A REVIEW OF THE HOMEOPATHIC RESEARCH STUDIES PERFORMED AT THE TECHNIKON WITWATERSRAND AND A META-ANALYSIS OF THE HOMEOPATHIC SIMPLEX STUDIES PERFORMED ON HUMAN SUBJECTS IN THE FORM OF RANDOM CONTROLLED TRIALS

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DECLARATION

I, Marianne Baasch, declare that this dissertation is original. It is being submitted to the Technikon Witwatersrand for the degree: Master of Technology in Homeopathy. It has not been submitted previously to this or any other institution for the purpose of obtaining a qualification.

(Signature of Candidate)

14th **Day of** December **, 2004.**

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ABSTRACT

Training of homeopaths is fairly new in South Africa. Like any new discipline, problems in training and in the development of the course have emerged. The most persistent problem that has been found is that of homeopathic research. International homeopathic research is not plentiful and has it's own problems, but homeopathic research in South Africa, at the Technikon Witwatersrand in particular, has been an issue that has delayed the graduation of many homeopathic students.

This study was conducted in order to examine multiple variables that could contribute to the problems with homeopathic research at the Technikon Witwatersrand. It was thought that by examining these variables the positive and negative aspects of the homeopathic research at the Technikon Witwatersrand would become more evident. A sample group of 28 random controlled trials performed on human subjects was chosen. A further limitations was imposed in terms of time constraints, i.e. only studies before 22nd April 2003 were used. Studies were also only used if the remedies administered were homeopathic simplexes. Eventually only 26 studies could be used as 2 were missing from the library.

A questionnaire was drawn up, and data was extracted from the research studies. This data was statistically analysed and certain trends were found to have emerged. The design of the studies was generally found to be good, with a high prevalence of double-blinding, use of control groups and proper randomisation. Sample numbers of the studies were perceived by the individual researchers to be too small, which affected the studies statistical significance. Statistical significance was claimed in 50.0% of the research studies, but these research studies had such low sample numbers that coincidence could not be ruled out. The demographic information available in almost all studies was very limited, not allowing for follow up studies in the future. Bias in terms of interpretation and presentation of data was sometimes present, but generally this was not seen to be a problem. Subjects were well screened

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Chapter One

1.1 Introduction

Research of any sort requires constant evaluation and development in order to be able to progress in quality and validity (Das, 2002). At the Technikon Witwatersrand in Johannesburg the research in the Homeopathy department is a fairly new development that has grown from its beginnings in 1998 to it's present state. This has been a journey fraught with uncertainty, achievement and controversy (Solomon, 2004). The traditional scientific researcher's understanding of what constitutes valid research is inflexible and prescriptive (Cassam, 2000), and is also only suited to one facet of homeopathy, namely clinical rather than classical homeopathy. Traditional scientific medical research centres around testing the action of a particular substance or medicine on a disease. Often the person carrying that disease appears to be secondary to the disease, whereas in homeopathy the treatment is individualised (Cassam, 2000), i.e. it is patient centred. Homeopaths treat by stimulating the Vital Force of the patient (Hahnemann, 1997), so that in effect it is the patient that is overcoming the disease (Handley, 1998), not the medicine. This is in direct opposition to the present day allopathic medical procedures of treatment (Das, 2002), in which the disease or its causative organism is treated rather than the individual, as happened in the past according to Hildegard von Bingen (Schäfer, 1996).

In contrast to the wealth of documented allopathic research that is being produced, homeopathic research is meager and inconsistent in its methodological approach (Das, 2002). Although it originated in the eighteenth and early nineteenth centuries in the provings of Samuel Hahnemann and Constantine Hering (Handley, 1998), homeopathic research has fallen victim to the tyranny of science (Cassam, 2000; Feyerabend, 1978), and most research is being conducted along the same guidelines prescribed for allopathic research. Whether this approach is appropriate to homeopathic research is unclear at this point (Cassam, 2000); clarity will most likely only emerge as more research is performed and analysed.

research with its attendant methodology, which is appropriate and uniquely suited to homeopathy (Cassam, 2000).

1.4 Importance of the Study

Research in any field is necessary in order to grow and achieve recognition in that field. Homeopathic research that is invalid and dubious in its methodological quality undermines the professional integrity of the homeopath (Milgrom, 1999) and casts doubts on the validity of the treatment modality (Taylor *et al,* 2000). Research that is consistent and thorough, methodologies that are logical and transparent, a minimum of bias in interpretation and presentation, as well as a competent statistical analysis of the data produced in the research studies will all increase the validity of the research being conducted. This does not necessarily mean that such research is good homeopathic research or that there is only one valid form of homeopathic research (Cassam, 2000). Homeopathy is a multi-facetted discipline that includes aspects of the physical, mental, emotional and spiritual realms, and research in homeopathy is unlikely to be less complicated or less flexible than the modality of treatment itself (Rees, 1999).

Chapter Two

REVIEW OF LITERATURE

2.1 The Review

According to the Oxford English Dictionary a review is defined as:

> *"the general account or criticism of a literary work (especially a new or recent one) usually published as an article in a periodical or newspaper"*

Until recently reviews were regarded as the only viable way in which to scrutinise and criticise large quantities of information contained in a selection of research studies. Often the variety of factors being examined does not allow for a coalescence of information. Occasionally, however, these factors are similar enough to be combined and analysed in a meta-analysis (Egger and Smith, 1997). When this is impossible, a review still needs to be performed to express the collection of data that has been acquired by exploring an entire body of research on one topic.

Reviews are an acknowledged form of presenting a mainly qualitative analysis of a group of studies (Egger and Smith, 1997). Although not precise and though subjective by their very nature, reviews are an accepted form of critique of scientific research studies.

2.2 The Meta-Analysis: History and Development

In 1976 Gene Glass, a psychologist with a background in statistics realised that the methods of analysing large amounts of information were inadequate. His concept of a meta-analysis, literally a "shared" analysis of data from different sources (Little *et al,* 1973), is widely used nowadays. Glass suggested that by collecting data of a similar sort from different sources, a general overview and understanding of a particular subject under investigation was more likely to become evident (Anon, 2002). He defined a meta-analysis as "an analysis of analyses" (Anon, 2002).

In a meta-analysis, studies of a similar type investigating a subject are broken down into their common denominators. These common denominators are then correlated and all data is re-analysed to allow for a more broad-based result (Egger *et al,* 1997). This immediately means that the subject or sample group increases in size, thereby giving the resultant meta-analysis greater statistical validity. It also implies that small deviations or side effects that have emerged in a few studies, will become statistically reinforced, if they re-occur in other studies (Smith *et al,* 1997). If they do not re-occur, they will then be understood to be an aberration or even possibly an artefact of the study.

Although widely used today, particularly in scientific and medical research, meta-analysis is controversial. A good meta-analysis must be very well structured in order to avoid bias, and should ideally be performed by a group of emotionally and financially disinterested researchers (Smith *et al,* 1997). Access to all necessary data should ideally be good, and selection of studies should be careful, systematic and well defined. Methodological screening is important and guarantees a good, scientifically acceptable standard of study being included. Mention and discussion of studies that were excluded from the study due to non-compliance with the selection criteria is vital. It allows later comparison and criticism of the study, and omits bias due to exclusion and inclusion (Smith and Egger, 1998).

Meta-analyses and reviews are becoming inextricably linked. The Cochrane Methodology Register recommends the use of meta-analysis wherever possible in the review situation (Clarke and Oxman, 2002) to increase the applicability of the studies in the clinical situation (Smith and Egger, 1998).

2.3 History of Homeopathic Research at the Technikon Witwatersrand

The training course for homeopathic practitioners was started at the Witwatersrand Technikon in 1994 (Solomon, 2004). The structure of the course was based on a homeopathy course, which started in Durban five years previously (Ross, 2004). The Durban course started their research component therefore approximately five years prior

to the Johannesburg Technikon Witwatersrand, which produced its first finished research thesis in 1998. Unfortunately there was not a lot of cooperation between the two different schools of homeopathy, and each School of Homeopathy dealt with research in a quite different manner (Solomon, 2004). The Technikon Witwatersrand had at the time not yet developed the preferred procedures connected to doing research (Solomon, 2004). This was perhaps because Technikons have more traditionally been perceived as practically oriented vocational institutes rather than tertiary institutes that generate research. This resulted in student researchers initially being unaware of the requirement to lodge copies of their research theses with the Technikon Library (Solomon, 2004). The ultimate consequence of this was an incomplete record of the body of the research done at the Technikon Witwatersrand. This body of research comprised 97 research theses when the present thesis was first proposed, i.e. theses that were completed before 22nd April 2003. On average 20 more research theses are being added to this list with each year.

2.4 Problems in Research

Research the world over suffers from certain common problems. These problem issues directly affect the possible levels of validity of that research (Clarke and Oxman, 2000). In terms of the international scientific research community, the biggest issues are those of bias and of the methodology applied to the individual design of the research study (Clarke and Oxman, 2000).

Bias enters research through a variety of ways (Clarke and Oxman, 2000; Egger and Smith, 1998). It can originate in the attitudes of the researchers themselves, who may tailor the outcomes of a research to reflect their desired result. It can also originate in the funding of the research (Clarke and Oxman, 2000; Egger and Smith, 1998), which may reflect on the interpretation of the results in an unjustifiably positive way. Funding for publication of an unfavorable study may also not be forthcoming, as it is not to the advantage of the funding party to reveal the negative outcomes of a study of the efficacy of their product.

Bias can enter into the publication of a study by a journal through non-publication of negative studies or foreign-language studies. Egger and Smith discussed the various factors creating an environment of bias in terms of publication of studies. These factors were language of publication, lack of significance of results and publication in a less developed country. Non-English language research studies are unlikely to be published in first-world scientific or medical journals as these are predominantly published in English and these studies therefore receive less exposure in the international research community. It has also been found that in less developed countries the majority of studies published are those with positive outcomes. Although the negative or inconclusive outcomes also contribute to the fund of knowledge with respect to the condition or substance being researched, they are disregarded to a great extent (Egger *et al,* 1997).

In terms of conducting a meta-analysis, bias can enter in various ways. Using only studies published in big or first world journals, published in English (Egger and Smith, 1998), or garnered only from one source of information, leads to exclusion bias. English language studies and studies published in big or first world journals have also been shown to be more frequently cited in literature reviews, to be repeatedly published and published in more than one publication. Publication of research studies with positive outcomes is more frequent and therefore positive outcomes get more exposure. This can lead to inclusion bias if other comparative studies with possibly negative outcomes, which may not have been published, are therefore not included in the meta-analysis. Location of the studies selected for a meta-analysis must also not be done on an exclusive basis. Studies should ideally be drawn from as many sources as possible, within the limitations of eligibility defined by the study (Egger and Smith, 1998).

Selecting studies with known outcomes can bias the researcher's choice of studies in such a way as to manipulate the outcomes of the meta-analysis (Egger and Smith, 1998). The selection should ideally be done in a blinded fashion, the researcher being unaware of the author of the study under scrutiny and being unfamiliar with the study itself. This allows an unbiased, impartial assessment of the quality and validity of the study itself and of its methodological integrity.

Weighting of studies in meta-analysis attempts to correct the bias that creeps in when different sample numbers are combined to form a joint study (Egger *et al,* 1997). A study with a larger sample number receives greater weighting than a smaller study. Other factors like duration, methodological integrity and publication bias can also affect the weighting of the study (Egger and Smith, 1998). As a consequence of meta-analysis, a sample size appropriate to the type of research being conducted may be calculated (Egger and Smith, 1997).

Consistency and transparency of research methodology is the other main factor affecting the selection of studies for inclusion in a meta-analysis (Egger *et al,* 1997). Methodology of research cannot be standardised as this would affect the creative, exploratory role of research. Certain basic principles for research procedures, however, should be accepted as promoting better quality and scientifically more viable research results (Clarke and Oxman, 2000). Methodological quality and integrity are largely predictive of a good quality research study, regardless of outcomes achieved. Methodology needs to be logical, based on sound scientific or empirical principles and consistent in terms of execution (Clarke and Oxman, 2000). If the research methodology is flawed, the outcomes will be affected and the integrity of the research study will have been compromised (Egger *et al,* 1997).

2.5 Problems in Homeopathic Research

Homeopathic research today suffers primarily from the lack of confidence of its researchers (Das, 2002; White, 2002; Boon and Verhoef, 2002). Research in homeopathy has a very long history, one of the longest of all the scientific disciplines. In 1790 Hahnemann performed the first proving of a medicinal substance on himself after having read and translated the *Materia Medica* of William Cullen. Hahnemann noted that Chinchona bark, known by him as a treatment for malaria, was reputed by Cullen to cure malaria due to it's "bitter principles". He decided to test the effects of Chinchona on himself and therefore ingested fairly high doses of the bark of the Chinchona tree. The symptoms elicited closely resembled the symptoms of malaria, and this experiment

formed part of the very first homeopathic proving or, in effect, the very first homeopathic research. Hahnemann also formulated the first and most important law of homeopathy from this, the Law of Similars. *"Similia similibus curentur"* states that similars cure similars, i.e. that a substance eliciting symptoms similar to the symptoms of an illness, can be used to cure that illness (Handley, 1998).

Hahnemann and his various students continued to perform provings and built up an extensive homeopathic *Materia Medica* based on those provings (Handley, 1998; Signorini *et al,* 2000). Each set of provings conducted by Hahnemann and his students was later collated to form what was termed a "drug picture" of the substance being proved. Hahnemann, unlike the homeopathic researchers of today, did not lack in confidence and was in fact an extremely controversial and opinionated figure in the medical community of Leipzig in Germany. His criticisms of the methods of the medical figures of the day were published in a variety of medical journals, culminating in the criticism of the treatment of the Emperor Leopold II by means of extensive bloodletting, resulting in Leopold's eventual death in 1792 (Handley, 1998).

Homeopathic research today still suffers from constant derision from the allopathic medical research community (Cassam, 2000; Walach, 1998). Not only does no one truly understand the exact mechanism of homeopathic medicines, the research being produced to elucidate that mechanism sometimes proves to be irreproducible. This immediately calls forth accusations of falsification and quackery. For example, Benveniste's research on the molecular imprinting of water, termed the "memory of water" was ridiculed and belittled in a review by the British journal *Nature* (Cassam, 2000). Although no criticism could be leveled at his research procedures, the critics of his research did not understand the research as presented, and could not reproduce it by themselves (Cassam, 2000). A parallel achievement by H.J. Kimble of the California Institute of Technology and S.J. van Enk of Bell Laboratories in New Jersey was reported in The Star, Johannesburg, on the 17th June 2004, and declared the achievement reported in 2004 in the same journal, *Nature,* as being:

"a landmark advance."

The phenomenon under examination here was entanglement, and the field of research, that of computers. Entanglement, once derided by Einstein as:

"spooky action at a distance"

was later proven to exist as a laboratory phenomenon.

Clinical research methods in homeopathic research are often inconsistent and flawed, often no placebo control groups are being used to check the total effect of the homeopathic medication. A variety of studies have been performed to ascertain whether the effect of homeopathic medicines is evidenced over and above the accepted levels of placebo action. From these, it is clear that homeopathic medicines are very much more effective than a placebo in the treatment of certain conditions (Taylor *et al,* 2000). The purported strength of action of placebos (Beecher, 1955) has also been challenged more recently (Kienle, 1996), which would mean an overall positive change in the "real" action of homeopathic substances in comparison with placebos.

The use of placebo control groups is also being called into question in allopathic research more recently (Clarke and Oxman, 2000). The Cochrane Reviewers Handbook supports the use of trials that are not placebo controlled and also non-randomised. It adds that more and more of these non-randomised research studies should be included, especially into meta-analyses and reviews. They propose that the weighting of these studies within a meta-analytic study should be adjusted, giving them less value on a statistical basis. It also comments that by excluding these studies valuable information is being ignored or lost (Clarke and Oxman, 2000). Similarly valuable information on the effectiveness of homeopathic remedies is lost to the homeopath and the allopathic medical community because we are told to ignore all non-randomised and all uncontrolled research.

Randomised clinically controlled trials are not truly suitable to the test the action of homeopathic medicines (Cassam, 2000). This is due to the fact that homeopathy is a

modality of therapy based on the totality of symptoms of the patient. Each patient is prescribed his or her appropriate remedy as directed by the totality of their symptom picture as it matches up to the totality of a drug picture. This means that randomisation is not at all a feature of prescribing a homeopathic remedy. Randomised clinically controlled trials must be understood to be a compromise between homeopathic and allopathic medical research. Limitations in the achievements of these randomised clinically controlled trials must also be understood to be as a result of that compromise.

The event of similimum research studies is in itself an acknowledgement that a new type of research, unlike any in the allopathic medical research body, is needed in homeopathic research. In similimum research, subjects are treated with correctly matched homeopathic remedies. In terms of treating a particular disease, the overall effectiveness of homeopathic treatment as a whole is being assessed. The action of one particular substance on that particular disease is not the issue here.

Other obvious problems like a lack of funding are not easily going to be overcome. Generally speaking, allopathic medical research is funded by pharmaceutical companies or by government bodies on the recommendation of the pharmaceutical companies. Homeopathic pharmaceutical companies gross only a tiny fraction of the world's economic production, whilst allopathic medical pharmaceutical companies make the most money throughout the world in the entire economic sector.

Homeopathic researchers are also new to the discipline of research (Boon and Verhoef, 2002), especially in South Africa (Solomon, 2004). This leads to a dearth of competent, experienced and trained researchers who are able to competently and effectively supervise research in the academic sphere. It is important to produce well-conducted and publishable research that can be shared with the international research community to the benefit of all, but this is difficult in light of the lack of established research procedures and protocols. The consequence of this is a lack of confidence in the homeopathic researcher and a vulnerability to criticism and derision (Boon and Verhoef, 2002).

2.6 Problems in Homeopathic Research at the Technikon Witwatersrand

In 1998 the supervisors at the Technikon Witwatersrand had to supervise their first research studies. Unlike other academic disciplines, homeopaths had not previously been obliged to conduct research and therefore no experienced and trained staff existed (Solomon, 2004). Through a trial and error process and through extensive involvement with external supervisors, experience and understanding of research procedures was gradually achieved. Many of the research studies performed at the Technikon Witwatersrand were inappropriate to homeopathic research, and their effectiveness as homeopathic research suffered as a result. This was later realised and the studies gradually moved away from the starting point of *in vitro* studies to randomised clinically controlled trials and similimum studies conducted mainly on human subjects. A standardised sample number of 30 subjects, inclusive of placebo and experimental groups, was decided on. This small sample number was chosen because the homeopathic Masters degree consists of course work, clinical internship and a partial fulfillment Masters thesis (Solomon, 2004; Razlog, 2004), and this was seen as adequate for the purpose.

The students at the Technikon Witwatersrand have seen their research as a major stumbling block to qualification as homeopaths. This is despite the fact that it is better conducted now than it has ever been before, and that the supervision is now being done to a great extent by homeopaths who have conducted their own research or supervised extensively.

