15.67	0.917
	Follow up 1	16.33	14.67	0.603
	Follow up 2	15.97	15.03	0.771
Personal accomplishment	Baseline	13.57	17.43	0.228
	Follow up 1	15.23	15.77	0.868
	Follow up 2	14.37	16.63	0.480

Table 4.5 Group 1 (treatment) and Group 2 (placebo) were compared to each other with regards to the three subscales of the Maslach Burnout Inventory-Human Services Survey. The Kruskal-Wallis Test was utilised to determine any significant differences between the groups. The test demonstrated no significant differences between the groups for all three subscales (i.e. $P > 0.05$).

4.3 DESCRIPTIVE STATISTICS

4.3.1 COMPARISON OF MEANS BETWEEN TREATMENT AND PLACEBO FOR EMOTIONAL EXHAUSTION

	N	Minimum	Maximum	Mean	Std. Deviation
Emotional exhaustion baseline	15	15	54	36.4	11.3
Emotional exhaustion follow up1	15	3	52	28.3	13.8
Emotional exhaustion follow up 2	15	10	50	26.3	12.4

Table 4.6 Showing mean values of emotional exhaustion in the treatment group.

	N	Minimum	Maximum	Mean	Std. Deviation
Emotional exhaustion baseline	15	20	47	39.2	8.0
Emotional exhaustion follow up 1	15	5	43	30.9	10.0
Emotional exhaustion follow up 2	15	12	46	27.6	10.3

Table 4.7 Showing mean values of emotional exhaustion for the placebo group.

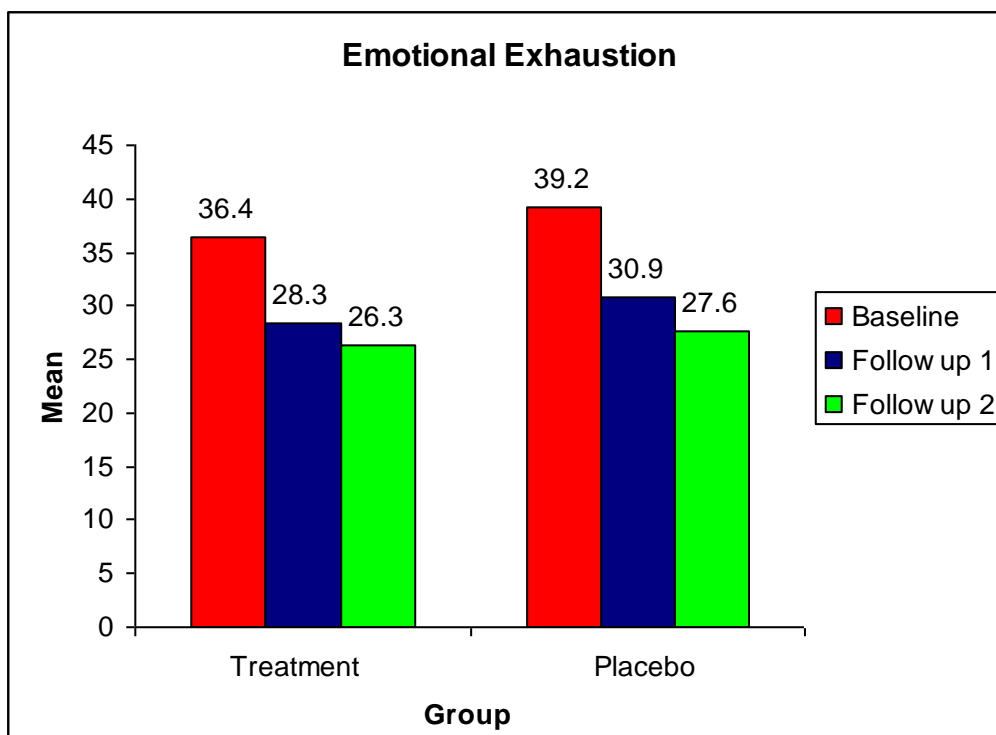


Figure 4.1 Bar chart showing comparison of means between treatment and placebo groups for emotional exhaustion.

4.3.2 COMPARISON OF MEAN VALUES BETWEEN TREATMENT AND PLACEBO GROUPS FOR DEPERSONALISATION

	N	Minimum	Maximum	Mean	Std. Deviation
Depersonalisation baseline	15	2	25	13.4	7.0
Depersonalisation follow up 1	15	0	23	11.4	7.3
Depersonalisation follow up 2	15	0	22	11.7	7.1

Table 4.8 Showing mean values for depersonalisation subscale in the treatment group.