Research at the Technikon Witwatersrand has also suffered from other problems that have contributed to a lack of consistent, good quality research that would garner respect from the international medical and scientific research community. Inadequate funding and a limited access to suitable subjects for research have necessitated the acceptance of a minimum sample number as an overall average for all studies. External supervisors are also difficult to find, as these cannot readily be recruited from the community of

practicing homeopaths. This results in medical practitioners or specialists with little or no respect for homeopathy as a science being resorted to as a last option for supervision. These external supervisors often do not understand that conventional scientific research methods are frequently unsuitable to homeopathic research.

Initially supervision was hesitant and unprofessional, as none of these early supervisors had ever done any formal homeopathic research themselves. They had to find their way by trial and error (Solomon, 2004) through the maze of conceptualising a proposal, doing the actual research, dealing with statisticians, interpreting the results and putting together the final product. As can be expected, some erroneous conclusions were drawn and results misinterpreted. On the whole, however, the research has become easier to conduct due to the increasing level of experience of the supervisors, and due to the more recent inclusion of homeopathic graduates from the Witwatersrand and Durban Technikons as supervisors.

2.7 Overview of Homeopathic Research performed at the Technikon Witwatersrand between 1995 and 22nd April 2003 (Appendix A)

The 97 homeopathic research studies performed at the Witwatersrand Technikon can be broadly divided into 3 different groups.

The biggest group is the *in vivo* studies (2.7.1) in which 67 studies can be divided into 3 groups of 59 human studies, 3 plant studies (2.7.1.3) and 5 animal studies (2.7.1.4). These 59 human *in vivo* studies can again be divided into 2 groups, a group of 24 studies using complex remedies (2.7.1.1) and a group of 35 studies using simplex remedies (2.7.1.2). Of these 35 studies done using simplex remedies, only 4 studies are similimum studies (2.7.1.2.2).

The second biggest group is the 25 *in vitro* studies (2.7.2), most of which were performed during the first years of the research studies. These are mainly agar plate and nutrient

broth studies (2.7.2.1 and 2.7.2.4), as well as a group of blood studies (2.7.2.2 and 2.7.2.3).

The third group is the miscellaneous studies group (2.7.3). These 5 studies are, respectively, toxicological, managerial, administrative, aetiological and phenomenological in nature.

Of these 97 studies performed at the Technikon Witwatersrand, 20 studies were missing from the library, the majority of these never having been lodged with the library at all. All of the missing studies were performed before 2000 and are part of the early research studies completed at the Technikon Witwatersrand.

2.7.1 *In Vivo* Studies performed between 1995 and 22nd April 2003 (Appendix B)

There were 59 human *in vivo* studies performed at the Witwatersrand Technikon between 1995 and 22nd April 2003. Thirteen of these studies were not in the library at the time of this study, 9 of these being homeopathic studies using complex remedies on human subjects.

The *in vivo* studies in general can be seen to have a more positive outcome than the *in vitro* studies, but also tend to be more complex in their design and execution. They are also more applicable to the study of homeopathy as they are more appropriate to the philosophy of individualised therapy as proposed in Samuel Hahnemann's Organon of Medicine. These *in vivo* studies are more thoroughly discussed in their individual sections below.

2.7.1.1 *In Vivo* Studies on Human Subjects: Homeopathic Complexes and Non-Homeopathic Medicines (Appendix C)

Twenty-four *in vivo* studies were performed on human subjects at the Witwatersrand Technikon between 1995 and 22nd April 2003. Twelve of these studies, almost all the early studies of this type, are missing from the library. Of the 24 studies, only one study

(by Johan Meyer) was done using a non-homeopathic medicine. Eight studies were performed to examine the effects of homeopathic complexes on the blood profiles of the subjects, and 15 studies were produced on a variety of topics but using complex homeopathic medicines on human subjects. Meyer's study on the efficacy of Melotone syrup in the treatment of attention deficit disorder was missing from the library, but on personal communication with him it was established that the results were negative.

Of the 8 blood profile studies performed to examine the effects of various complex homeopathic remedies on levels of circulating white blood cells, only 3 studies were present in the Technikon Library. These 3 studies, by Davey, Rautenbach and Scarcella respectively, all showed positive and statistically significant results. The student researchers however pointed out that the studies were all short-term, i.e. 6 to 8 hours in length, and that the results would have been statistically more valid, if the sample groups were bigger and if the studies had been conducted over a longer duration. This paralleled the findings in the study by Nicholas Neaves, the only blood profile study performed using a simplex homeopathic remedy. His results were also positive and statistically significant, but the low sample number negatively affected the statistical significance.

Fifteen studies were performed on human subjects using homeopathic complexes at the Technikon Witwatersrand. Of these 15 studies, only 6 were missing from the library. In six studies by Blake, Leggatt, Lauren Smith, Breedveld, Thomson and Traub respectively, the statistically significant results were achieved in at least one of the factors that were being investigated. Two other studies, by Squara and Cole respectively, showed positive trends but at statistically insignificant levels. In the remaining study by Vicki Compere, negative results were achieved. Virtually all student researchers recommended that the sample size be increased to allow for greater statistical significance.

The 3 studies, by Lauren Smith, Gabrielle Traub and Karen Leggatt respectively, deserved special mention. Traub's study on nervousness, thought interference and anxiety in students under exam conditions precipitated a number of stress related studies, most of which showed statistically positive results. Thomson extrapolated this work to include

measurements of urine cortisol levels and had phenomenal results in terms of steep decreases in these levels. Unfortunately, the subjective results did not support the urine tests; however, in a later study by Karin Pelser, the urine cortisol level changes were less dramatic, but the subjective assessment of stress levels by the subjects supported the results to a statistically significant degree. Pelser's study was performed using a simplex homeopathic remedy. Lauren Smith's study focused on the effectiveness of treatment with two homeopathic complexes by Natura Products Pty Ltd. on attention deficit hyperactive disorder. Her results were excellent and she included a mature and considered assessment of its shortcomings, which could be of great benefit to any further studies based on it. Karen Leggatt's study on the effects of a homeopathic complex on alleviating the symptoms of influenza was good basic research into an everyday problem that needs more investigation.

The studies with insignificant results like Squara's study on the effects of two gemmotherapeutic substances on hypercholesterolaemia, revealed design flaws in terms of the duration of study and treatment. Squara's study should have been conducted over a longer period of time, considering the nature of the medical condition under discussion. Breedveld's study on reduction of pain with Traumeel injections was seriously flawed, in terms of inadequate supervision and a bad choice of placebo substance. The results were difficult to find in the thesis and almost impossible to interpret.

2.7.1.2 *In Vivo* Studies on Human Subjects: Homeopathic Simplex Medicines (Appendix D)

There were 35 research studies that have been performed at the Witwatersrand Technikon using homeopathic simplexes on human subjects.

Four of these studies were similimum studies and are discussed in greater detail in section 2.7.1.2.2 below.

2.7.1.2.1 *In Vivo* Studies on Human Subjects: Simplex Remedies in Randomised Clinical Trials

Of the remaining 31 studies, 28 were performed in the form of random clinically controlled trials. Three studies of the 31 were not controlled and were therefore not included in the meta-analysis produced in this study. These 3 studies, by Ferguson, Hardy and Prangley respectively, were worth mentioning, however, as all exhibited statistically significant results. Both Hardy and Fergusons studies were concerned with different aspects of smoking cessation, and were undoubtedly motivation for Yutar's later placebo controlled study on smoking cessation and nicotine withdrawal using a homeopathic simplex remedy. Yutar's statistically insignificant results were striking in contrast to the success of these other two studies. Adrian Prangley's uncontrolled study on the efficacy of *Lacticum acidum* in the treatment of chronic tension-type headache was very well conducted in terms of a homeopathic and also an isotherapeutic study. His very positive results would perhaps have been differently reflected when compared to a placebo group.

Of the 31 *in vivo* simplex studies performed at the Technikon Witwatersrand, only 2 were missing from the library. These 2 studies, by Shekufeh Khayltash and Bronwen McKechnie, were therefore not included in the meta-analysis conducted for the purposes of this research.

2.7.1.2.2 *In Vivo* Studies on Human Subjects: Simplex Remedies in Similimum Studies (Appendix I)

At the commencement of this research study only 4 similimum studies had been performed at the Witwatersrand Technikon. Only 1 of these studies, by Leibenguth, was not lodged in the Technikon Library. All 3 remaining similimum studies (Didcott, 1999; Jacobs, 2002; Smit, 2002) showed very positive results in all determinants that were examined. In Jacobs' study on Binge Eating Disorder, there was an average decrease in binges per month of 75% and Jacobs noted a distinct connection between Binge Eating Disorder and a past incidence of severe abuse or emotional trauma. All patients in

month of 75% and Jacobs noted a distinct connection between Binge Eating Disorder and a past incidence of severe abuse or emotional trauma. All patients in Didcott's study were very significantly improved, 50% being declared entirely free of depression at the termination of the study. In Sandra Smit's study on chronic sinusitis, eleven out of fifteen subjects improved by between 25-and 100% and all subjects improved in terms of their associated symptoms.

All these similimum studies were conducted using low subject numbers and without having placebo control groups with which to compare themselves. Both Jacobs and Smit recommended using larger sample numbers, and Jacobs recommended using a placebo control group. These two also recommended extending the duration of the study, and monitoring the subjects' progress on a post-treatment basis.

2.7.1.3 *In Vivo* Studies: Plant Studies (Appendix F)

Thus far only 3 plant studies, by Jordi, Mower and Van Es respectively, have been performed at the Technikon Witwatersrand. All of these studies were conducted on *Zea mays* seedlings, but all of them produced results that were inconclusive or in the case of Mower and Van Es, negative influences on the growth rates of the seedlings were noted.

2.7.1.4 *In Vivo* Studies: Animal Studies (Appendix G)

Of the 5 animal studies conducted by Cascioli, Jeannes, Le Roux, Teixeira and Van Niekerk respectively, only 1 study produced statistically significant results. Van Niekerk's study of the prophylactic effects of *Escherichia coli* nosodes on enteric disease in pre-weaned piglets was well designed and executed, and it produced a significant drop in piglet mortality and an increase in piglet weight. Two parallel studies by Le Roux and Teixeira on the effect of decimal and centesimal potencies on the morphogenesis of tadpoles produced predominantly negative results. The remaining 2 studies by Cascioli and Jeannes were statistically insignificant.

2.7.2 *In Vitro* Studies (Appendix E)

Twenty-five *in vitro* studies have been performed at the Technikon Witwatersrand since 1995. Six *in vitro* studies were missing from the Technikon Library and these were all part of the early studies performed to investigate anti-microbial action of homeopathic remedies. The *in vitro* studies can be divided into 4 different groups at this point: an anti-microbial studies group, a blood coagulation studies group, an immune response studies group and a group of studies describing the counteraction of poisoning by homeopathic remedies.

2.7.2.1 *In Vitro* Studies: Anti-microbial Studies in Nutrient Broth and on Agar Plates

Fourteen anti-microbial studies have been performed at the Technikon Witwatersrand. All 6 of the studies missing from the Technikon Library, as mentioned in 2.7.2 above, were from this group of studies. The 8 remaining anti-microbial studies, by Bond, De Klerk, Jooste, Moore, Moukangoe, Quaroni, Razlog and Sutherland respectively, were performed in nutrient broth and on agar plates. Homeopathically potentised remedies were used to attempt to inhibit the growth rate of different organisms, mainly *Candida albicans, Streptococcus pyogenes* and *Staphylococcus aureus*. The main observation that could be made with regard to these studies was that all agar plate studies, including disc diffusion methods, were largely ineffective as a method of testing the action of homeopathic remedies. Punching wells in the agar plates and adding remedies into these wells appeared to be more effective in terms of *in vitro* homeopathic studies. The studies by Bond, de Klerk, Moore, Quaroni and Razlog all supported this conclusion about the discrepancy between nutrient broth and agar plate methods. Moukangoe and Jooste demonstrated the effectiveness of punched wells in agar plates in their studies. The 2 most notable studies, in terms of their thought provoking results, were those of Jooste and Razlog. Jooste found that a particular strain of *Staphylococcus aureus*, which was resistant to the action of chloramphenicol, the main allopathic treatment of eye infections with *S. aureus*, responded well to treatment with the Wala™ Echinacea eyedrops. Razlog

found that both *Candida albicans* and *Streptococcus pyogenes* responded well to treatment with low potencies of both *Baptisia tinctoria* and *Thuja occidentalis*, but inadequately to treatment with higher potencies. Generally, it could be said that *in vitro* research in homeopathy was less effective than *in vivo* research, which substantiated the homeopathic concept of the Vital Force being the activating force behind the effectiveness of homeopathic remedies.

2.7.2.2 *In Vitro* Studies: Blood Coagulation Studies

Of the 7 *in vitro* blood coagulation studies conducted at the Technikon Witwatersrand, the 3 early studies, by Bengsch, Motala and Vermeulen respectively, deserved special mention. Using different potencies of *Arnica montana*, these 3 research students performed 3 parallel studies. All 3 used 20% ethanol alcohol as the vehicle for the active ingredient, and the results were statistically insignificant in terms of the difference between the results of the ethanol placebo control group and the *Arnica montana* treatment groups. Both Bengsch and Vermeulen picked up notable and similar trends between the placebo and treatment groups in terms of the fibrinogen assays and the prothrombin times, but these were not regarded as statistically significant. The 4 remaining blood coagulation studies by Jeena, Lala, Parbhoo and Singh were also performed in parallel, using different potencies of snake venoms. The possible placebo effect of the 20% ethanol alcohol vehicle was eliminated in these 4 studies, as distilled water was used as the vehicle of the active ingredients. All these studies produced statistically insignificant results and no suggestions or extrapolations could be made from the data that was produced by them. Almost all the student researchers recommended performing these studies in an *in vivo* fashion.

2.7.2.3 *In Vitro* Studies: Using Blood Samples as Live Experimental Groups

Martin and Van Meygaarden performed 2 other parallel *in vitro* studies to examine the effect of homeopathic remedies on the immune response. Both were well designed, but both used a sample number of only 5 subjects, some of which should have been excluded

from the studies due to illnesses and trauma, but were included nonetheless. Both studies were statistically insignificant due to their low sample number, but van Meygaarden's study showed a distinct trend towards raising the CD4 T-helper cell counts by administering *Apis mellifera* mother tincture.

2.7.2.4 *In Vitro* Studies: Counteraction of Physiologically Active Substances

Two other parallel studies, by Baerveldt and Lewis respectively, tested the ability of a homeopathically potentised substance to counteract the action of a poisonous substance. Lewis' study was well designed and produced positive results in this respect. Baerveldt's study was inconclusive.

2.7.3 Miscellaneous Studies (Appendix H)

These 5 studies, by Bayer, De Preez, Lessing, Panovka and Wolf respectively, were spread over widely divergent topics. They were probably amongst the most creative studies produced at the Technikon Witwatersrand and could well be repeated to verify their findings. Unfortunately 2 of these studies, by Bayer and De Preez respectively, were not present in the Technikon Library. Panovka's aetiological study on endometriosis deserved special mention, as more studies along these lines would increase the homeopath's fund of knowledge in terms of clinical homeopathy and would contribute significantly to the homeopathic repertory. This type of study also adds to the general medical fund of knowledge of the type of person most likely to suffer from endometriosis or some other condition.

Chapter Three

MATERIALS AND METHODS

3.1 EQUIPMENT AND MATERIALS

As this was a literature study, all materials used were taken either from the Library at the Technikon Witwatersrand, or requested from the authors themselves. In total 97 research dissertations were completed at the Technikon Witwatersrand between 1995 and 22nd April 2003. Seventy-six of these studies were eventually included in this research study, 26 of those being analysed in detail for the meta-analysis part of the study. Only when research dissertations were completely unavailable were they omitted from the study.

In order to extract data from the 26 studies being used for the meta-analysis, the student researcher formulated a data extraction sheet in the format of a questionnaire (Appendix J).

Data extracted was analysed by the Statistical Consultancy Services (StatKon) at RAU, and the interpretation of this data was facilitated by Riette Eiselen.

3.2 METHODOLOGY

3.2.1 Time Limitations of the Study

As assessments of research should be done on an ongoing basis, it was deemed appropriate that this initial assessment should include all studies performed and submitted for marking up until the submission of the proposal for this research study. This meant that no studies submitted after the 22nd April 2003 were included in the study.

3.2.2 Inclusion of Research Studies

All available studies were scrutinised, summarised and compared, wherever appropriate, for purposes of performing a review of all homeopathic research studies performed at the Technikon Witwatersrand by homeopathy students.

For the purposes of performing a meta-analysis, it was determined that the studies being analysed should be randomised controlled trials. These are more structured and generally are regarded as being the most accepted type of study to include in a meta-analysis.

On reviewing the individual studies, it emerged in most of the randomised controlled trials using complex homeopathic remedies that most of the student researchers recommended repeating the research using simplex homeopathic remedies. The student researchers were dissatisfied in general with the results they had obtained and many attributed these results to the use of complex homeopathic remedies, rather than simplexes. They theorised that true homeopathic research would involve finding the correct, indicated remedy and administering that single remedy only to the subject. This viewpoint is supported by the teachings of Samuel Hahnemann in his "Organon of Medicine". This viewpoint of the student researchers also negates the concept of randomisation in research.

In an attempt to compromise, the student researcher chose to use only randomised controlled trials using simplex homeopathic remedies. In an expansion of the theory of individualised treatment, it was also decided to use research studies using only human subjects as well.

3.2.3 Exclusion of Research Studies

Research studies were excluded, if they were unobtainable. Other reasons for exclusion included being non-randomised, e.g. similimum studies; having no placebo control group, not being a clinical research study and not being performed on human subjects. This

obviously excluded all *in vitro* studies as well. As stated above in 3.2.2, studies using simplex homeopathic remedies were decided on, so complex remedy use excluded the research study.

3.3 Formulation of Data Extraction Sheet

The student researcher formulated a questionnaire (Appendix J) to extract the data from the individual research studies selected. This questionnaire was the result of breaking the problems facing homeopathic research down into their component parts. These were understood to be possible problems with the student researchers, the subjects, the supervisors, the medicines and their use, the design of the research studies, the grounding of the studies in the literature and their eventual writing up as research dissertations.

3.4 Data Collection and Analysis

Using the questionnaire formulated by the student researcher, the selected research studies were scrutinised to obtain the necessary data for analysis. Once the data had been extracted from the research study, it was transferred onto an Exel spreadsheet and then handed over to the statistician at the Statkon offices at RAU.

The majority of the statistics derived from the data extracted from this study was descriptive. Percentages were calculated, Chi square and Student's T-tests were used to find correlations and track trends between different variables. Graphs and tables were used to visually represent the findings of the statistician.

Chapter Four

RESULTS

4.1 Introduction

The data extracted from the 26 research studies examined for this research study were presented in this section.

The data was divided into 5 different sections:

- The design of the research studies
- The special factors affecting the research studies
- Medicinal variables
- The subjects
- The student researchers and supervisors

4.2 The Design of the Research Study

The design of the research study was assessed in terms of having a placebo control group (4.2.1), blinding of studies (4.2.2), randomisation of studies (4.2.3), recommendations about the sample size (4.2.4) and duration of the research studies (4.2.5).