	N	Minimum	Maximum	Mean	Std. Deviation
Depersonalisation baseline	15	3	26	13.6	7.4
Depersonalisation follow up 1	15	3	21	10.0	5.7
Depersonalisation follow up 2	15	2	23	10.7	6.5

Table 4.9 Showing mean values for depersonalisation subscale in the placebo group.

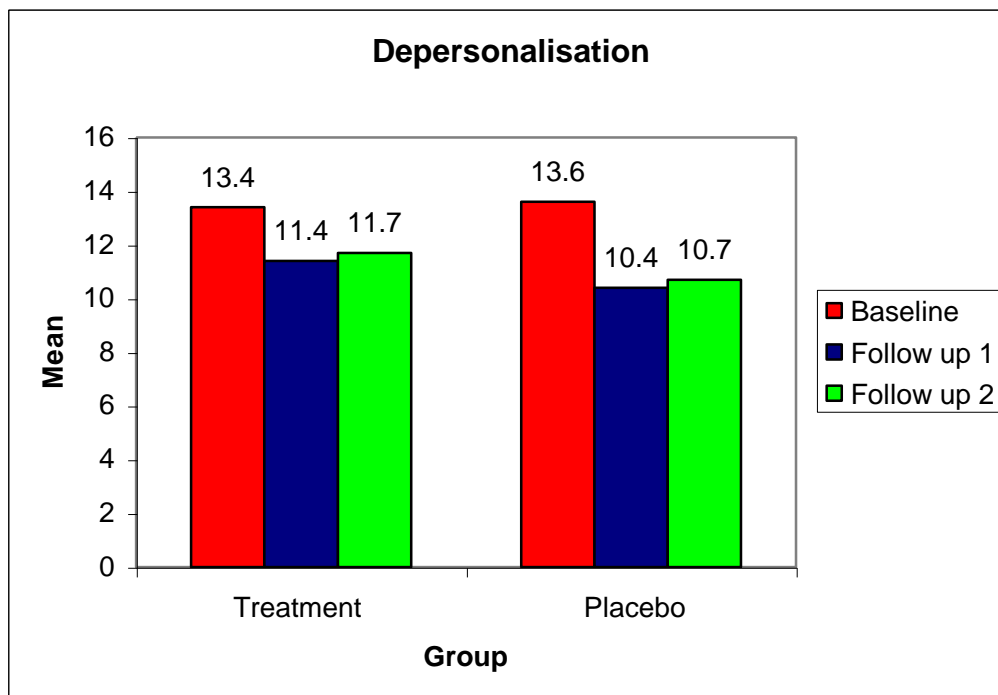


Figure 4.2 Bar chart showing comparison of mean values between the treatment and placebo groups for the depersonalisation subscale.

4.3.2 COMPARISON OF MEAN VALUES BETWEEN TREATMENT AND PLACEBO GROUPS FOR PERSONAL ACCOMPLISHMENT

	N	Minimum	Maximum	Mean	Std. Deviation
Personal accomplishment baseline	15	19	48	30.6	8.2
Personal accomplishment follow up 1	15	22	43	32.4	7.6
Personal accomplishment follow up 2	15	16	44	31.6	8.4

Table 4.10 Showing mean values for the personal accomplishment subscale in the treatment group.

	N	Minimum	Maximum	Mean	Std. Deviation
Personal accomplishment baseline	15	23	41	33.4	5.8
Personal accomplishment follow up 1	15	21	41	33.2	6.6
Personal accomplishment follow up 2	15	18	43	34.0	7.8

Table 4.11 Showing mean values for the personal accomplishment subscale in the placebo group.

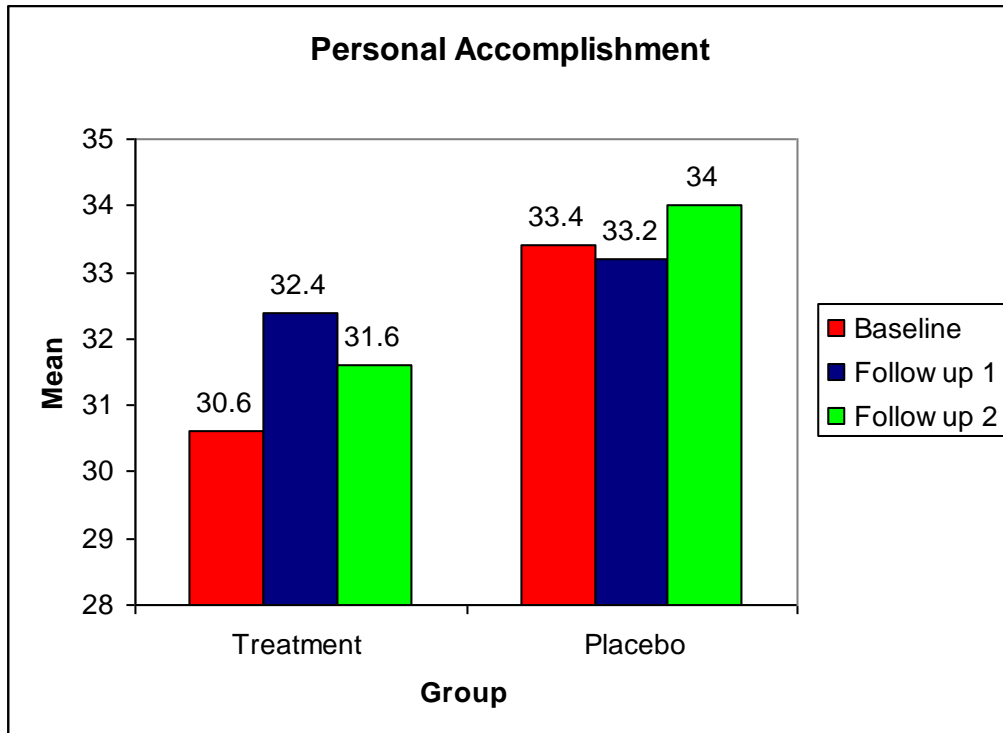


Figure 4.3 Bar chart showing comparison of mean values between the treatment and placebo groups for the personal accomplishment subscale.

4.4 DEMOGRAPHIC FACTORS

4.4.1 GENDER

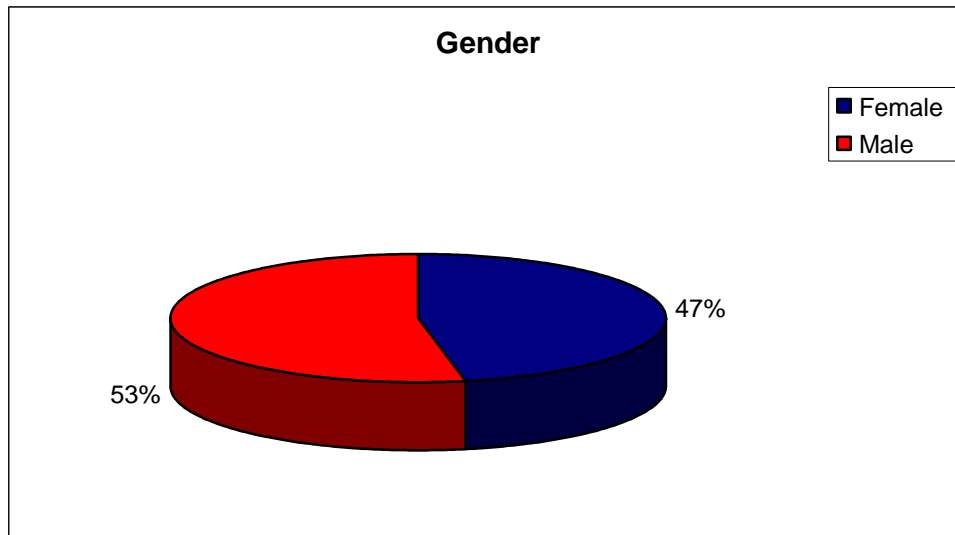


Figure 4.4 Pie chart showing gender predominance of participants.