4.2.1 Presence of a Placebo Control Group

This study, by definition a meta-analysis of randomised controlled studies, included only placebo controlled trials. This meant that 100.0% of all the studies used here were controlled.

4.2.2 Blinding of Studies

Twenty-five of the studies included in this meta-analysis were performed using double-blinding to ensure less likelihood of bias from researchers and subjects. No studies were performed in a single-blinded manner. One study (3.8%) was performed in an open, unblinded manner. This equates to 96.2% of these studies performed in a double-blinded manner, and 3.8% in an open, unblinded manner (Table 4.1).

Table 4.1: Prevalence of Blinding Methods

Blinding Methods	Frequency	Percent	Cumulative Percent
No Blinding	1	3.8	**3.8**
Single Blinding	0	0.0	**3.8**
Double Blinding	25	96.2	**100.0**
Total	**26**	**100.0**	

4.2.3 Randomisation of Studies

Although this meta-analysis was defined as including randomised controlled studies only, it soon became necessary to differentiate between types of randomisation. It emerged that although all the studies were performed on subjects chosen randomly, in one study the randomisation was aimed at screening for patients who had exhibited a particular homeopathic drug picture. This was in line with the principles of homeopathic prescribing, i.e. matching the patients' symptom picture with an appropriate and known drug picture. It did, however, affect the level of randomisation of the study, but not

enough to exclude the study from the meta-analysis. In another study, although the subjects were chosen randomly, the placebo control group and experimental group were matched in terms of age and gender, which ultimately enabled better comparison of the two groups.

Of the 26 studies therefore, 24 studies were completely randomised in terms of their subject selection; one was cross-matched in terms of its placebo control group and experimental group; and in another study, the subjects were carefully matched to the drug picture by means of a screening questionnaire. This meant that 92.4% of studies were completely randomised, 3.8% each being cross-matched to placebo control group and drug picture respectively (Table 4.2).

Table 4.2: Prevalence of Randomisation Type

Randomisation Type	Frequency	Percent	Cumulative Percent
Randomised Groups	24	92.3	**92.4**
Non-Randomised: Matched Groups	1	3.8	**96.2**
Non-Randomised: Drug Picture Matched	1	3.8	**100.0**
Total	**26**	**100.0**	

4.2.4 Recommendations about the Sample Size

Nineteen of the 26 student researchers who produced the research studies used in this meta-analysis (73.1%) made recommendations about the size of the sample group. Seven student researchers(26.9%) had no recommendations about the sample numbers. Of the 19 students who made recommendations about the size of the sample number, all 19 (100.0 %) recommended that a larger sample number should be used (Table 4.3).

Table 4.3: Recommendations about Sample Size

Sample Size	Recommendations: About Sample Size		Recommends: Bigger Sample Size		Recommends: Smaller Sample Size	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Yes	19	73.1	19	73.1	0	0.0
No	7	26.9	0	0.0	19	73.1
N/A			7	26.9	7	26.9
Total	26	100.0	26	100.0	26	100.0

4.2.5 Duration of the Study

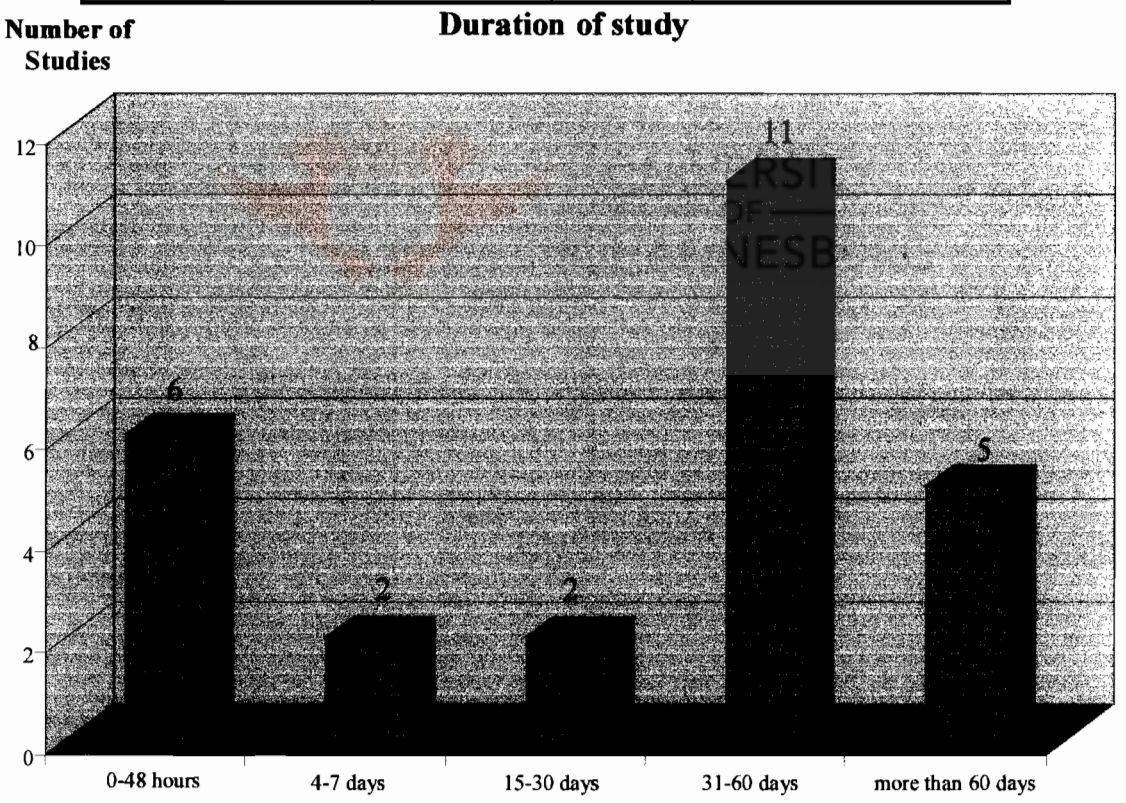
4.2.5.1 Duration of the Study: Use of Different Time Categories

The duration of the study was divided into 7 different categories. The research studies were assigned to one of these categories according to the duration of the study being examined. The number and proportionate percentage of the total studies has been listed below.

The most frequently used duration of study is that of 31 to 60 days. These medium length studies were done in 42.3% of all the randomised controlled studies examined in this research study. Short studies were the next most frequent studies (23.1%), followed closely by long studies (19.2%). These figures are reflected in Table 4.4 below, and are graphically presented in Figure 4.1 below.

Table 4.4: Duration of Study

Duration of Study	Frequency	Percent	Cumulative Percent
0-48 Hours	6	23.1	**23.1**
49-72 Hours	0	0.0	**23.1**
4-7 Days	2	7.7	**30.8**
8-14 Days	0	0.0	**30.8**
15-30 Days	2	7.7	**38.5**
31-60 Days	11	42.3	**80.8**
More than 60 Days	5	19.2	**100.0**
Total	**26**	**100.0**	



4.2.5.2 Duration of the Study versus Statistically Significant Results

The different categories of time, which denoted the different durations of the studies, were crosstabulated to the statistical significance of the various studies. No significant correlation between these 2 variables could be found. In all different lengths of duration of the study, there were not enough representative studies to allow for statistically significant results. No clear trends of statistical significance were noted, but possible emerging trends of statistical significance versus the duration of the study could be seen. These could indicate emerging positive trends between statistical significance and, specifically, short duration studies. As yet, the sample numbers in these cases were too small for statistical significance, and coincidence could not be ruled out. This is shown in Table 4.5 below.

Table 4.5 Duration of Study versus Statistically Significant Studies

			Were Statistically Significant results obtained?		Total
			Yes	No	
Duration of Study	**0-48 hours**	**Count**	4	2	**6**
		% within Duration of Study	66.7%	33.3%	**100.0 %**
	4-7 days	**Count**	2	0	**2**
		% within Duration of Study	100.0%	.0%	**100.0 %**
	15-30 days	**Count**	0	2	**2**
		% within Duration of Study	0.0%	100.0%	**100.0 %**
	31-60 days	**Count**	4	7	**11**
		% within Duration of Study	36.4%	63.6%	**100.0 %**
	more than 60 days	**Count**	3	2	**5**
		% within Duration of Study	60.0%	40.0%	**100.0 %**
Total		**Count**	**13**	**13**	**26**
		% within Duration of Study	**50.0%**	**50.0%**	**100.0 %**

4.3 Special Factors affecting the Research Studies

This data reflected the extraneous factors that affected the validity of the research studies. It did not include any data about the design of the research studies, the student researchers, the subjects or the medicines.

4.3.1 Grounding of the Research Studies in the Literature

Grounding of research studies was examined by means of extracting data from the literature reviews of the research studies, which indicated the publications motivating the performance of the research. If the study was a duplication of previous work done and published, this was noted. If the study was supported by a comparable or parallel work, not necessarily about the same topic, this again was noted.

4.3.1.1 Duplication of Previous Studies

Four research studies were duplicates of studies performed previously by other researchers. These studies had been quoted in the literature reviews of these research studies. This meant that 4 studies (15.4%) were attempts to duplicate, and therefore reproduce, previous homeopathic research. This also meant that 22 studies were essentially new and original research studies.

Table 4.6: Duplication of Previous Studies

Presence of Duplication	Frequency	Percent	Cumulative Percent
Yes	4	15.4	**15.4**
No	22	84.6	**100.0**
Total	**26**	**100.0**	

4.3.1.2 Comparable Studies in the Literature Review

In 11 research studies (42.3%) comparable literature was quoted in the literature reviews. In the other 15 research studies (57.7%) there was no acknowledgement of any comparable literature (Table 4.7).

Table 4.7: Comparable Studies in Literature Review

Use of Comparable Studies	Frequency	Percent	Cumulative Percent
Yes	11	42.3	**42.3**
No	15	57.7	**100.0**
Total	**26**	**100.0**	

4.3.2 Availability of Information

All necessary demographic information was available in 2 out of the total of 26 research studies. This meant that 7.7% of studies contained sufficient information about race, age and gender to enable subsequent comparative studies. In 92.3% of these research studies used in this meta-analysis, almost no information about the subjects of the research studies was reported. Although most of the latter studies contained at least some data about the age and gender of the subjects, almost all the studies excluded data about the race of the subjects (Table 4.8).

Table 4.8: Availability of Information

Availability of Information	Frequency	Percent	Cumulative Percent
Available for Perusal	2	7.7	**7.7**
Not Available	24	92.3	**100.0**
Total	**26**	**100.0**	

4.3.3 Statistical Significance of Studies

Statistically significant results were claimed to have been achieved in 13 research studies (50.0%), and no statistically significant results in the other 13 research studies (50.0%) examined (Table 4.9).

Table 4.9: Apparent Statistical Significance of Studies

Statistical Significance	Frequency	Percent	Cumulative Percent
Yes	13	50.0	**50.0**
No	13	50.0	**100.0**
Total	**26**	**100.0**	

4.3.4 Date of Completion of the Studies

All dates of completion of the studies were noted and cross-referenced to reveal the prevalence of studies completed in a particular year, and the months in which the most studies were completed, i.e. the profile of submission of research studies throughout the year.

4.3.4.1 Year of Completion of the Studies

The year of completion of studies was profiled for the 26 research studies examined for this meta-analysis. All the 97 research studies examined by the student researcher, which were performed at the Technikon Witwatersrand between 1995 and April 22nd 2003, were also profiled. The two profiles were then compared, and it was found that the general increase in the annual numbers of research studies being produced at the Technikon Witwatersrand was similar to the increase in the numbers of randomised controlled studies being produced at the Technikon Witwatersrand.

4.3.4.1.1 Year of Completion of the Studies: All Studies

No studies were completed before 1998. In 1998 seven studies were completed and in 1999 and 2000, respectively, eleven studies were completed. In 2001 nineteen studies were completed and in 2002 twenty-five studies were completed. In 2003, up until 22nd April, no studies were completed. This constituted an annual increase in the number of studies being performed at the Technikon Witwatersrand, of 57.0% in 1999, no increase in 2000, a 72.3% increase in 2001 and a 31.6% increase in 2002.

Table 4.10: Year of Completion of All Studies

Year of Completion	Frequency	Percent	Cumulative Percent
1998	7	7.2	**7.2**
1999	11	11.3	**18.5**
2000	11	11.3	**29.8**
2001	19	19.6	**49.4**
2002	25	25.8	**75.2**
2003	0	0.0	**75.2**
No Entry	24	24.8	**100.0**
Total	**97**	**100.0**	

4.3.4.1.2 Year of Completion of the Studies: Randomised Controlled Studies

No randomised controlled studies were completed before 1998. In 1998 one study was completed, in 1999 two studies were completed, in 2000 four studies were completed, in 2001 seven studies were completed, in 2002 eleven studies were completed and in 2003, up until 22nd April, no studies were completed. This constituted an annual increase of 100.0% in the number of randomised controlled studies being performed every year for 1998, 1999 and 2000. Slightly smaller increases in the number of randomised controlled studies were experienced in 2001 (75.0%) and in 2002 (63.6%). A trend towards a drop in the number of randomised controlled studies seemed to be appearing in the first 4

months of 2003, as no studies were performed in that period, but this could have been coincidental.

Table 4.11: Year of Completion of Randomised Controlled Studies

Year of Completion	Frequency	Percent	Cumulative Percent
1998	1	3.8	**3.8**
1999	2	7.7	**11.5**
2000	4	15.4	**26.9**
2001	7	26.9	**53.8**
2002	11	42.4	**96.2**
2003	0	0.0	**96.2**
No Entry	1	3.8	**100.0**
Total	**26**	**100.0**	

This ongoing increase in the number of randomised controlled studies being performed at the Technikon Witwatersrand is reflected in the graph in Figure 4.2 below

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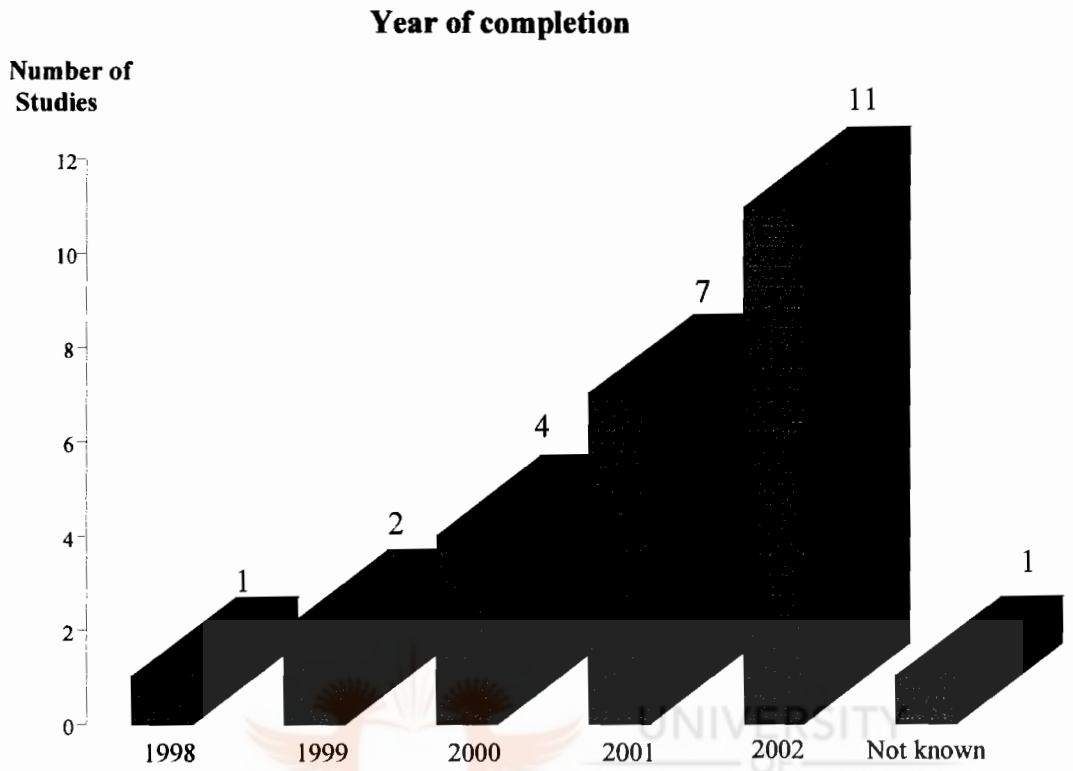
Year of completion
Number of Studies
12
10
8
6
4
2
0
1
2
4
7
11
1
1998
1999
2000
2001
2002
Not known

Figure 4.2

4.4 Medicinal Variables

4.4.1.1 Vehicle for the Active Ingredient

Ten possible vehicles were considered, when the student researcher was extracting the data from the 26 randomised controlled studies used in this meta-analysis. These different vehicles are listed below with the prevalence of their use. No syrups or capsules were utilised as vehicles for the active ingredients in this meta-analysis (0.0% each). The most frequently used vehicle was tablets, as they were used in 10 of the 26 studies being analysed (38.5%). Drops were used in 7 studies (26.9%) and pillules in 4 studies (15.4%). All other vehicles for the active ingredients were used once each (3.8% each).

Table 4.12: Vehicle Substances

Vehicle Used	Frequency	Percent	Cumulative Percent
Granules	1	3.8	**3.8**
Pillules	4	15.4	**19.2**
Globules	1	3.8	**23.1**
Tablets	10	38.5	**61.5**
Drops	7	26.9	**88.5**
Injectables	1	3.8	**92.3**
Cream	1	3.8	**96.2**
Powder	1	3.8	**100.0**
Syrup	0	0.0	**100.0**
Capsules	0	0.0	**100.0**
Total	**26**	**100.0**	

The proportionate percentages of the vehicles used to carry the active substances are shown in Figure 4.3 below.

Vehicle for Active Ingredient

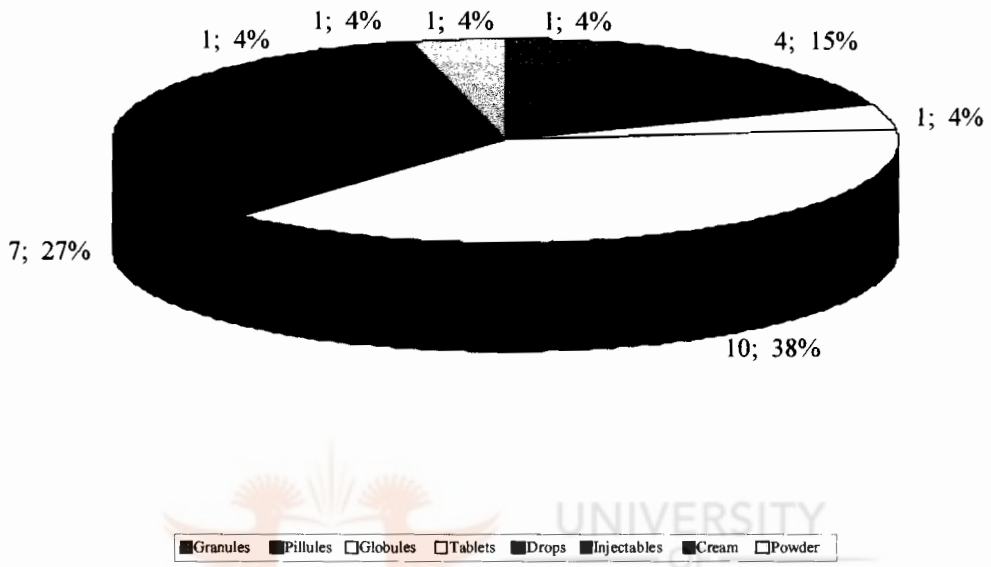

Figure 4.3

4.4.1.2 Vehicle of Active Ingredient versus Statistically Significant Results

In order to investigate the possible link between the vehicle of the active ingredient and any statistically significant results, these two variables were crosstabulated. No clear trends emerged and no statistically significant results were obtained. This was shown in Table 4.13 below.

Table 4.13: Cross-tabulation: Vehicle of Active Substance versus Statistical Significance

			Were Statistically Significant results obtained?		Total
			Yes	No	
Vehicle	Granules	Count	0	1	1
		% within Vehicle	0.0%	100.0%	100.0 %
	Pillules	Count	2	2	4
		% within Vehicle	50.0%	50.0%	100.0 %
	Globules	Count	1	0	1
		% within Vehicle	100.0%	0.0%	100.0 %
	Tablets	Count	4	6	10
		% within Vehicle	40.0%	60.0%	100.0 %
	Drops	Count	3	4	7
		% within Vehicle	42.9%	57.1%	100.0 %
	Injectable	Count	1	0	1
		% within Vehicle	100.0%	0.0%	100.0 %
	Cream	Count	1	0	1
		% within Vehicle	100.0%	0.0%	100.0 %
	Powder	Count	1	0	1
		% within Vehicle	100.0%	0.0%	100.0 %
Total		Count	13	13	26
		% within Vehicle	50.0%	50.0%	100.0 %

4.4.2 Potencies of medicines

Different aspects of the potency of medicines were examined in this meta-analysis. The number of potencies used, per research study, were noted. The prevalence of use of each potency was noted, and the potencies were all compared.

4.4.2.1 Number of Potencies Used

The number of potencies used in each study was partially reflected by the number of groups in each study (see 4.5.1.1). Some studies did not use a different potency in each group, but instead used a different therapy modality to compare the action of the remedy to the therapy. Twenty-three research studies used only 1 potency in the experimental groups, 2 research studies used 2 potencies, and 1 research study used 3 potencies in the experimental groups.

Table 4.14: Numbers of Potencies Used

Number of Potencies Used	Frequency	Percent	Cumulative Percent
1	23	88.5	**88.5**
2	2	7.7	**96.2**
3	1	3.8	**100.0**
Total	**26**	**100.0**	

4.4.2.2 Prevalence of Potencies being Administered

The potencies most frequently used in the research studies fell between 3X and 6X. Eight of the 26 studies examined (27.58%) used potencies between 3X and 6X. Five of the 26 studies (17.24%) were performed using firstly, the mother tincture, and secondly, the 16 CH to 30 CH category of potency, respectively. Four of the 26 studies (13.8%) were performed using potencies in the 31 CH to 200 CH category. Three studies (10.34%) were performed using potencies between 7 CH and 12 CH. Two studies (6.9%) used potencies between 13 CH and 15 CH, one study (3.45%) used potencies between 13X and 30X and one study (3.45%) used potencies between 3 CH and 6 CH. No studies (0.0%) were performed using potencies that fell into the categories of 7X to 12X, 1M to 9 M, 10 M to 50M, or using any LM potencies. Some research studies were performed using more than one potency per study (Table 4.15).

Table 4.15: Prevalence of Potencies Used

Potencies Used	Frequency	Percent	Cumulative Percent
Mother Tincture	5	17.2	**17.2**
3X-6X	8	27.6	**44.8**
7X-12X	0	0.0	**44.8**
13X-30X	1	3.4	**48.2**
3CH-6CH	1	3.4	**51.6**
7CH-12CH	3	10.4	**62.0**
13CH-15CH	2	6.9	**68.9**
16CH-30CH	5	17.3	**86.2**
31CH-200CH	4	13.8	**100.0**
1M-9M	0	0.0	**100.0**
10M-50M	0	0.0	**100.0**
Any LM potencies	0	0.0	**100.0**
Total	**29**	**100.0**	

This prevalence of the use of the different potencies is represented in the graph in Figure 4.4 below, where the green columns represent the numbers of studies not using that particular potency, and the red columns represent the numbers of studies using that specific potency.

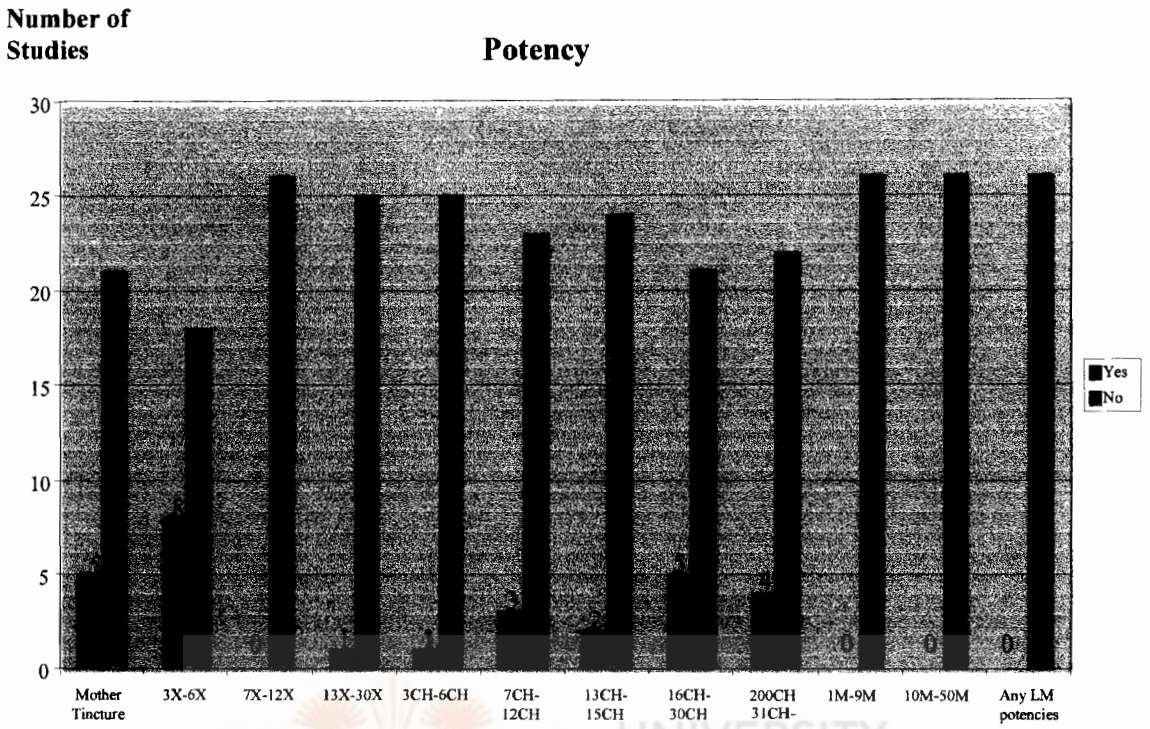

Figure 4.4

4.4.3 Reputable Manufacture of Medicines

The reputability of the established manufacturers of homeopathic remedies in South Africa is regarded as being an accepted fact at the time of writing this research study. Therefore all research studies in which the remedies had been manufactured in an established homeopathic medicines production company are regarded as using remedies that are reputable in manufacture.

Twenty-four of the 26 studies or 92.3%, were performed using reputably manufactured medicines. Two studies (7.7%) were performed using medicines that were dubious or undocumented in terms of their origin (Table 4.16).

Table 4.16: Reputable Manufacture of Medicines

Reputably Manufactured Medicine	Frequency	Percent	Cumulative Percent
Yes	24	92.3	**92.3**
No	2	7.7	**100.0**
Total	**26**	**100.0**	

4.4.4 Placebo Action vs Vehicle Substance

After examining all the available research studies, the student researcher became aware that the vehicle substances used in the randomised controlled studies were not being checked for any intrinsic action. Substances deemed inactive, in terms of allopathic medicines, are not necessarily deemed inactive in terms of homeopathic medicines. This includes substances like lactose sugar and ethanol alcohol, which form the vehicles for the active ingredients of homeopathic medicines. It was noted that although the action of the carrier substance was frequently explored and checked when the research was *in vitro*, but not when the research was *in vivo*. As expressed in Table 4.17 below, all (100.0%) of the randomised controlled studies examined for this meta-analysis were unchecked for carrier substance activity.

Table 4.17: Knowledge of Activity of Vehicle Substances

Vehicle Action: Known/Explored	Frequency	Percent	Cumulative Percent
Yes	0	0.0	**0.0**
No	26	100.0	**100.0**
Total	**26**	**100.0**	

4.4.5 Frequency of Dosage

4.4.5.1 Frequency of Dosage: Use of Different Time Categories

Remedies were administered to subjects twice daily in 11 out of 26 studies (42.3%), three times daily in 7 out of 26 studies (26.9%) and, in 4 out of 26 studies (15.4%), the dosages of the remedies were at short and unpredictable intervals, i.e. 30 and 45 minutes. Only one study (3.8%) was performed in each of the following 4 dosages: every 15 minutes, every 4 hours, once a week and a single dose. No research studies were conducted using the following 3 dosages: every hour, every 2 hours and once daily (Table 4.18).

Table 4.18: Frequency of Dosage

Frequency of Dosage	Frequency	Percent	Cumulative Percent
Quarter hourly	1	3.8	**3.8**
Hourly	0	0.0	**3.8**
2 hourly	0	0.0	**3.8**
4 hourly	1	3.8	**7.7**
8 hourly	7	26.9	**34.6**
12 hourly	11	42.3	**76.9**
Once daily	0	0.0	**76.9**
Once a week	1	3.8	**80.8**
Single dose	1	3.8	**84.6**
Other	4	15.4	**100.0**
Total	**26**	**100.0**	

This prevalence of the specific dosages used in the research studies is graphically depicted in Figure 4.5 below.

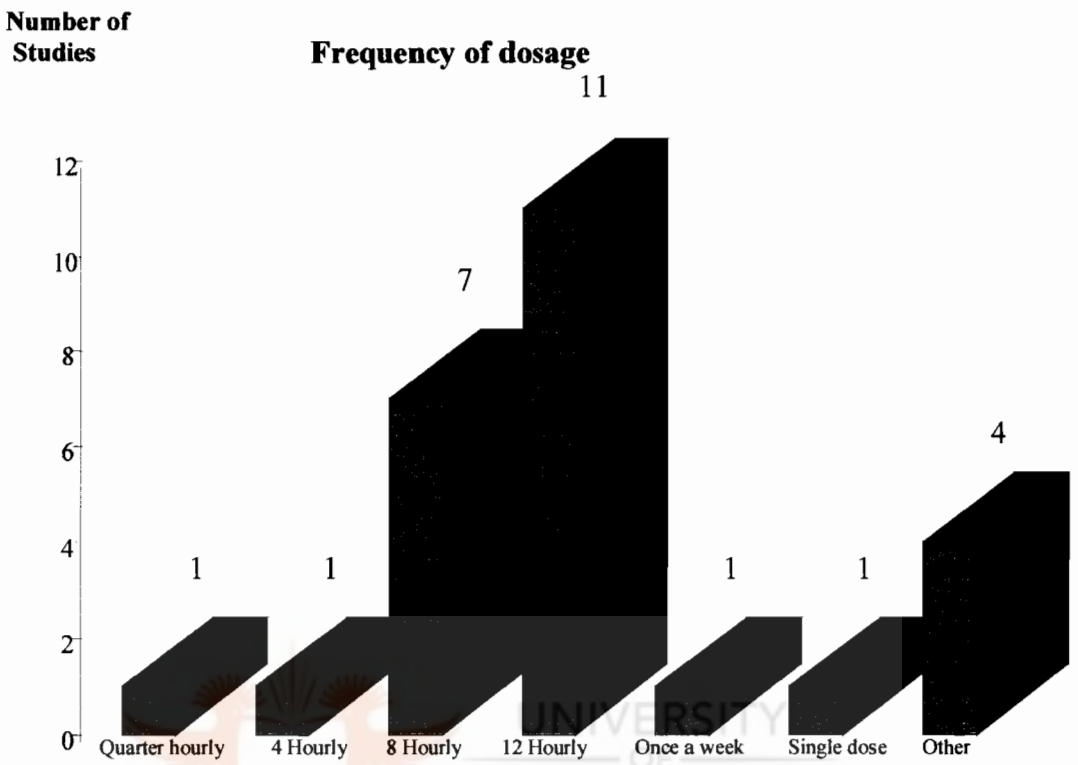

Figure 4.5

4.4.5.2 Frequency of Dosage vs Statistically Significant Results

The frequencies of the dosages were cross-tabulated with the statistically significant results. No statistically significant results were found, but a trend seemed to be emerging that 8 hourly dosages were linked to the greatest number of statistically significant studies. Due to the small number of studies in this category, this finding is not significant. These findings were shown in Table 4.19 below.

Table 4.19: Cross-tabulation: Frequency of Dosage versus Statistical Significance

			Were Statistically Significant results obtained?		Total
			Yes	No	
Frequency of dosage	**Quarter hourly**	Count	1	0	**1**
		% within Frequency of dosage	100.0%	0.0%	**100.0 %**
	4 Hourly	Count	0	1	**1**
		% within Frequency of dosage	0.0%	100.0%	**100.0 %**
	8 Hourly	Count	5	2	**7**
		% within Frequency of dosage	71.4%	28.6%	**100.0 %**
	12 Hourly	Count	3	8	**11**
		% within Frequency of dosage	27.3%	72.7%	**100.0 %**
	Once a week	Count	1	0	**1**
		% within Frequency of dosage	100.0%	0.0%	**100.0 %**
	Single dose	Count	1	0	**1**
		% within Frequency of dosage	100.0%	0.0%	**100.0 %**
	Other	Count	2	2	**4**
		% within Frequency of dosage	50.0%	50.0%	**100.0 %**
Total		**Count**	**13**	**13**	**26**
		% within Frequency of dosage	**50.0%**	**50.0%**	**100.0 %**

4.4.6 Duration of Treatment

4.4.6.1 Duration of Treatment: Use of Time Categories

Fifteen out of the 26 studies (57.7%) examined for this meta-analysis were performed treating the subjects for between 3 weeks and 3 months, i.e. a medium length period of time. Four studies (15.4%) were performed using very short treatment durations, i.e. of not more than 8 hours in total. Three studies (11.5%) used slightly longer treatment

durations of between 8 and 72 hours, and another 3 studies (11.5%) used durations between 72 hours and 3 weeks. One study (3.8%) used a longer treatment duration, i.e. of more than 3 months. This was shown in Table 4.20 below.

Table 4.20: Duration of Treatment

Duration of Treatment	Frequency	Percent	Cumulative Percent
0-8 hours	4	15.4	**15.4**
8-72 hours	3	11.5	**26.9**
72 hours - 3 weeks	3	11.5	**38.5**
3 weeks - 3 months	15	57.7	**96.2**
More than 3 months	1	3.8	**100.0**
Total	**26**	**100.0**	

The prevalence of the different durations of treatment within the 26 studies being examined in this meta-analysis is represented in the graph in Figure 4.6 below.

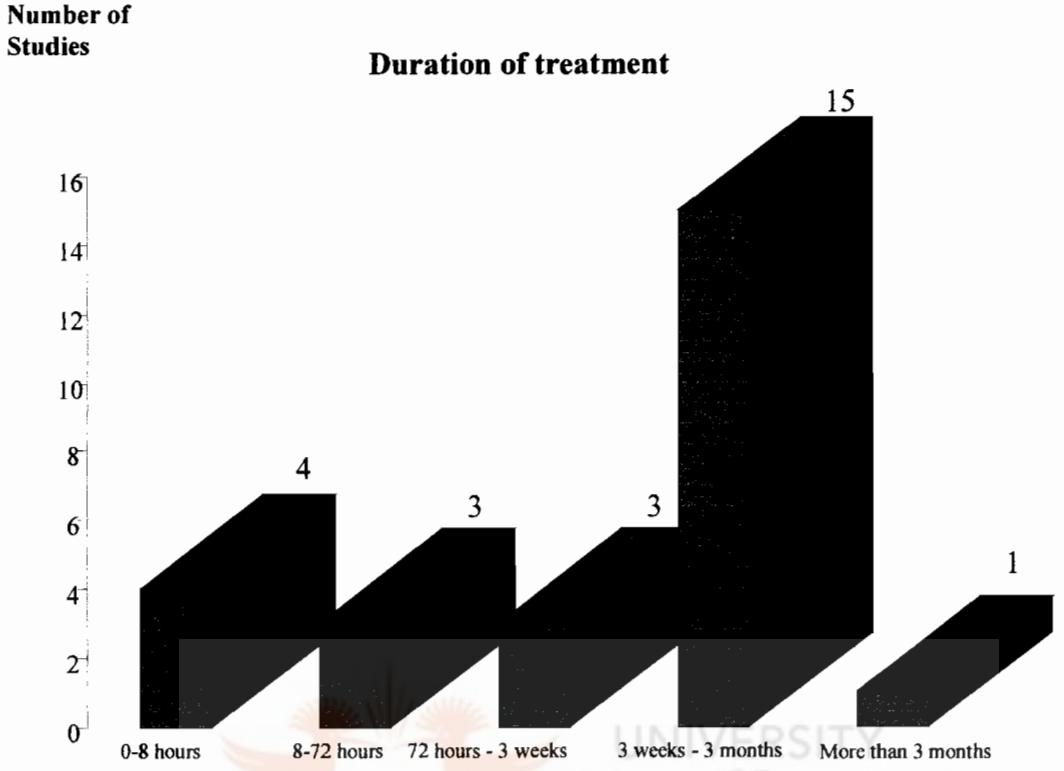

Figure 4.6

4.4.6.2 Duration of Treatment versus Statistically Significant Results

The different time categories of the durations of treatment were cross-tabulated against the statistical significance of the research studies. No statistically significant trends were found, due to the small numbers of studies involved in this research study, but an emerging trend was noted that the studies with shorter durations of treatment were possibly linked to a greater number of statistically; significant studies. This is shown in Table 4.21 below.