4.4.2 AGE

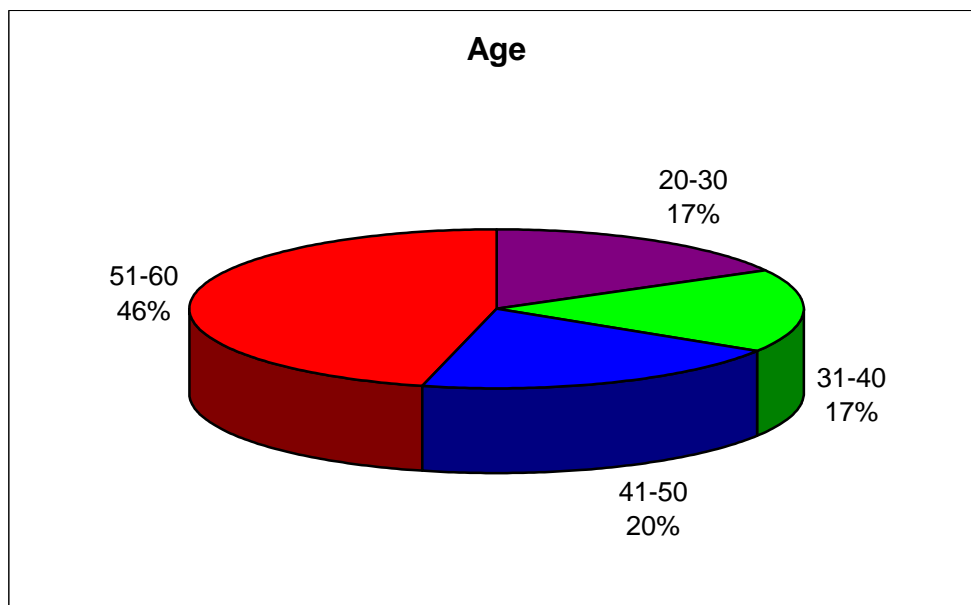


Figure 4.5 Pie chart showing age predominance of participants.

4.4.2 MARITAL STATUS

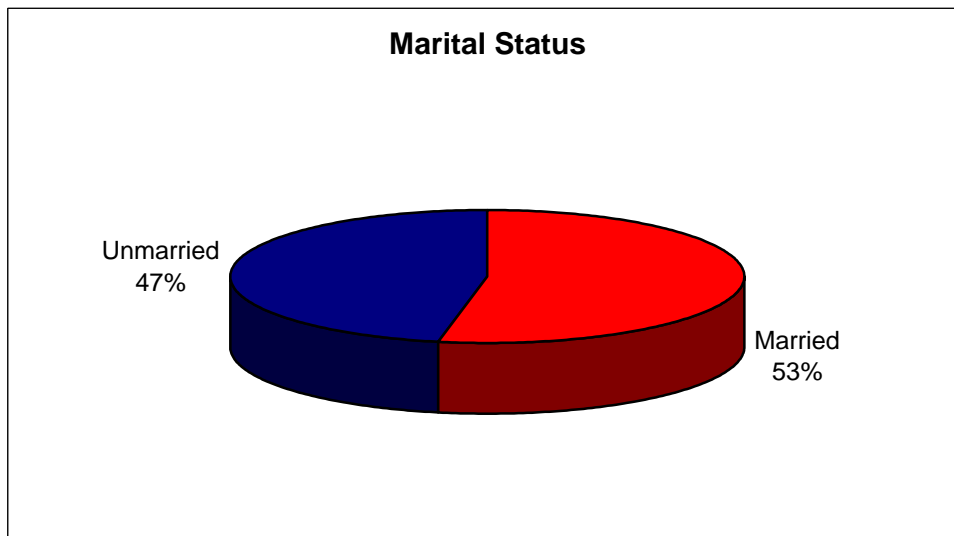


Figure 4.6 Pie chart depicting marital status of participants.

CHAPTER 5

DISCUSSION

The purpose of this double blind placebo-controlled study was to evaluate the efficacy of a homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) in the treatment of job burnout in the human services field, with regards to the patient's responses to the subscales of the Maslach Burnout Inventory-Human Services survey.

The results of the intra-group analysis using Friedman's Test indicated that both Group 1 (treatment) and Group 2 (placebo) reflected a significant improvement in the emotional exhaustion subscale (i.e. $P < 0.05$), whereas the depersonalisation and personal accomplishment subscales did not demonstrate any significant differences for both groups (i.e. $P > 0.05$).

The Wilcoxon's Signed Rank Test was then used to determine between which consultations the differences in the emotional exhaustion subscale lay for both the treatment and placebo groups. The tests reflected that for both groups there was a significant improvement between baseline and follow up 1 (i.e. $P < 0.05$) and between follow up 2 and baseline (i.e. $P < 0.05$). However, no significant difference was noted between follow up 1 and follow up 2 in both groups (i.e. $P > 0.05$).

A further study of the descriptive tables and bar charts of the mean values of each subscale for all consultations of both groups indicated that the emotional exhaustion subscale of both groups showed a significant improvement between baseline and follow up 1 and between follow up 2 and baseline, with a minimal difference between follow up 1 and follow up 2. However the

depersonalisation and personal accomplishment subscales of both groups reflected minimal differences in mean values between consultations.

Inter-group analysis using the Kruskal-Wallis Test however revealed that there was no significant difference between the treatment and placebo groups. Therefore it was determined that the homoeopathic complex used in the study was no more effective than placebo in the treatment of job burnout.

A review of the demographic pie charts indicate that 53% of respondents were female and 47% were male, with the majority of respondents being between 51-60 years of age (46%). It was also noted that 53% of the respondents were married while 47% of the respondents were unmarried, this shows a difference to the demographic factors listed in chapter 2 which states that burnout is more prevalent amongst unmarried persons as opposed to married individuals.

It was observed that most of the respondents presented with high levels of emotional exhaustion, high levels of depersonalisation and moderate levels of personal accomplishment at the initial consultation, with regards to the mean values of each subscale of the Maslach Burnout Inventory – Human Services Survey. Significant improvement was noted in both groups for the emotional exhaustion subscale, with minimal change shown in the depersonalisation and personal accomplishment subscales. Emotional exhaustion represents the beginning stage of burnout, with most of the questions in this subscale evaluating acute aspects of burnout. The improvement noted in this subscale would seem to imply relief of the acute phase of burnout, whereas depersonalisation and a reduced sense of accomplishment represent a more chronic progression of burnout, this would imply that for a significant improvement to occur in these two subscales, treatment and monitoring would have to occur over a longer period to address the chronic nature of these aspects of burnout.

The minimal effect of the complex on job burnout may be due to the fact that a homoeopathic complex only addresses the presenting symptoms of a disease

and not the root cause of illness. Burnout is a chronic condition which arises out of prolonged exposure to stress and presents with a myriad of causative factors and symptoms. Therefore a classically prescribed remedy, which takes into account the root cause and multiple facets of a condition, may be more suited to the treatment of job burnout.

The role of the administered placebo must also be considered in the induction of the placebo effect amongst participants in the placebo group, thereby stimulating an alleviation of burnout symptoms by way of mechanisms discussed in chapter 2. This could account for the improvement in the emotional exhaustion subscale of the placebo group.

Another variable which may have been responsible for the lack of any significant differences between both groups, is the therapeutic capacity of the consultation itself. The consultation provided the burnt out individual with a platform to unburden themselves of stress by expressing their issues and concerns to a 'sympathetic ear'. Many of the participants reported an improvement in their feelings of stress as result of being able to express the dimensions of their experience. This could also have been responsible for the change of values noted in both groups.

Only 30 participants were selected for the study. A larger sample size may have reflected a more varied and statistically significant result.

Furthermore, it was assumed that participants were compliant in the regular taking of their medication. A failure of compliance in the treatment group may have resulted in the overall demonstration of poor treatment performance when compared with placebo.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The results of the study led to the conclusion that the homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) was not effective in the treatment of job burnout, as the complex was shown to be statistically no more effective than placebo.

6.2 RECOMMENDATIONS

The following recommendations are made for further research:

1. Increase the sample size of the study.
2. Conduct a study in which one group receives the complex together with a consultation and another group receives the complex based on a questionnaire but does not undergo a consultation.
3. Conduct a study comparing the efficacy of counselling, nutritional therapy, exercise and relaxation techniques to homoeopathic treatment.
4. Conduct a study to determine the efficacy of including different remedies in a complex for job burnout.
5. Conduct a homoeopathic proving of the complex used in this study, to determine the precise symptomology of the complex.
6. Increase length of study to see if prolonged medication and monitoring would address the chronic aspects of burnout, as it did the acute aspects.