Table 4.21: Cross-tabulation: Duration of Treatment versus Statistical Significance

			Were Statistically Significant results obtained?		Total
			Yes	No	
Duration of treatment	**0-8 hours**	Count	3	1	**4**
		% within Duration of treatment	75.0%	25.0%	**100.0 %**
	8-72 hours	Count	2	1	**3**
		% within Duration of treatment	66.7%	33.3%	**100.0 %**
	72 hours - 3 weeks	Count	1	2	**3**
		% within Duration of treatment	33.3%	66.7%	**100.0 %**
	3 weeks - 3 months	Count	6	9	**15**
		% within Duration of treatment	40.0%	60.0%	**100.0 %**
	More than 3 months	Count	1	0	**1**
		% within Duration of treatment	100.0%	0.0%	**100.0 %**
Total		**Count**	**13**	**13**	**26**
		% within Duration of treatment	**50.0%**	**50.0%**	**100.0 %**

4.4.7 Acceptable Choice of Medicine

All remedy choices used in the 26 studies used in the meta-analysis were compared with the homeopathic literature. One study (3.8%) used a remedy, which could not be motivated in the literature. All other remedy choices (96.2%) were appropriate according to the homeopathic literature (Table 4.22).

Table 4.22: Acceptable Choice of Medicine

Good Choice of Remedy	Frequency	Percent	Cumulative Percent
Yes	25	96.2	96.2
No	1	3.8	100.0
Total	26	100.0	

4.5 The Subjects

The 26 studies of this meta-analysis adopted various approaches to the grouping of their subjects into control groups and experimental groups. In this section, the subjects are explored with regard to:

- The sizes of the groups
- The compliance of the subjects
- The composition of the subject groups in terms of race, gender and age
- The adequacy of diagnostic screening for entry into the groups

4.5.1 Group Sizes

Table 4.23 below summarises the information extracted from the 26 research studies. It allows an overall understanding of the extremes of group sizes (the minima and maxima) in terms of the sizes of the groups at the start and at the end of the studies. It shows the variation in size between the different groups (the standard deviation from the mean of the size of the group) within one type of group, and shows the mean size of each group.

The group sizes examined were that of the whole group, the placebo control group and the different experimental groups. Each group size was examined in terms of its size at commencement and termination of the research study, thereby producing data that enabled the calculation of the compliance of the subjects. These group sizes are explained in 4.5.1.2 to 4.5.1.6 below and shown in Table 4.23 below.

Table 4.23: Groups and Group Sizes

Groups	N	Minimum	Maximum	Mean	Standard Deviation
Whole group:start	26	15	64	34.38	**9.321**
Whole group: end	26	15	56	31.38	**7.829**
Control group:start	24	5	25	15.46	**3.934**
Control group:end	25	5	20	13.68	**3.024**
Exp group 1:start	24	5	25	15.38	**3.910**
Exp group 1:end	25	5	21	14.20	**3.253**
Exp group 2:start	6	5	16	11.83	**4.262**
Exp group 2:end	6	5	15	11.17	**3.656**
Exp group 3:start	1	16	16	16.00	.
Exp group 3:end	**1**	**14**	**14**	**14.00**	.

Using the particular sizes of each group found above, the prevalence of groups of each particular size was calculated. It was found that the whole group size most frequently encountered was that of 30 subjects. Consequent to this was also the most frequent control group and 1st experimental group size, of 15 subjects respectively. The smallest group size was of a whole group of 15 subjects, broken down into control and 1st and 2nd experimental groups of 5 subjects each respectively. The largest whole group had 64 subjects in it. This is shown in Table 4.24 below. (WG= whole group, CG= control group, EG 1= 1st experimental group, EG 2= 2nd experimental group, EG 3= 3rd experimental group).

Table 4.24: Numbers of Subjects in Groups

Numbers of Subjects	WG: Start	WG: End	CG : Start	CG: End	EG 1: Start	EG 1: End	EG 2: Start	EG 2: End	EG 3: Start	EG 3: End
5			1	1	1	1	1	1		
10			2	4	2	3	2	2		
12			1	2		1				
13				1	2	3		1		
14			2	5	2	4		1		1
15	1	1	8	8	7	5	2	1		
16			3	2	3	5	1		1	
17			1		2	1				
18			2	1	1					
20		1	3	1	3	1				
21						1				
24		1								
25	1	1	1		1					
27	1	2								
29		1								
30	10	10								
31	1	2								
32	1									
34	1									
35	2	1								
36	1	1								
37		1								
38		1								
40	3	1								
45	2	1								
50	1									
56		1								
64	1									
Total	**26**	**26**	**24**	**25**	**24**	**25**	**6**	**6**	**1**	**1**

The distribution of these various groups in terms of their sizes, and in terms of their prevalence within the 26 research studies being examined for this meta-analysis, is shown in Figure 4.7 below.

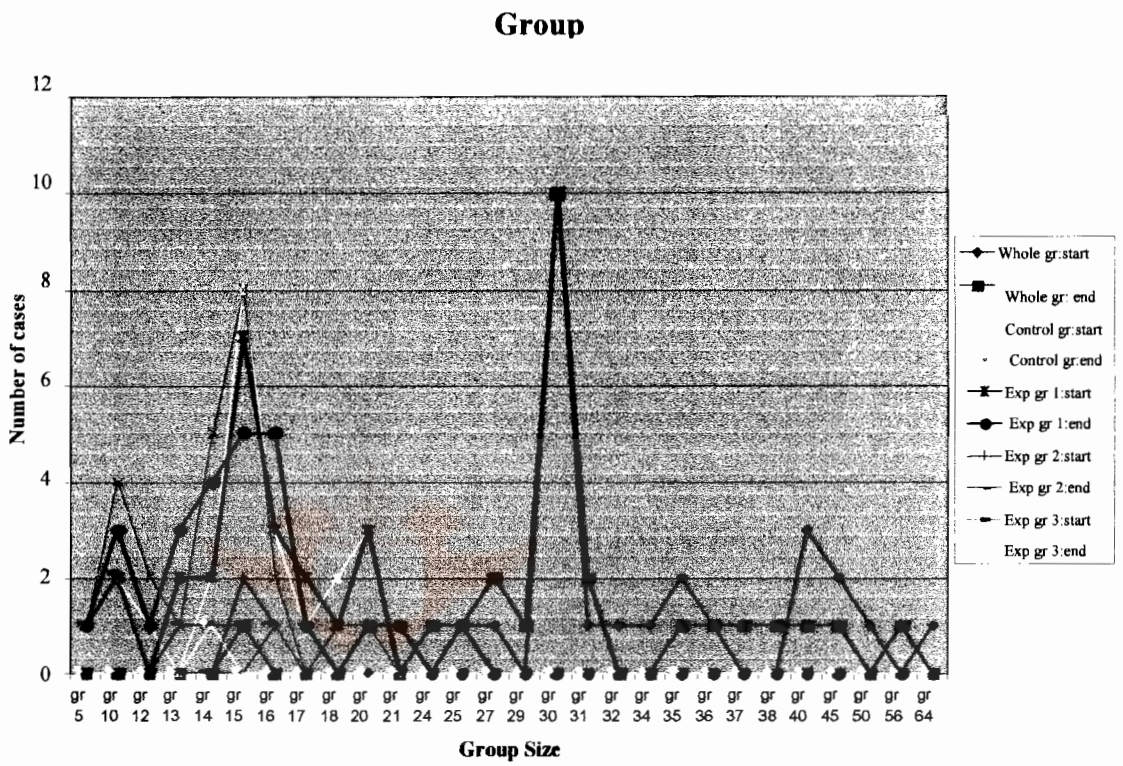

Figure 4.7

4.5.1.1 Number of Groups

As these research studies were by definition controlled studies, all of them had at least 2 groups, i.e. a placebo control group and at least one experimental group. This made up the bulk of these research studies as 20 out of the 26 studies (76.9%) were in this category. Five of the remaining 6 studies, or 19.2% of the total studies examined, were performed with a control group and 2 experimental groups, and the last study (3.8%) was performed with a control group and 3 experimental groups (Table 4.25).

Table 4.25: Number of Groups per Study

Number of Groups per Study	Frequency	Percent	Cumulative Percent
2	20	76.9	**76.9**
3	5	19.3	**96.2**
4	1	3.8	**100.0**
Total	**26**	**100.0**	

The prevalence of the number of groups used is depicted in the graph in Figure 4.8 below.

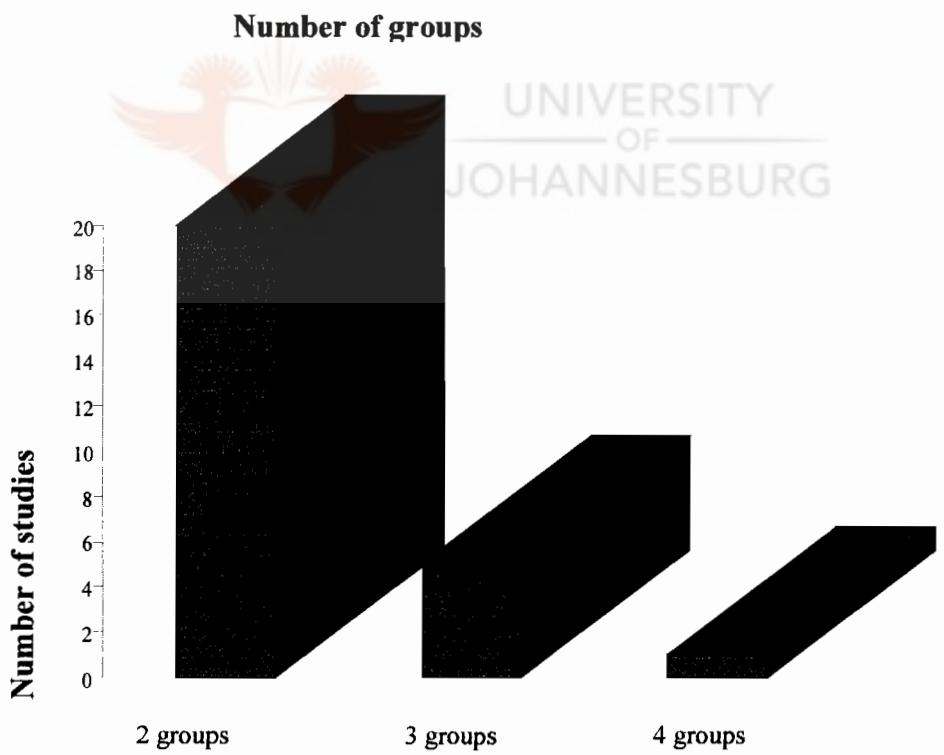

Figure 4.8

These group sizes are described more fully in the sections below.

4.5.1.2 Size of Whole Group

The size of the whole group was broken down into the size of the whole group at the start and at the end of the research study. This enabled calculation of compliance of the subjects in 4.5.2.1 of this research study.

4.5.1.2.1 Size of Whole Group: At the Start

The whole group size that occurred most frequently at the start of the research studies was that of 30 subjects. Ten of the 26 research studies (38.5%) started off with this number of subjects in the whole group. Three studies started out with 40 subjects and 2 studies each started out with 35 and 45 subjects respectively. There were 7 studies each starting out with 25, 27,31, 32, 34, 36 and 50 subjects respectively.

The smallest whole group number at the beginning of the research studies was 15 subjects, and the largest whole group number was 64 subjects. These whole group numbers can be seen in the graph in Figure 4.7.

The mean number of subjects per whole group at the start was calculated to be 34.38 with a standard deviation of numbers of subjects per whole group at the start being 9.321.

4.5.1.2.2 Size of Whole Group: At the End

The whole group size that occurred most frequently at the end of the research studies was that of 30 subjects. Ten of the research studies (38.5%) concluded with this number of subjects in the whole group. Two studies (7.7%) conclude with 27 and 31 subjects each. Twelve studies each (each 3.8% of all the studies) ended with 15, 20, 24, 25, 29, 35, 36, 37, 38, 40, 45 and 56 subjects respectively.

The smallest whole group number at the end of the research studies was 15 subjects, and the largest whole group number was 56 subjects. These whole group numbers are also shown graphically in Figure 4.7.

The mean number of subjects per whole group at the end was calculated to be 31.38 with a standard deviation of numbers of subjects per whole group at the end being 7.829.

4.5.1.3 Size of Control Group

The size of the control group was investigated at the start and at the end of the research studies.

4.5.1.3.1 Size of Control Group: At the Start

The most frequently occurring group size in control groups at the start of the research studies was that of 15 subjects. This occurred in 8 out of 26 studies (30.8%). In 3 studies each (each forming 11.6% of all studies) there were 16 and 20 subjects respectively. There were 2 studies (each forming 7.7%) with each 10, 14 and 18 subjects respectively. One group each contained 5,12,17 and 25 subjects. Each of these groups comprised 3.8% of all the research studies examined for this study.

The mean number of subjects per control group at the start was calculated to be 15.46 with a standard deviation of numbers of subjects per control group at the start being 3.934.

4.5.1.3.2 Size of Control Group: At the End

The most frequently occurring group size in control groups at the end of research studies was that of 15 subjects. Eight of the 26 studies (30.8%) had groups of 15 subjects at the end of the studies. Five of the 26 studies (19.3%) had groups of 14 subjects and 4 studies (15.4%) had groups of 10 subjects in the control groups at the end of the research studies.

Two studies each (7.7% each) had groups of 12 and 16 subjects respectively. Four studies each (3.8% per study) had a group number of 5, 13, 18 and 20 subjects respectively.

The mean number of subjects per control group at the end was calculated to be 13.68 with a standard deviation of numbers of subjects per control group at the end being 3.024.

4.5.1.4 Size of 1st Experimental Group

This group size was also investigated at the start and then at the end of the research studies.

4.5.1.4.1 Size of 1st Experimental Group: At the Start

Seven (26.9%) of the 26 research studies examined for this meta-analysis contained 15 subjects in the 1st experimental group at the start of the research studies. This was the most frequently used size of experimental group amongst the 1st experiment groups at the start of the research studies. Three of the 1st experimental groups contained 16 subjects (11.6%), and another three groups contained 20 subjects (11.6%). Two experimental groups each had 10, 13, 14 and 17 subjects in the 1st experimental groups (7.7% each of all experimental groups) comprising 30.8% of all the 1st experimental groups. One experimental group each contained 5, 18 and 25 subjects, i.e. each comprising 3.8% of all the 1st experimental groups.

The mean number of subjects per 1st experimental group at the start was calculated to be 15.38 with a standard deviation of numbers of subjects per 1st experimental group at the start being 3.910.

4.5.1.4.2 Size of 1st Experimental Group: At the End

Five (19.3%) of the 26 research studies examined for this meta-analysis contained 15 and 16 subjects respectively in the 1st experimental group at the end of the research studies. These were the most frequently used sizes of experimental groups amongst the 1st experimental groups at the end of the research studies. Four of the 1st experimental groups contained 14 subjects (15.4%), 3 groups contained 10 subjects (11.6%) and another 3 groups contained 13 subjects (11.6%). One experimental group each contained 5, 12, 17, 20 and 21 subjects, i.e. each comprising 3.8% of all the 1st experimental groups at the end of the research studies.

The mean number of subjects per 1st experimental group at the end was calculated to be 14.20 with a standard deviation of numbers of subjects per 1st experimental group at the end being 3.253.

4.5.1.5 Size of 2nd Experimental Group

There were only six 2nd experimental groups in the 26 research studies examined for this meta-analysis. The group numbers were investigated at the start and at the end of the research studies.

4.5.1.5.1 Size of 2nd Experimental Group: At the Start

There were six 2nd experimental groups at the start of the research studies in the 26 research studies examined for the purposes of this research study. There were 2 groups of 10 subjects each (33.3% of all 2nd experimental studies) and 2 groups of 15 subjects each (33.3% of all 2nd experimental studies). One study contained a 2nd experimental group of 5 subjects and another study contained a 2nd experimental group of 16 subjects (each comprising 16.7% of all 2nd experimental groups).

The mean number of subjects per 2nd experimental group at the start was calculated to be 11.83 with a standard deviation of numbers of subjects per 2nd experimental group at the start being 4.262.

4.5.1.5.2 Size of 2nd Experimental Group: At the End

There were six 2nd experimental groups at the end of the 26 research studies that were examined for the purposes of this research study. Two groups consisted of 10 subjects each (33.3% of all 2nd experimental studies) and 4 groups consisted of 5, 13, 14 and 15 subjects each (66.7% of all 2nd experimental studies) at the end of the research studies.

The mean number of subjects per 2nd experimental group at the end was calculated to be 11.17 with a standard deviation of numbers of subjects per 2nd experimental group at the end being 3.656.

4.5.1.6 Size of 3rd Experimental Group

One study out of the 26 research studies examined had a 3rd experimental group.

4.5.1.6.1 Size of 3rd Experimental Group: At the Start

The one study that had a 3rd experimental group comprised of 16 subjects at the start of the research study.

4.5.1.6.2 Size of 3rd Experimental Group: At the End

The only study that had a 3rd experimental group comprised of 14 subjects at the end of the research study.

4.5.2 Compliance of Subjects

Compliance of the subjects was assessed in terms of the percentages of subjects remaining at the end of the whole study in the different groups. All 26 studies were examined and divided into compliant and non-compliant research studies in terms of their percentages of subjects remaining in the studies.

4.5.2.1 Levels of Compliance

All compliant studies had 100.0% of all subjects remaining in the whole group at the end of the research studies. There were 14 studies with 100.0% compliance out of the 26 research studies examined. The remaining 12 studies were non-compliant in that they all exhibited less than 100.0% compliance. This is shown in Table 4.26 below. (N/A = not applicable).

Table 4.26: Numbers at Start versus Numbers at End

	Whole group at start = end?	Control group at start = end?	Experimental group 1 at start = end?	Experimental group 2 at start = end?	Experimental group 3 at start = end?
Non-compliant	12	9	8	1	1
Compliant	14	14	15	4	
Not Known		3	3		
N/A				21	25
Total	**26**	**26**	**26**	**26**	**26**

The 14 compliant research studies (53.8%) were mainly the research studies of short duration, i.e. up to 72 hours duration, where the subjects were closely monitored throughout the research studies.

The compliance of each separate group is depicted in the graph in Figure 4.9 below.

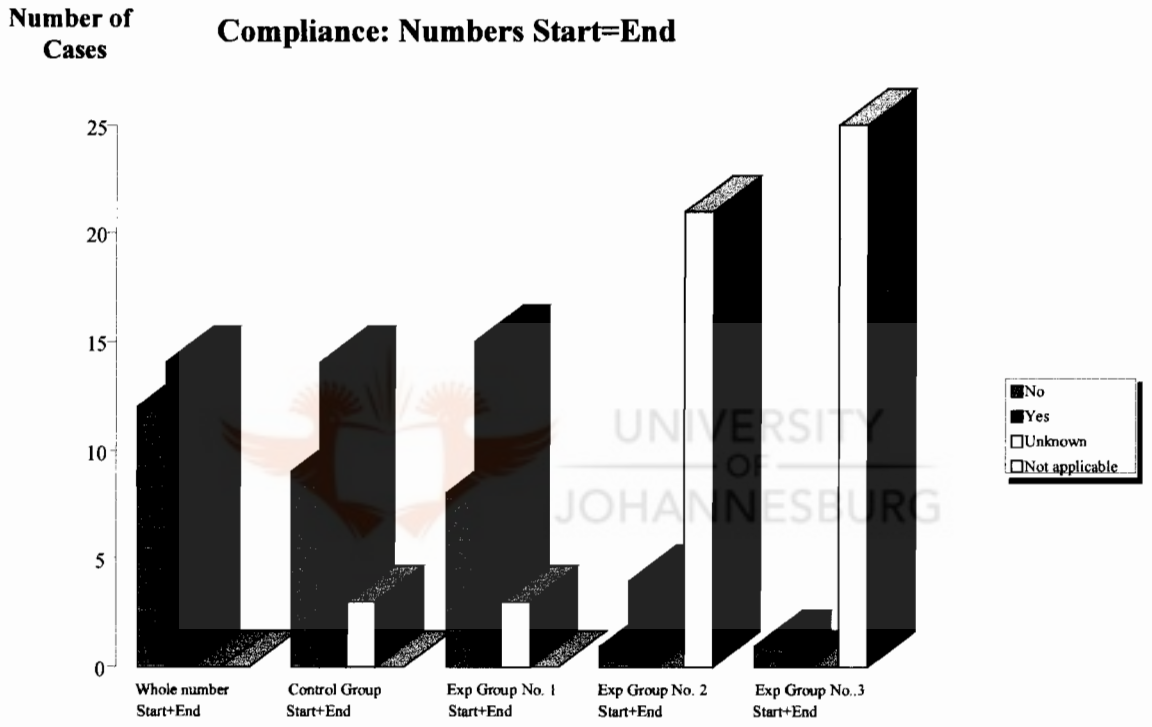

Figure 4.9

In 12 out of the 26 studies, compliance varied between 66.7% and 95.0%. In Table 4.27 below these studies which exhibited non-compliance are shown. The average percentage of compliance in this group of non-compliant studies was 83.4%.

Table 4.27: Levels of Compliance

Non-Compliant Studies: Research Study No.	Number at Start of Whole Group	Number at End of Whole Group	Level of Compliance: Percent
2	36	27	**75.0**
3	40	30	**75.0**
8	50	36	**72.0**
9	45	37	**82.2**
10	35	31	**88.9**
12	30	24	**80.0**
13	40	38	**95.0**
14	34	31	**91.2**
16	30	20	**66.7**
18	31	29	**93.5**
19	64	56	**87.5**
21	32	30	**93.8**
Total Number of Studies	**12**	**12**	
Mean Percentage of Compliance			**83.4**

The average compliance of the whole group of 26 research studies was calculated to be 92.3%.

4.5.2.2 Reasons for Non-Compliance

In the 12 research studies exhibiting non-compliance, one study or 3.8% of all 26 studies investigated, gave an explanation for the level of non-compliance. This meant, that 11 studies (42.3%), which were non-compliant, gave no information about their subjects' lack of compliance. This is shown in Table 4.28 below.

Table 4.28: Reasons for Non-compliance

Are any reasons given For Non-Compliance?	Frequency	Percent	Cumulative Percent
Yes	1	3.8	3.8
No	11	42.4	46.2
N/A	14	53.8	100.0
Total	26	100.0	

4.5.3 Racial Composition

4.5.3.1 Race Specificity

One study out of the 26 research studies mentioned that there was race specificity in the condition being researched. This meant that in only 3.8% of the studies examined, was race ever considered as a factor in terms of the disease being researched. This is represented in Table 4.29 below.

Table 4.29: Race Specificity

Presence of Race Specificity	Frequency	Percent	Cumulative Percent
Yes	1	3.8	3.8
No	25	96.2	100.0
Total	26	100.0	

4.5.3.2 Race Distribution

The race of the subjects was classified into 3 different categories. Subjects were thus assigned to one of 3 racial groups. Although there are in reality 4 different racial groups in South Africa, the Coloureds and the Indians were combined into one group for purposes of simplification. These three groups were Blacks, Coloureds and Indians, and

Whites. The 2001 Census figures from the Statistics South Africa Bureau were used to formulate population percentages. According to these recent figures describing the population of South Africa, 79.0% of the population is Black, 11.4% is Coloured and Indian, and 9.6% is White.

4.5.3.2.1 Number of Blacks in the Research Studies

Twenty-four of the 26 research studies (92.3%) examined contained no information about the numbers of Black subjects participating in the studies. Two studies (7.7%) indicated the numbers of Blacks in each research study (Table 4.30).

Table 4.30: Studies with Information on Numbers of Blacks

Number of Studies with Information on Number of Blacks	Frequency	Percent	Cumulative Percent
Information Present	2	7.7	**7.7**
No Entry	24	92.3	**100.0**
Total	**26**	**100.0**	

One research study contained 15 Black subjects (48.4%) out of the whole group of 31 subjects. The other study contained 11 Black subjects (36.7%) out of the whole group of 30 subjects. No other entries with regard to the numbers of Black subjects in the other research studies were made.

A mean of 42.6% of all subjects was Black in the 2 studies that documented the racial composition of subjects. This is shown in Table 4.31 below.

Table 4.31: Percentage of Blacks in Studies

Study No. with Information on Blacks (see Appendix K)	Number of Black Subjects	Number of Subjects in Whole Group	Black Percentage of Whole Group	Percentage Black in South Africa according to S.A.Census 2001
Study No.10	15	31	48.4	**79.0**
Study No.25	11	30	36.7	**79.0**
Total	**26**	**61**		
Mean: Blacks	**13**	**30.5**	**42.6**	

4.5.3.2.2 Number of Whites in the Research Studies

Twenty-two of the 26 research studies (84.6%) examined contained no information about the numbers of White subjects participating in the studies. Four studies (15.4%) indicated the numbers of White subjects in each research study (Table 4.32).

Table 4.32: Studies with Information on Numbers of Whites

Number of Studies with Information on Number of Whites	Frequency	Percent	Cumulative Percent
Information Present	4	15.4	**15.4**
No Entry	22	84.6	**100.0**
Total	**26**	**100.0**	

One research study contained no White subjects (0.0%) out of the whole group of 31 subjects. The second and third studies were comprised of only White subjects (100.0%). The fourth study contained 16 White subjects (53.3%) out of the whole group of 30

subjects. No other entries with regard to the numbers of White subjects in the other research studies were made.

A mean of 63.3% of all subjects was White in the 4 studies that documented the racial composition of subjects (Table 4.33).

Table 4.33: Percentage of Whites in Studies

Study No. with Information on Whites (see Appendix K)	Number of White Subjects	Number of Subjects in Whole Group	White Percentage of Whole Group	Percentage White in South Africa according to S.A.Census 2001
Study No.10	0	31	0.0	**9.6**
Study No.19	56	56	100.0	**9.6**
Study No.22	**27**	**27**	100.0	**9.6**
Study No.25	16	30	53.3	**9.6**
Total	**99**	**144**		
Mean: Whites	**24.8**	**36**	**63.3**	

4.5.3.2.3 Number of Coloureds and Indians in the Research Studies

Twenty-three of the 26 research studies (88.4%) examined contained no information about the numbers of Coloured and Indian subjects participating in the studies. Three studies (11.6%) indicated the numbers of Coloured and Indian subjects in each research study (Table 4.34).

Table 4.34: Studies with Information on Numbers of Coloureds and Indians

Number of Studies with Information on Number of Coloureds & Indians	Frequency	Percent	Cumulative Percent
Information Present	3	11.6	**11.6**
No Entry	23	88.4	**100.0**
Total	**26**	**100.0**	

One research study contained no Coloured and Indian subjects (0.0%) out of the whole group of 56 subjects. Another study contained 16 Coloured and Indian subjects (51.6%) out of the whole group of 31 subjects. The last documented study contained 3 Coloured and Indian subjects (10.0%) out of the whole group of 30 subjects. No other entries with regard to the numbers of Coloured and Indian subjects in the other research studies were made.

A mean of 20.5% of all subjects was Coloured and Indian in the 3 studies that documented the racial composition of subjects. This is shown in Table 4.35 below.

Table 4.35: Percentage of Coloureds and Indians in Studies

Study No. with Information on Coloureds and Indians (see Appendix K)	Number of Coloured and Indian Subjects	Number of Subjects in Whole Group	Coloured and Indian Percentage of Whole Group	Percentage Coloured and Indian in South Africa according to S.A.Census 2001
Study No.10	16	31	51.6	**11.4**
Study No.19	0	56	0.0	**11.4**
Study No.25	3	30	10.0	
Total	**19**	**117**		
Mean: C&I	**6.3**	**39**	**20.5**	

4.5.3.3 Information about Racial Composition

After examining the 26 research studies used in the meta-analysis, it was noted that information about the racial composition was supplied in 4 out of these 26 research studies (15.4%). The other 22 research studies supplied no information about the racial composition of their subject groups in their studies.

4.5.4 Gender Composition

Gender composition was examined in terms of male and female subjects. Some studies were considered gender specific by the nature of the condition being investigated.

4.5.4.1 Gender Specificity

Out of the 26 research studies being examined, 6 studies were found to be gender specific (23.1%). All 6 of these gender specific studies were female specific, using only females in their studies. Twenty studies were not gender specific (76.9%) and could include both male and female subjects. This is shown in Table 4.36 below.

Table 4.36: Gender Specificity

Gender Specific Studies	Frequency	Percent	Cumulative Percent
Yes	6	23.1	**23.1**
No	20	76.9	**100.0**
Total	**26**	**100.0**	

Two studies, both not gender specific, were performed using only males as subjects.

4.5.4.2 Gender Distribution

The gender distribution was calculated as gender distribution of all 26 research studies, and separately, as gender distribution taking gender specificity into account.

4.5.4.2.1 Number of Males in the Research Studies

Twenty-six research studies were examined to calculate the distribution of males in the research studies. Twenty research studies (76.7%) were examined that were not gender specific, the other 6 studies (23.3%) were female specific and excluded males from the studies. In 7 studies, which were not gender specific, no data was present to show gender distribution; in all 7 studies, it was stated that both genders were represented, but no specific data was given (Table 4.37).

Table 4.37: Numbers of Males in Studies

Number of Males in Each Study	Studies: Frequency	Percent	Cumulative Percent
0	6	23.3	**23.3**
4	1	3.8	**27.1**
9	1	3.8	**30.9**
10	1	3.8	**34.7**
11	1	3.8	**38.5**
14	1	3.8	**42.3**
16	1	3.8	**46.1**
17	2	7.8	**53.9**
19	1	3.8	**57.7**
24	1	3.8	**61.5**
26	1	3.8	**65.3**
30	1	3.8	**69.2**
40	1	3.8	**73.1**
Total	**19**	73.1	
No entry	7	26.9	**100.0**
Total	**26**	**100.0**	

4.5.4.2.2 Number of Females in the Research Studies

Twenty-six research studies were examined to calculate the distribution of females in the research studies. Twenty research studies (76.7%) were not gender specific, the other 6 studies (23.3%) were female specific. In 7 studies, which were not gender specific, no data was present to show gender distribution; in all 7 studies, it was stated that both genders were represented, but no specific data was supplied. This is shown in Table 4.38 below.

Table 4.38: Numbers of Females in Studies

Number of Females in Each Study	Number of Studies: Frequency	Percent	Cumulative Percent
0	2	7.7	**7.7**
11	2	7.7	**15.4**
12	1	3.8	**19.2**
13	2	7.7	**26.9**
15	1	3.8	**30.8**
18	1	3.8	**34.6**
19	2	7.7	**42.4**
20	1	3.8	**46.2**
21	1	3.8	**50.0**
25	1	3.8	**53.8**
27	1	3.8	**57.7**
30	2	7.7	**65.4**
31	2	7.7	**73.2**
Total	19	73.2	
No entry	7	26.8	**100.0**
Total	**26**	**100.0**	

There were no male gender specific studies amongst the 26 research studies being examined. Although not gender specific, 2 studies (7.7%) used only male subjects. All other 24 studies used female subjects.

4.5.4.3 Information about Gender Composition

Out of the 26 research studies examined for this meta-analysis, 19 studies (76.9%) supplied information about the gender composition of the subjects. The other 7 studies (23.1%) noted that they included both genders, but gave no further specific information.

The gender information was inconsistent, and gave no indication of whether males and females were counted at the start or end of the study.

Table 4.39: Number of Studies with Available Information

Number of Studies with Available Information	Frequency	Percent	Cumulative Percent
Available Information	19	76.9	**76.9**
No Entry	7	23.1	**100.0**
Total	**26**	**100.0**	

4.5.5 Age Composition

The age composition of the subjects of the studies was generally not effectively described. The age compositions of the subjects of the studies were described in terms of maxima and minima in most studies, and not usually in any other fashion.

4.5.5.1 Presence of Age Criterion

In 3 out of the 26 research studies examined (11.5%), no age criteria or description of the ages of the subjects were supplied at all. In the remaining 88.5% of the studies at least one form of age criterion or description was used. This is shown in Table 4.40 below.

Table 4.40: Presence of Age Criteria

Age Criterion: Any Given	Frequency	Percent	Cumulative Percent
Yes	23	88.5	**88.5**
No	3	11.5	**100.0**
Total	**26**	**100.0**	

4.5.5.2 Types and Prevalence of Age Criteria Used

In Table 41 the prevalence of use of the different ways of describing the ages of the subjects in a research study is shown. No age criteria were produced in 3 of the 26 studies (11.5%).

Age was described in the remaining 23 (88.5%) of the 26 studies by means of limiting the age of subjects to between a minimum and a maximum. A mean of years of age was used in 8 studies (30.8%), but a standard deviation in only one study (3.8%). A frequency distribution of the ages of the subjects was used in 6 of the studies (23.1%).

Table 4.41: Types and Prevalence of Age Criteria Used

Age Description	Yes		No		N/A		Total	Total
	No.	%	No.	%	No.	%	No.	%
Frequency Distribution	6	23.1	17	65.4	3	11.5	26	**100.0**
Mean of Years	8	30.8	15	57.7	3	11.5	26	**100.0**
Standard Deviation	1	3.8	22	84.6	3	11.5	26	**100.0**
Minima & Maxima	23	88.5	0	0.0	3	11.5	26	**100.0**

This prevalence of the use of different criteria to describe the ages of the subjects in the research studies is depicted in the graph in Figure 4.10 below.

Age Criteria

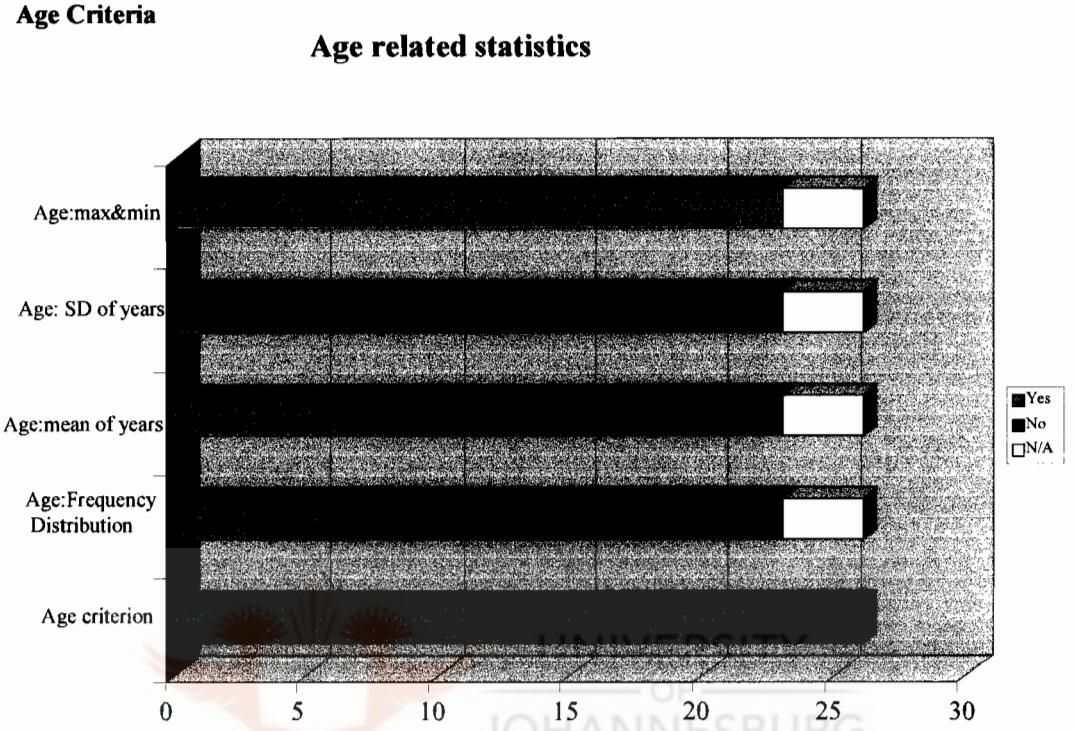

Figure 4.10

4.5.6 Diagnostic Screening

The subjects in the 26 research studies were screened for the condition that was being investigated in the research study. This was performed by means of diagnostic procedures, physical examinations and further investigative clinically diagnostic procedures.

In 25 of the 26 research studies (96.2%) being scrutinised, the diagnostic screening procedures were adequate. In one study (3.8%), the diagnosis of the condition was not adequately confirmed. This was shown in Table 4.42 below.

Table 4.42: Adequacy of Diagnostic Screening

Adequate screening done?	Frequency	Percent	Cumulative Percent
Yes	25	96.2	**96.2**
No	1	3.8	**100.0**
Total	**26**	**100.0**	

4.6 Student Researcher Variables

4.6.1 Author Gender

4.6.1.1 Author Gender: All Studies

The total of 97 research studies completed between 1995 and 22nd April 2003 was examined to find the gender of the authors. It was found that 30 studies (30.9%) were produced by males, and 67 studies (69.1%) were produced by females. This was shown in Table 4.43 below.

Table 4.43: Author Gender of All Studies

Author Gender	Frequency	Percent	Cumulative Percent
Male	30	30.9	**30.9**
Female	67	69.1	**100.0**
Total	**97**	**100.0**	

4.6.1.2 Author Gender: Random Controlled Trials

The 26 research studies used for this meta-analysis were examined to find the gender of the authors. It was found that 9 studies (34.6%) were produced by males, and 17 studies (65.4%) by females.

Table 4.44: Author Gender of Randomised Controlled Trials

Author Gender	Frequency	Percent	Cumulative Percent
Male	9	34.6	**34.6**
Female	17	65.4	**100.0**
Total	**26**	**100.0**	

4.6.2 Bias in Interpretation and Presentation

The student researcher made a **subjective** assessment of the bias prevalent in the 26 research studies used for this meta-analysis. This assessment was based on the researcher's experience of how well each research study was designed, executed and written. It included an assessment of the bias in the interpretation of the results produced. The interpretation of the presented data was considered, and exaggerations and omissions of that data were assessed. Using this as a basis, an overall understanding of the levels of bias that existed in the various student researchers was estimated. Bias was suggested, only when it was flagrantly obvious.

Two studies out of the 26 research studies (7.7%) were considered to be biased in their interpretation and presentation. Twenty-four studies (92.3%) were considered to be unbiased (Table 4.45).