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APPENDIX A

MASLACH BURNOUT INVENTORY-HUMAN SERVICES SURVEY

(Maslach, Jackson, Leiter, 1996)

A. EMOTIONAL EXHAUSTION **SCORE**

1. I feel emotionally drained from my work. ___
2. I feel used up at the end of the workday. ___
3. I feel fatigued when I get up in the morning and have to face another day on the job. ___
4. Working with people all day is a strain for me. ___
5. I feel burned out from my work. ___
6. I feel frustrated by my job. ___
7. I feel I'm working too hard on my job. ___
8. Working with people directly puts too much stress on me. ___
9. I feel like I'm at the end of my rope. ___

B. DEPERSONALISATION

10. I feel I treat some recipients as if they were impersonal objects. ___
11. I've become more callous toward people since I took this job. ___
12. I worry that this job is hardening me emotionally. ___
13. I don't really care what happens to some recipients. ___
14. I feel recipients blame me for some of their problems. ___

C. PERSONAL ACCOMPLISHMENT

15. I can easily understand how my recipients feel about things. ___
16. I deal very effectively with the problems of my recipients. ___
17. I feel I'm positively influencing other people's lives through my work. ___
18. I feel very energetic. ___
19. I can easily create a relaxed atmosphere with my recipients. ___
20. I feel exhilarated after working closely with my recipients. ___
21. I have accomplished many worthwhile things in this job. ___
22. In my work I deal with emotional problems very calmly. ___

SCORING KEY

- 0 = Never**
- 1 = A few times a year or less**
- 2 = Once a month or less**
- 3 = A few times a month**
- 4 = Once a week**
- 5 = A few times a week**
- 6 = Every day**

APPENDIX B

CASE HISTORY QUESTIONNAIRE

(Bates, 1995)

DATE: _____

PATIENT

NO.: _____

SURNAME: _____

FIRST

NAMES: _____

AGE: _____

SEX: _____

OCCUPATION: _____

MARITAL STATUS: _____

CHILDREN _____

ADDRESS: _____

TELEPHONE: _____

MAIN COMPLAINT: WHAT SEEMS TO BE THE PROBLEM?

HISTORY OF MAIN COMPLAINT:

(ONSET, LOCATION, AETIOLOGY, DURATION, CHARACTER, MODALITIES, CONCOMITANTS, RADIATION, PATIENTS RESPONSE TO SYMPTOMS)

PAST MEDICAL HISTORY:

(RHEUMATIC FEVER, PNEUMONIA, TUBERCULOSIS, JAUNDICE, HIGH BLOOD PRESSURE)

PAST SURGICAL HISTORY:

DID YOU HAVE ANY OPERATION SINCE YOU WERE BORN?

CHILDHOOD DISEASES/ILLNESSES:

(MUMPS, MEASLES, CHICKEN POX, GERMAN MEASLES, TUBERCULOSIS)

TONSILS:

ALLERGIES:

VACCINATION HISTORY:

FAMILY HISTORY:

(TB, DIABETES, HEART DISEASE, HYPERTENSION, STROKE, ASTHMA, ARTHRITIS, ANAEMIA, HEADACHES, EPILEPSY, ECZEMA, KIDNEY DISEASE, HAYFEVER, CANCER, MENTAL ILLNESSES)

MOTHER:

FATHER:

SIBLINGS:

GRANDPARENTS (MOTHER AND FATHER):

SOCIAL HISTORY:

1. WHAT ARE YOUR HOBBIES, LEISURE ACTIVITIES AND EXERCISE?
2. DO YOU SMOKE?
HOW MANY?
3. DO YOU DRINK ALCOHOL?
HOW MUCH?
HOW OFTEN?

GENERALS:

ENERGY LEVELS

SLEEP

DREAMS

APPETITE

FOOD LIKES/DISLIKES

WEATHER LIKES/DISLIKES

THIRST

PERSPIRATION

SEXUAL LIBIDO

MENSES

STDS

SUPPLEMENTS AND OTHER MEDICATIONS

SYSTEMS REVIEW:

HEAD:

- HEADACHES – Types?
- Location?
 - Frequency?
 - What makes it better/worse?
 - Associating symptoms?

EYES:

(Vision, glasses, contact lenses, pain, redness, double vision, cataracts)

EARS:

(Hearing problems, vertigo, tinnitus, earaches, infections, discharge)

NOSE AND SINUSES:

(Pain, congestion, nosebleed, frequency of colds, hayfever, loss of smell)

MOUTH AND THROAT:

(Frequency of sore throat, bleeding gums, sore tongue, breath odour, loss of taste)

NECK:

(Swollen glands, pain or stiffness in the neck)

RESPIRATORY SYSTEM:

(Chest pain or discomfort, hypertension, rheumatic fever, murmurs)

GASTROINTESTINAL SYSTEM:

(Heartburn, anorexia, nausea, vomiting, abdominal pains, haemorrhoids, constipation and diarrhoea)

URINARY SYSTEM:

(Infection, burning and pain on urination)

GENITAL SYSTEM:

Female – menses

- discharge/leucorrhoea

Male – impotence

- sexual interest

MUSCULOSKELETAL SYSTEM:

(Joint pain, stiffness, arthritis, gout, backache)

NEUROLOGICAL SYSTEM:

(Numbness, paralysis, weakness, faintness)

ENDOCRINE SYSTEM:

(Thyroid trouble, diabetes)

ON EXAMINATION:

VITAL SIGNS:

PULSE

BLOOD PRESSURE

RESPIRATORY RATE

TEMPERATURE

WEIGHT AND HEIGHT

GENERAL OBSERVATIONS:

(State of health, signs of distress, skin colour and possible lesions, sexual development, posture, motor activity and gait, dress, grooming and hygiene, odours of the body and breath. Facial expression, note of awareness and level of consciousness, listen to patient's speech)

GENERAL OBSERVATION:

HEAD: inspection and palpation

Note any – deformities

- lumps
- tenderness, other lesions

FACE: inspection and palpation

Note facial expression and contours, symmetry, involuntary movements, oedema, masses and facial pain.

EYES: inspection and palpation

Note position and alignment.
Note pupil size, shape, equality.
Note any redness, swelling, vascular pattern, nodules.

NOSE AND PARANASAL SINUSES:

Inspection and palpation

External surface-asymmetry, deformity, inflammation.
Internal surface-Nasal mucosa-colour, swelling, exudates, bleeding.
Nasal septum-bleeding, crusting, perforation or deviation
Inferior, medial turbinate and middle meatus-colour, swelling, exudates and Polyps.

Palpate the sinuses-frontal sinus tenderness

Maxillary sinus tenderness

Postnasal drip-colour, odour, quantity, frequency.

MOUTH AND PHARYNX

Lips-colour, moisture, swelling.
Mouth-breath, taste, pain, lesions.

Teeth-carries, pain, abnormalities in shape, colour and position.
Pharynx-tonsils, swellings, lesions, colour, ulceration, uvula.

EARS

Ear drum and canal-discharge and foreign bodies, redness and swelling, cerum, colour and contour.
-handle of malleus
-cone of light
-perforations

NECK

Stiffness and pain
Thyroid gland
Tracheal deviation
JVP
Lymph nodes

THORAX- inspection, palpation and auscultation

- chest wall movement and shape
- auscultation of heart and lungs

ABDOMEN - inspection, palpation and auscultation

- pain, tenderness, guarding spleen, liver, kidneys.

BACK – inspection and auscultation

- symmetry of body
- curvature and orientation of spine
- posture, any restricted movements.

UPPER AND LOWER LIMBS

-hair distribution, colour, temperature, any lesion, any pain and muscle conditions.

AXILLAE- inspection and palpation

4 areas – central - deep
distal
pectoral/anterior
subscapular/posterior
also - supraclavicular
infraclavicular

APPENDIX C

SUBJECT INFORMATION LETTER

TITLE OF RESEARCH PROJECT: The effectiveness of a homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) in the treatment of Job Burnout in the Human Services Field.

NAME OF SUPERVISOR: Dr. Ingrid Couchman, M.Tech. Hom. (TN)

NAME OF CO-SUPERVISOR: Dr. Ashley Ross, B.Mus (UCT); M.Tech. Hom(TN)

NAME OF RESEARCHER: Vimlen Vaithilingam

Dear participant

Thank you for your time and interest in reading this letter.

I am a student at the Durban University of Technology. In order to qualify as a homoeopath, a mini-dissertation has to be completed in order to obtain a master's degree. This study seeks to evaluate the effectiveness of a homoeopathic complex in the treatment of job burnout in the human services field.

The clinical trial will be conducted at the Homoeopathic Day Clinic during afternoon sessions under the supervision of a qualified and registered homoeopath.

METHOD OF STUDY

Once you have fulfilled these criteria and are willing to participate, you will be required to sign an informed consent form and you will be accepted into the study. The study will be run over 2 months. You will be required to come in for consultations at 4-week intervals, therefore you will be required to come in for 3 consultations. During these consultations you will be required to complete the Maslach Burnout Inventory-Human Services Survey (MBI-HSS). All information imparted to the researcher by your self is strictly confidential.

One of the elements of the study that make it scientifically acceptable is that it is a "double blind placebo controlled" study. This means that 50% of participants will receive active treatment and 50% will receive placebo, which looks and tastes the same as active treatment but is not medicated. "Double blind" implies that neither the researcher nor the participant will know who is receiving what until the end of the data collection phase, when the code is broken in order to analyse the data statistically.

In this study, participants will be randomly divided into 2 groups: 15 participants will be placed in the treatment group and 15 participants will be placed in the placebo

group. There is a 50% chance that you may receive placebo, and if this is the case, you will be entitled to free homoeopathic treatment at the end of the trial.

Please note that your participation in this study is on a purely voluntary basis and the consultation and treatment costs will be covered by the Durban Institute of Technology.

QUALIFYING CRITERIA

The following criteria will have to be met by you, the participant, in order to participate in this study:

1. Individuals must be between the ages of 18-60.
2. Individuals must be currently employed and working full-time in the human services field.
3. Individuals must be literate.
4. Females who wish to participate must not be pregnant.
5. Individuals must not have a recent history (over the past 3 months) of the use of medications such as barbiturates, tranquilisers, anti-depressants and recreational drugs. Herbal preparations for insomnia are also prohibited.
6. Participants must exhibit signs and symptoms of burnout, that is, emotional exhaustion, depersonalization, reduced personal accomplishment, intense weariness, insomnia, fatigue, recurrent colds, headaches, gastro-intestinal disturbances, shortness of breath, general aches and pains, depression, hopelessness, irritability, weeping, anger outbursts and sadness.
7. Participants must not have a change of lifestyle during the research period including extensive leave, stress relief programmes etcetera.

RISKS AND BENEFITS

There is a possibility that there might be a slight increase in presenting symptoms at the commencement of treatment. Should this occur, it is usually very transient in nature and in homoeopathy, it is regarded as a good sign. You are free to withdraw from this study at any time and are not obligated to provide any reason for your withdrawal.

There is also a possibility that the treatment provided may be beneficial to you, by treating the symptoms of burnout. Please note that all patient information is strictly confidential.

If you have any questions about this study, please feel free to contact the supervisors or the researcher on the following numbers:

Dr. Couchman, M.Tech.Hom (TN) – (031) 373 2041

Vimlen Vaithilingam – 082 8385421

Thank you for your kind assistance and valuable participation in this study
Vimlen Vaithilingam

Department of Homoeopathy, Durban University of Technology

APPENDIX D

INFORMED CONSENT FORM

TITLE OF RESEARCH PROJECT: **The effectiveness of a homoeopathic complex (*Germanium metallicum* 30CH, *Nux vomica* 12CH, *Kalium phosphoricum* 6CH, *Picricum acidum* 6CH) the treatment of Job Burnout in the Human Services Field.**

NAME OF SUPERVISOR: Dr. Ingrid Couchman, M.Tech. Hom. (TN)

NAME OF CO-SUPERVISOR: Dr. Ashley Ross, B.Mus (UCT); M.Tech. Hom(TN)

NAME OF RESEARCHER: Vimlen Vaithilingam

PLEASE CIRCLE THE APPROPRIATE ANSWER:

- | | |
|--------------------------------------------------------------------------|--------|
| 1. Have you read the subject information letter? | YES/NO |
| 2. Have you had an opportunity to ask questions about the study? | YES/NO |
| 3. Have you received satisfactory answers to your questions? | YES/NO |
| 4. Have you had the opportunity to discuss this study? | YES/NO |
| 5. Have you received enough information about this study? | YES/NO |
| 6. Who have you spoken to? _____ | |
| 7. Do you understand the implications of your involvement in this study? | YES/NO |
| 8. Do you understand that you are free to withdraw from this study: | YES/NO |
| a) at any time | |
| b) without having to give a reason for withdrawing, and | |
| c) without affecting your future health care | |
| 9. Do you agree to voluntarily participate in this study? | YES/NO |

If you have answered no to any of the above, please obtain the information before signing.

PATIENT NAME: _____

SIGNATURE: _____

APPENDIX E

RANDOMISATION SHEET(Compiled by Dr.I Couchman on 23/02/05)

Patient number	Complex	Placebo
1	X	
2		X
3	X	
4	X	
5		X
6	X	
7		X
8	X	
9		X
10	X	
11		X
12	X	
13	X	
14		X
15	X	
16		X
17	X	
18	X	
19		X
20		X
21	X	
22		X
23	X	
24		X
25	X	
26		X
27	X	
28		X
29		X
30		X