Table 4.45: Presence of Obvious Bias

Presence of Obvious Bias	Frequency	Percent	Cumulative Percent
Yes	2	7.7	7.7
No	24	92.3	100.0
Total	26	100.0	

4.6.3 Supervision

4.6.3.1 Supervisors

All 26 research studies used in the meta-analysis were examined to extract data on the supervisors of these studies. It was found that the majority of studies, i.e. 17 or 65.4%, had been supervised by external supervisors. Three studies each (11.5%) had been supervised internally by Drs Roohani and Razlog respectively. Two studies (7.7%) had been supervised internally by De Villiers, and one study (3.8%) internally supervised by Dr Van Olden. This was shown in Table 4.46 below.

Table 4.46: Supervisors

Name of Supervisors	Frequency	Percent	Cumulative Percent
Van Olden	1	3.8	**3.8**
Razlog	3	11.5	**15.4**
Roohani	3	11.5	**26.9**
External	17	65.4	**92.3**
De Villiers	2	7.7	**100.0**
Total	**26**	**100.0**	

4.6.3.2 Co-Supervisors

All 26 research studies used in the meta-analysis were examined to extract data on the co-supervisors of these studies. It was found that 24 out of the 26 studies had co-supervisors, 2 studies had none. Eight (30.8%) had been externally co-supervised. Of the remaining studies co-supervised internally, seven (29.2%) had been co-supervised by Dr Moiloa. Five studies (19.2%) had been co-supervised by Dr Solomon. Three studies (11.5%) had been supervised by Dr Van Olden. One study (3.8%) had been co-supervised by Dr Razlog. This was shown in Table 4.47 below.

Table 4.47: Co-supervisors

Name of Co-Supervisors	Frequency	Percent	Percent	Cumulative Percent
Moiloa	7	26.9	29.2	**29.2**
Solomon	5	19.2	20.8	**50.0**
Van Olden	3	11.5	12.5	**62.5**
Razlog	1	3.8	4.2	**66.7**
External	8	30.8	33.3	**100.0**
Total	24	92.3	100.0	
No entry	2	7.7		
Total	**26**	**100.0**		

4.6.3.3 Standards of Supervision: Subjective Assessment

The student researcher made a **subjective** assessment of the standards of supervision of the 26 research studies used for this meta-analysis. This assessment was based on the researcher's assessment of how well each research study had been designed, executed, and written.

Seven studies out of the 26 research studies (26.9%) were considered inadequately supervised. The remaining 19 studies (73.1%) were considered adequately supervised (Table 4.48).

Table 4.48: Standards of Supervision

Adequate Supervision	Frequency	Percent	Cumulative Percent
Yes	19	73.1	**73.1**
No	7	26.9	**100.0**
Total	**26**	**100.0**	

Chapter Five

DISCUSSION

5.1 Introduction

The results of this research study are discussed here under the following 5 sections:

- The Design of the Research Studies
- Special Factors affecting the Research Studies
- Medicinal Variables
- The Subjects
- The Student Researchers and the Supervisors

These sections do not preclude some overlapping of information and of correlating factors across sections.

5.2 The Design of the Research Study

5.2.1 Placebo Control Group, Blinding and Randomisation of Studies

All studies included in this meta-analysis were adequately placebo-controlled. Most were double-blinded (96.2%) and randomised (92.3%). Although one study was not blinded, this was due to the nature of the therapy being administered to the subjects. Two studies, which were less randomised, were matched to the homeopathic drug picture, and formed matched control and experimental groups, respectively. In terms of scientifically valid research, these studies were well formulated and produced.

5.2.2 Sample Size Recommendations

Nineteen of the 26 students made recommendations concerning sample size. All 19 students recommended that studies should be performed with larger sample sizes. Most of them stated that the small sample numbers commonly recommended at the Technikon Witwatersrand negatively affected the statistical validity of their studies. None of the students recommended using smaller sample sizes.

5.2.3 Duration of the Studies

The duration of the studies could be linked to the duration of treatment. Both have similar numbers of studies in the time categories used in these studies, as can be seen when comparing Figures 4.1 and 4.6. Similar results were obtained in the cross-tabulations performed between, firstly, the duration of the study, and secondly, the duration of the treatment, to the statistical significance, respectively (Tables 4.5 and 4.21).

According to these results, no statistical significance could be found in terms of the length of the study or the length of the treatment to the success of the study. Emerging trends towards research studies of any specific length being more successful compared to others, would need a higher sample number and long-term monitoring.

5.3 Special Factors affecting the Research Studies

5.3.1 Grounding in the Literature Review

Grounding in the literature review occurred only in a small proportion of the studies, although use was made of comparable literature in 11 studies (42.3%). Duplication of studies or reproduction of studies took place in 4 studies (15.4%). Most studies (84.6%) were, therefore, new and original. This meant that these studies were not grounded in the literature, and were frequently poorly motivated. As the ability to reproduce the results of a study is paramount to its acceptance by the scientific research community, the

confirmation of previously performed studies would promote the validity of homeopathic research at the Technikon Witwatersrand.

5.3.2 Availability of Information

Demographic information about the subjects of these 26 research studies was virtually unobtainable. In only two research studies (7.7%) adequate information was available for perusal by the student researcher.

Information on the racial composition of the sample groups was limited. In 2 studies (7.7%) the numbers of Blacks, in 4 studies (15.4%) the numbers of Whites, and in 3 studies (11.5%) the numbers of Coloureds and Indians were noted. This meant that more than 80.0% of all the studies contained no information about the race of the subjects participating in these studies.

Information on the gender composition and distribution of the sample groups was available in 19 of the 26 studies (73.1%) examined for this meta-analysis. In 7 studies (26.9%) there was no information available about this demographic factor.

Information on the age composition of the sample groups was inconsistent. Three research studies (11.5%) had no documentation concerning the age of their subjects. The remaining studies (88.4%) described the age composition of their subjects in a variety of ways. Six studies (23.1%) described age of subjects in terms of a frequency distribution, 8 studies (30.8%) in terms of a mean of years of age and 1 study (3.8%) in terms of a standard deviation from the mean. All 23 studies (88.5%) that supplied an age criterion or description used a minimum and maximum to describe the age limitations of their subjects. It was not clear from the studies, however, whether this age criterion was used to describe prospective subjects, or to describe actual subjects. Often this criterion fell outside the limits of the actual ages of the subjects, when these were given.

Some information was unavailable in some of the earlier research studies due to the lack of available original theses. This affected the date of completion of some studies, which were lodged in the library undated and unsigned. Some theses were entirely absent from the library.

5.3.3 Statistical Significance of Studies

Thirteen of the 26 research studies (50.0%) examined for this meta-analysis were found to claim statistical significance in terms of at least one variable being investigated. Statistical significance could often not be demonstrated due to low sample numbers. On examination, the results of some research studies showed distinct trends, but were nevertheless statistically insignificant due to the low sample numbers.

5.3.4 Date of Completion of the Research Studies

The dates of completion of the theses lodged at the Technikon Witwatersrand were collated and percentages completed per annum were calculated. The amount of randomised controlled studies being produced by homeopathic students at the Technikon Witwatersrand was seen to have increased annually. In 1998, the first year that research was performed at the Technikon Witwatersrand, only one random controlled study was produced. These numbers increased annually and in 2002 eleven randomised controlled studies were produced. This indicated a healthy growth in the amount of studies being performed at the Technikon Witwatersrand and in the amount of studies the research supervisory staff were able to process.

This growth was a reflection of the overall growth of homeopathic research at the Technikon Witwatersrand. In 1998 seven research studies were produced at the Technikon Witwatersrand, rising year by year, until 25 studies were produced in 2002.

5.4 Medicinal Variables

The medicinal variables were examined to determine how they could affect the statistical significance of the research studies. This also enabled the researcher to evaluate the most frequently used types of medicine and to establish which types or potencies of medicines had not been used.

5.4.1 Vehicle Substances for the Active Ingredient

Tablets and drops were the most frequently used forms of vehicle substance in these randomised controlled studies. Tablets were most frequently used (38.5%), but no statistically significant difference was found between the effectiveness of any of the different forms of vehicle substance. This was revealed by cross-tabulation of vehicle substance with the statistical significance of the studies, and indicated that there was no difference in function between the various vehicles of the active ingredient of the homeopathic medicines. These findings promote the choice of vehicle substance for convenience and functionality.

5.4.2 Potencies

Eight research studies (27.6%) were conducted using low potencies, i.e. between 3X and 6X. This was the largest group of a specific potency used, followed by the use of mother tinctures. The predominant use of these low potencies was possibly an attempt to use homeopathic dilutions, which could be physiologically detected in the human body. This was probably done in an attempt to remain within commonly accepted scientific and medical research practices, allowing the measurement of active medicinal substance levels within the subject's body.

No other statistically significant findings were reported in this section and no connections were made between potencies used and statistical significance of results.

5.4.3 Reputable Manufacture

Most of the 26 research studies examined for this meta-analysis used medicines that were manufactured by reputable homeopathic medicine producers. Two studies had no documentation of the origin of the medicines used, and the medicines could not be assumed to be ethically manufactured.

Reputable manufacture of medicines, according to the homeopathic pharmacopoeia, would allow for internationally acknowledged homeopathic manufacturing protocols to support homeopathic research. The purity of the medicines and the consistency of the manufacturing process could only be guaranteed, if manufactured by a reputable homeopathic medicine producer.

5.4.4 Placebo Action versus Vehicle Action

None of the student researchers checked the action of their chosen vehicle substance on their subjects, or even acknowledged that there was a known action of those substances. This vehicle action was frequently tested in the *in vitro* studies performed using homeopathic medicines, as it was found to significantly alter the results of the experiments conducted. It cannot therefore be assumed that these "inert" substances have no action on human subjects. Notably, the most frequently used vehicles have been proved homeopathically, and have been found to have very distinct effects on the subjects of these provings.

5.4.5 Frequency of Dosage

The most frequently used dosage in the 26 randomised controlled studies was the 12 hourly dosage (42.3%). This dosage, however, showed a trend towards not being effective, 8 out of the 11 studies using this dosage schedule having produced no statistically significant results. It should, however, be borne in mind that the numbers of the research studies were too low for statistical significance. The 8 hourly dosage

schedule was used in only 26.9% of the research studies, but produced 5 studies with statistically significant results out of a total of 7. These numbers again were too low for statistical significance, but a distinct trend seemed to be emerging. Coincidence could not be ruled out with these small numbers.

No other dosage schedules displayed any statistically significant connection in terms of effectiveness.

5.4.6 Duration of Treatment

Studies using treatment of between 3 weeks and 3 months, i.e. medium length duration of treatment, were found to be the most frequently performed. Six out of 15 studies in this group (40.0%) were found to have statistically significant results; 9 studies (60.0%) were statistically insignificant. Short duration of treatment studies tended to show higher rates of statistical significance, as 3 out of 4 studies (75.0%) showed statistically significant results. Coincidence could not be ruled out, however, as the number of studies in this group was so small.

5.4.7 Acceptable Choice of Medicine

Twenty-five out of 26 studies (96.2%) examined for this meta-analysis were found to use an acceptable choice of homeopathic remedy in terms of the homeopathic literature. One study (3.8%) was found to use a remedy, which could not be motivated by anything in the homeopathic literature.

5.5 The Subjects

The 26 research studies used in the meta-analysis were analysed with regard to group size and composition, compliance of subjects, demographic details, age composition and diagnostic screening.

5.5.1 Groups and Group Sizes

Whole groups were divided into control groups and experimental groups. Numbers of subjects within those groups were extracted from the research studies, and numbers of subjects at the start of the research studies were compared to numbers of subjects at the end of the studies.

Some studies were found to have more than one experimental group, up to a maximum of three experimental groups. These were generally the studies in which more than one potency was being used. Most studies (76.9%) consisted of 2 groups: a placebo control group and an experimental group.

The sizes of the groups were cross-tabulated to the statistical significance of the studies, but no statistically significant relationship could be found.

5.5.2 Compliance of Subjects

Compliance of subjects was found to be generally high. Although 12 out of the 26 studies (46.2%) were regarded as being non-compliant, the levels of compliance varied between 66.7% and 95.0%. Fourteen out of 26 studies were 100.0% compliant, generally because they were short-term and the subjects were constantly monitored.

Reasons for non-compliance were not often forthcoming. In only one out of 12 studies with non-compliant subjects was a reason given for this non-compliance. This was problematic as reasons for non-compliance could have supplied the researchers with a

better understanding of the problems involved in this type of medical research and treatment, i.e. the kinds of dosage schedules not sustainable for the subjects, the side-effects which could arise from the medicines or the presence or absence of patient response.

5.5.3 Racial Composition

Not enough information was available to enable a proper evaluation of the racial composition of the groups of subjects involved in these 26 research studies. Racial distribution was noted in only 4 out of 26 studies (15.4%) and in these studies it emerged that the groups involved were not representative of the South African ethnic distribution, as supplied by the South African Census 2001 figures.

Racial specificity was acknowledged in only one study. Investigation of the ethnic distribution trends of diseases depends on this kind of demographic data, and by omitting it, further possibilities for research are lost.

5.5.4 Gender Composition

Six of the 26 studies were found to be gender specific. All of these 6 studies were specific to females. This was a possible reflection of the gender of the majority of students studying homeopathy at the Technikon Witwatersrand.

No information about the gender composition of the subjects of the research studies was supplied in 7 studies. In all 7 of these studies both genders were represented. In the remaining 19 studies the information supplied was inconsistent and no indication was made as to whether the numbers of subjects given was appropriate to the end or the start of the study.

5.5.5 Age Composition

The age composition of the subjects was poorly described. Age criteria or descriptions were found in 23 out of 26 studies. Twenty-three age criteria or descriptions (88.5%) were supplied in the form of minima and maxima. In 3 studies there were no age criteria or description given at all. These were imprecise and unspecific in terms of demographic detail.

There was insufficient age composition data to allow for future studies depending on age criteria. In terms of medical research it is necessary to describe the ages of the subjects in the sample group in terms of a frequency distribution, a mean of years of age and a standard deviation from the mean.

5.5.6 Diagnostic Screening

Diagnostic screening was excellent in 25 out of 26 studies (96.2%). The student researcher in the remaining study did not check the status of the pre-diagnosed condition, but simply accepted the diagnosis. This was unacceptable, as the validity of the study could be compromised, if this previous diagnosis was incorrect.

5.6 Student Researchers and Supervisors

The student researchers and their supervisors were examined to investigate unacceptable connections between decreased validity of the research studies and bias of the student researcher. Other factors like gender of the student researchers were examined to look for any emerging trends.

5.6.1 Author Gender

The gender of the authors of the research studies was considered in looking for possible trends in research topics and the types of research performed.

It was found that similar percentages of males and females were performing randomised controlled studies and homeopathic research at the Technikon Witwatersrand. Randomised controlled trials were therefore not specific to either gender.

Gender predominance seemed to affect the choice of study topics, in that all 6 of the gender specific studies performed, investigated female gender-specific topics and were conducted by females. No male gender-specific topics were investigated.

5.6.2 Bias in Interpretation and Presentation

The student researcher made a subjective assessment of the presence of obvious bias in the research study. High levels of bias were found in only 2 out of the 26 research studies (7.7%) performed. This overall lack of bias in the interpretation and presentation of the research studies reflected favorably on the validity of the homeopathic research at the Technikon Witwatersrand.

5.6.3 Supervision

Supervision of these 26 research studies was examined in terms of the supervisors and co-supervisors, and in terms of a subjective assessment of the standards of supervision at the Technikon Witwatersrand.

Seventeen randomised controlled studies were externally supervised. This exceptionally high level of external supervision (65.4%) most probably occurred due to the lack of experience of the homeopathic research supervisors in conducting randomised controlled trials. This was observed to be changing in the more recently performed studies, most of these being supervised by homeopaths rather than specialist supervisors.

No distinct pattern could be observed in the co-supervisors. Eight research studies (30.8%) were co-supervised by external co-supervisors, but the remaining 16 research studies were co-supervised by staff at the Technikon Witwatersrand. Two studies were performed without co-supervisors.

According to the student researchers subjective assessment, 7 out of the 26 randomised controlled studies (26.9%) were inadequately supervised. This assessment was based on the design of the research studies, the execution of the experiments and the presentation of the research document. The remaining 73.1% of the research studies did not exhibit as many errors of logic and bias that affected their validity as scientific research.

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This section is a summary of the conclusions that can be drawn from the findings of this meta-analysis. Recommendations made were in line with these findings and the conclusions drawn from them.

6.2 Conclusions

6.2.1 Design of the Research Study

The designs of the 26 homeopathic research studies analysed for this meta-analysis were good in terms of having a placebo control group, being properly randomised, and being conducted in an acceptable, scientifically unbiased manner. No particular benefit could be found from having either longer or shorter treatment periods, but the treatment term should be suited to the condition, as it was in these research studies.

The sample number negatively affected the validity of these research studies. Although 50% of these studies claimed to have produced statistically significant results, in terms of statistical validity, the acknowledged lowest number in each separate group would be 30 subjects. None of these research groups have subject groups of this size, and so become statistically insignificant as a result.

6.2.2 Special Factors affecting the Validity of the Research Studies

These 26 research studies were poorly grounded in their literature reviews. Homeopathic research is new at the Technikon Witwatersrand, and with increased access to previously performed research theses, these studies should improve in terms of their motivation from the homeopathic literature.

Demographic information about the subjects of these research theses was badly documented. Only limited information was available in most studies about the racial, gender and age composition of the subjects. Only in one study was this information readily available, in all other studies it had to be sifted piecemeal from the tables and the body of the study.

If one discounted the low sample numbers, 50% of the research studies achieved statistical significance in their results. This is an acceptable level of significance.

The number of homeopathic research theses emerging from the Technikon Witwatersrand increased annually. This showed a healthy increase in the capacity of the students and staff to cope with the challenges of conducting and supervising research.

6.2.3 Medicinal Variables

No advantage was found in using a particular vehicle substance over another. Although tablets were the most frequently used vehicle for the active medicinal substance, this choice was probably due to convenience.

No advantage could be found in using a particular potency of medication in terms of its success rate. The most popular potencies were the low potencies, mother tinctures and 3X to 6X. These potencies were chosen as being more acceptable to the allopathic medical research community, as technically, the active substances should still be physiologically detectable within the subjects bodies. Use of higher potencies was

found to be just as effective in terms of success rates of treatment, but no randomised controlled trials were performed using very high potencies.

The action of the vehicle substance was neither investigated nor acknowledged in these 26 research studies. This may have skewed the results, as action by these commonly used vehicles is proven. Placebo action is also debatable in these studies, as the customarily acknowledged levels of placebo action which are always taken into account in controlled studies, have been challenged recently.

No statistically significant results were found in terms of the frequency of the dosage, and in terms of the duration of the treatment. A trend seemed to be emerging that the 8 hourly dosage seemed more effective than the 12 hourly dosage.

6.2.4 The Subjects

Changes in group sizes were generally well documented; but non-compliance, which could be extrapolated from these changes, was neither discussed nor explained. This factor needed to be explained, as it would have allowed for constant evaluation of possible side effects of the medicines, and of the problems encountered by the subjects partaking in those research studies.

Demographic data was badly documented in these 26 research studies. This data is important in terms of later studies and follow up studies, and in terms of meta-analyses cross-referencing different factors like race, gender or age to a prevalence of a certain condition or other extraneous factors.

Generally it was found that the subject groups were not truly representative of a cross section of the South African population. This level of representation was regarded as the ideal, however, and is difficult to achieve.

6.2.5 The Student Researchers and the Supervisors

The student researchers demonstrated a very low level of bias in these research studies. Obvious bias was evident in only 2 of the randomised controlled studies performed at the Technikon Witwatersrand. This level of bias was, however, felt to be unacceptable, as it could have been detected and prevented by the supervisors of these research studies.

This student researcher felt the supervision of the research theses to be inadequate. Although only 7 out of 26 research studies demonstrated distinct problems with bias, design and execution of the study, and writing and presentation of the research dissertation, it was felt that better supervision could have prevented most of these problems.

6.3 Recommendations

6.3.1 Recommendations for Homeopathic Research at the Technikon Witwatersrand

- Increase the sample size of the subjects partaking in the research studies
- Standardize the format of the research thesis with special relevance to inclusion of demographic data
- Train the supervisors in all aspects of supervision of homeopathic research studies and ensure that, either the supervisor or the co-supervisor, is adequately trained in terms of supervising research

- Increase access to international and national databases of homeopathic research to increase the ability of the student to ground their research properly in the homeopathic research literature

- Promote the confidence of the student researchers by using their research studies as reference in seminars and lectures

- Pursue publication of as many well-conducted research studies as possible to promote homeopathic research in the international research community

- Formulate a Technikon Witwatersrand homeopathic research database

6.3.2 Suggestions for Future Meta-analytic Topics

- Future meta-analyses assessing the state of the research at the Technikon Witwatersrand should be conducted every few years.

- Meta-analyses of studies conducted on either one remedy or investigating the efficacy of homeopathic remedies in treating a particular condition, when there are enough studies of good methodological quality available for these purposes, should be done

- Cooperation between Durban Institute of Technology and Technikon Witwatersrand to standardize the format of research dissertations should be promoted. This would allow pooling of studies of same standards for purposes of gathering enough studies for more meta-analyses.

- Meta-analyses of a combination of homeopathic research studies using both simplex and complex medicines would help to optimise studies with larger sample numbers.

- Meta-analysis of *in vitro* studies performed using homeopathic remedies should definitely be performed.

6.3.3 Other Homeopathic Research Fields

- Investigations of placebo actions in homeopathic research, as well as the actions of the specific vehicle substances

- More *in vitro* research, especially investigating the link between liquid and solid media and the success of the studies

- A lot more studies to increase the volume of the homeopathic research body

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Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Baerveldt, Cherise	The effect of homoeopathic preparations of *Senecio latifolius* on hepatic cell cultures pre-treated with the same substance
2. Baillie, Trevor Douglas	A study of the effect of a homoeopathic complex preparation of *Allium sativum* D6, D12, *Coecum* D6, D12, *Glandulae thymi* D6, D12, *Lymphocytes* D6, D12, *Medulla ossium* D6, D12, *Tonsillae pharyngae* D6, D12, *Zincum Metallicum* D10, D12, on the circulating white blood cells.
3. Bayer, Philip	A study of the toxicology of five arthropods with possibilities as new homoeopathic remedies
4. Bengsch, Heidi	A study on the effect of *Arnica montana* 30 CH on blood coagulation *in vitro*
5. Beukes, Stefan	The efficacy of sodium phosphate D6 in delaying the onset of muscle fatigue during short duration high intensity exercise
6. Blake, Graeme	The effect of Angio in the treatment of postural hypotension
7. Bond, Joddina	A comparative study of the effects of the essential oil tea-tree (*Melaleuca alternifolia*) both in pure extract and in homoeopathic potencies, and nizoral (Ketoconazole®) on the growth of *Candida albicans*.
8. Bradshaw, Candice Louise	A study to establish the effect of homoeopathic *Sepia officinalis* on the growth of *Candida albicans* and *Streptococcus pyogenes*.
9. Breedveld, Sancia Nicole	A study to compare the efficacy of Saline versus Traumeel® injection in terms of pain reduction in patients suffering from myofascial pain syndrome.
10. Brodie, Kerian	The efficacy of *Phytolacca decandra* 15CH in the treatment of fibroadenoma of the breast in pre-menopausal females
11. Cascioli, Tracy Rozanne	The efficacy of a Homoeopathic complex on canine parvoviral enteritis.
12. Cole, Caron Luanne	The efficacy of Endometrium compositum in the treatment of endometriosis.
13. Compere, Vicki Catherine	The efficacy of Sepia™ in climacteric symptoms
14. Cox, Samantha Jayne	A comparative study to establish the effect of homoeopathic *Mercurius corrosivus* and homoeopathic *Terebinthina* on the growth of *Escherichia coli* and *Enterococcus faecalis*

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

15. Davey, Karen Lee	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* tincture, *Echinacea angustifolia* tincture and *Thuja occidentalis* D1 on circulating leukocytes.
16. De Canha, Nicole Castro	The effect of *Phytolacca decandra* 12CH on the treatment of fibroadenoma of the breast in pre-menopausal females
17. De Klerk, Marike	The anti-fungal properties of *Calendula officinalis* on *Candida albicans*
18. De Preez, Hermanus Carel	A study to investigate the role of the homoeopath as a member of the multi-disciplinary team in the South African hospital environment: The view of the team members.
19. Didcott, Helen Sarah	The application of the classical homoeopathic approach in the treatment of depression.
20. Domeison, Debbie	The efficacy of the genus epidemicus remedy in the treatment of influenza
21. Donly, Alan	The efficacy of the homoeopathic preparation Nervuton 2 in the treatment of stress
22. Doolabh, Pranay Amrih	The effect of *Calendula officinalis* mother tincture on circulating leukocytes
23. Dracevac, Ivanka	A study to compare the effect of homoeopuncture and acupuncture on the electrical activity of hypertonic muscles
24. Du Plessis, Jan Leonard	The efficacy of *House Dust Mite* 30CH in ameliorating the symptoms of dust allergy
25. Durandt, Gerhardus	The effect of *Ferrum phosphoricum* 6CH on maximum oxygen consumption during continuous graded exercise
26. Eden, Julie Michelle	The effect of *Bacillinum* 200CH on tinea capitis, tinea corporis and tinea versicolor
27. Ferguson, Glen	A comparison of the efficacy of auricular acupuncture and homoeopathic treatment in smoking cessation
28. Fleming, Colleen	The efficacy of *Hydrastis canadensis* mother tincture and 3X potency in the treatment of sinusitis
29. Groves, Isabel	The antimicrobial efficacy of *Calendula officinalis* and *Cantharis vesicatoria* on *Candida albicans* and B-haemolytic *Streptococcus influenzae.*
30. Hardy, Robert	A comparison of the efficacy of centesimal and quinquagenimillisimal isotherapeutic potencies in nicotine withdrawal and smoking cessation

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

31. Hatzikonstandinau, Kanellie	A study to compare the possible antifungal and antimicrobial effects of a homoeopathic complex of *Angustifolia-Echinacea purpurea* with that of a single entity remedy prepared from *Echinacea angustifolia* and *Echinacea purpurea* respectively.
32. Hoorzoak, Zureena	The effect of *Conium maculatum* 12CH in the treatment of fibroadenoma of the breast in pre-menopausal women
33. Jacobs, Taryn	The effect of the homoeopathic similimum in binge eating disorder
34. Jeannes, Rene	A study to determine the comparative effectiveness of homoeopathic complex in the treatment of intestinal parasites in small dogs
35. Jeena, Anjana	The *in-vitro* effect of *Bothrops lanceolatus* 6CH, 9CH and 12CH on the coagulation of blood
36. Johnston, Gavin Ewan	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating leukocytes.
37. Jooste, Petra	An *in vitro* study of the comparative effect of individual components of two anthroposophical complexes to chloramphenicol on the growth of *Staphylococcus aureus*
38. Jordi, Marie Louise	A comparative study of the effects of homoeopathically potentised *Argentum nitricum* on the growth rate of germinating *Zea mays* seeds.
39. Khayltash, Shekufeh	A study to determine the ameliorating effects of *Vitis vinifera* D1 in the treatment of osteoarthritis of the knee joint
40. Knipe, Irene	An exploratory study to establish the effect of a homoeopathic complex remedy in the treatment of multiple sclerosis
41. Lala, Brijesh	The *in-vitro* effect of *Lachesis mutas* 6CH, 9CH and 12CH on the coagulation of blood
42. Lazarus, Kerri Leigh	The effect of *Agnus cactus* D3 on menopausal symptoms
43. Le Roux, Yolande	The effect of centesimal potencies of thyroxine on the morphogenesis of *Xenopus laevis* tadpoles
44. Leckie, Vera E.	The effect of *Tryptophan* 4X in the treatment of patients with symptoms of unipolar depression
45. Leggatt, Karin	The efficacy of a homoeopathic complex remedy, (*Atropa belladonna 6CH, Gelsemium 6CH, Phosphorus 6CH*), in treating influenza

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

46. Leibenguth, Manfred	The treatment of essential hypertension amongst Black African population using simplex homoeopathic medicines
47. Lessing, Anna Christina	Purchasing and inventory management in a homoeopathic practice.
48. Lewis, George	The effect of homoeopathically prepared *Senecio latifolius* on hepatic cell cultures poisoned with the same substance
49. Long, Angela Christine	A study to determine the efficacy of the homoeopathic nosode *Rubella* 30 as a German measles prophylactic.
50. Martin, Chanel	The effect of *Atropa belladonna* on the immune response
51. McKechnie, Bronwen	A study on the influence of homoeopathically prepared *Ginkgo biloba* on the results of psychometric tests used to ascertain short-term memory loss in the geriatric subject.
52. McLeod, Lynette Ann	The effect of *Conium maculatum* 15ch in the treatment of fibroadenoma of the breast in pre-menopausal women
53. Mercer, Monica	A study to determine the *in vitro* antimicrobial activity of the homoeopathic remedies *Silicea* 30CH, *Hepar sulphuris* 30CH and *Myristica sebifera* 6CH with the *in vitro* antimicrobial activity of cloxacillin against *Staphylococcus aureus*
54. Meyer, Johan	The efficacy of Melotone syrup in the treatment of attention deficit disorder
55. Michele, Sacha Daniel Piedallu	A comparative study to establish the effect of homoeopathic *Echinacea angustifolia* and conventional Ciprobay® on the growth of *Escherichia coli.*
56. Montgomerie, Kylee	The effectiveness of *Ornithagalum umbellatum* mother tincture in the treatment of acid indigestion
57. Moore, Heloise	A study to determine the *in vitro* antibacterial effect of homoeopathic *Mercurius iodatus flavus* and *Mercurius iodatus ruber* against *Streptococcus pyogenes*.
58. Motala, Vicky	A pilot study on the effect of a homoeopathic remedy *Arnica montana* 12CH on the blood coagulation
59. Moukangoe, Phaswane Isaac Justice	The effect of Wecesin powder on the growth of *Staphylococcus aureus* and *Streptococcus pyogenes*
60. Mower, Gary Wayne	A comparative study of the effects of homoeopathically prepared *Carbo vegetabilis* on the growth rate of germinating *Zea mays* seeds.

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

61. Neaves, Nicholas Mark	The effect of *Astragalus membranaceus* mother tincture on circulating white blood cells
62. Panovka, Leigh	A study of the aetiology of endometriosis based on homoeopathic case taking interviews
63. Parbhoo, Anupa	The *in-vitro* effect of *Bothrops lanceolatus* 6XH, 9XH and 12XH on the coagulation of blood
64. Pelser, Karin	The effect of *Gelsemium sempervirens* 200CH on urine cortisol levels and perceived levels of anxiety
65. Penny, Ryan Hilton	A study on the effect of a homoeopathic complex preparation consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating white blood cells.
66. Penny, Sean Ivan	A study on the effect of a complex formula of *Echinacea angustifolia* mother tincture, *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating white blood cells.
67. Pieterse, Catharine Petronella	A comparative study of the homoeopathic complex remedy Spascupreel® and the homoeopathic simplex *Zincum metallicum* in D6 potency in the treatment of restless leg syndrome.
68. Prangley, Adrian Bryan	The efficacy of *Lacticum acidum* in the treatment of chronic tension-type headaches
69. Quaroni, Loretta	A study of the antimicrobial efficacy of the homoeopathic compound *Streptococcinum* on *Streptococcus pyogenes*.
70. Rautenbach, Hanli	A study on the effect of a complex formula consisting of homoeopathic *Thuja occidentalis* D1 and *Baptisia tinctoria* mother tincture on circulating leukocytes.
71. Razlog, Radmila	A study to determine the effect of homoeopathic *Baptisia tinctoria* (3CH, 15CH and 30CH) on the growth production of *Streptococcus pyogenes* and *Candida albicans* respectively.
72. Robinson, Denise	A study to determine the effect of the biochemic tissue salt *Magnesia phosphorica* 6X in the treatment of irritable bowel syndrome
73. Roohani, Joanne	The effect of *Avena sativa* comp, a homoeopathic complex remedy, on subjective sleeping ability and sleep quality in sufferers of secondary insomnia.
74. Scarcella, Daniela	A study on the effect of a homeopathic complex formula consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating leukocytes.
75. Schultz, Jacquelyn Loren	A study to determine the effectiveness of the homoeopathic remedies *Argentum nitricum* 6CH and *Lycopodium clavatum* 6CH on the individualised treatment of patients suffering from irritable bowel syndrome.

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

76. Singh, Raksha	The *in-vitro* effect of homoeopathically prepared *Lachesis mutas* 6XH, 9XH and 12XH on the coagulation of blood
77. Smit, Adriaan Johan	The effects of the application of a cream containing *Botulinum* toxin expressed in a potency of D26, D30 or 200CH on vertical frown lines
78. Smit, Sandra	A study to determine the efficacy of a homoeopathic similimum remedy in the symptomatic treatment of chronic sinusitis
79. Smith, Debbie	The effects of *Physostigma venenosum* 30CH and combined with Bates Method eye exercises on the management of myopia.
80. Smith, Lauren	The effect of Cerbo ® and Nerva ® on attention deficit hyperactivity disorder
81. Squara, Sandra	The effect of *Olea europea* and *Juniperus communis* on hypercholesterolemia
82. Straus, Leon Christiaan	The efficacy of Selenium-Homaccord® in the management of attention deficit hyperactivity disorder.
83. Sutherland, Jodi Elizabeth	A comparative *in vitro* study to establish the effect of homoeopathic *Echinacea purpurea* and conventional nystatin on the growth and germ tube production of *Candida albicans*.
84. Teixeira, Noel Deon	The effect of decimal potencies of thyroxine on the morphogenesis of *Xenopus laevis* tadpoles
85. Thomson, Rowena Emmeline Kathryn	The effect of a homoeopathic complex remedy (*Argentum nitricum* 200CH, *Kalium phosphoricum* 200CH and *Gelsemium sempervirens* 200CH) on perceived levels of anxiety and cortisol levels in students
86. Torline, John Ross	The effect of *Aconitum napellus* 30C on the occurrence and severity of adverse reactions following diphtheria-tetanus-pertussis and haemophilus influenzae type B immunisation
87. Traub, Gabrielle Amber	The influence of homoeopathic medicines on thought interference, nervousness and anxiety in university students under examination conditions.
88. Van de Veen, Robert John	A qualitative determination of the efficacy of *Selenium* 7CH on oxidative stress levels in type 1 diabetic patients
89. Van Es, Sonia	A comparative study of the effects of Homoeopathically prepared *Avena sativa* on the growth rate of *Zea mays*

Appendix A:
All Studies Performed by Homeopathic Students between 1995 and 22nd April 2003

90. Van Meygaarden, Erica	The effect of *Apis mellifera* on the immune response
91. Van Niekerk, Sonja	The effect prophylactic *Escherichia coli* nosodes may have on alleviating enteric disease in pre-weaned piglets
92. Vermeulen, Jacqueline	A pilot study on the effect of a homoeopathic remedy *Arnica montana* mother tincture on the coagulation of blood
93. Vlachos, Dimitrios	A study of the effect of a complex formula of *Echinacaea angustifolia* mother tincture and *Echinacaea purpurea* mother tincture on circulating white blood cells
94. Vlok, Tania Ann	A study to establish the effect of a homoeopathically prepared complex formulation of mixed allergens and histamine in the treatment of allergic rhinitis.
95. Wolf, Natascha Melanie	A phenomenological approach to black patients and their experiences receiving treatment from a homeopathic practice in Gauteng
96. Woodcock, Gillian Elizabeth	A comparative study of the effects of *Vitex agnus castus* upon premenstrual symptoms in a mother tincture preparation and in a 3X homoeopathic preparation.
97. Yutar, Graham Marc	The efficacy of isotherapeutic Nicotine 3CH in Nicotine withdrawal and smoking cessation

As at April 22nd 2003

Appendix B:
All *In Vivo* Studies done on Human Subjects

NAME	TOPICS OF HOMOEOPATHY DISSERTATIONS: HUMAN IN VIVO STUDIES
1. Baillie, Trevor Douglas	A study of the effect of a homoeopathic complex preparation of *Allium sativum* D6, D12, *Coecum* D6, D12, *Glandulae thymi* D6, D12, *Lymphocytes* D6, D12, *Medulla ossium* D6, D12, *Tonsillae pharyngae* D6, D12, *Zincum Metallicum* D10, D12, on the circulating white blood cells.
2. Beukes, Stefan	The efficacy of sodium phosphate D6 in delaying the onset of muscle fatigue during short duration high intensity exercise
3. Blake, Graeme	The effect of Angio in the treatment of postural hypotension
4. Breedveld, Sancia Nicole	A study to compare the efficacy of Saline versus Traumeel® injection in terms of pain reduction in patients suffering from myofascial pain syndrome.
5. Brodie, Kerian Joy	The efficacy of *Phytolacca decandra* 15CH in the treatment of fibroadenoma of the breast in pre-menopausal females
6. Cole, Caron Luanne	The efficacy of *Endometrium compositum* in the treatment of endometriosis.
7. Compere, Vicki Catherine	The efficacy of Sepia™ in climacteric symptoms
8. Davey, Karen Lee	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* tincture, *Echinacea angustifolia* tincture and *Thuja occidentalis* D1 on circulating leukocytes.
9. De Canha, Nicole Castro	The effect of *Phytolacca decandra* 12CH on the treatment of fibroadenoma of the breast in pre-menopausal females
10. Didcott, Helen Sarah	The application of the classical homoeopathic approach in the treatment of depression.
11. Domeison, Debbie	The efficacy of the genus epidemicus remedy in the treatment of influenza
12. Donly, Alan	The efficacy of the homoeopathic preparation Nervuton 2 in the treatment of stress
13. Doolabh, Pranay Amrih	The effect of *Calendula officinalis* mother tincture on circulating leukocytes
14. Dracevac, Ivanka	A study to compare the effect of homoeopuncture and acupuncture on the electrical activity of hypertonic muscles

Appendix B:
All *In Vivo* Studies done on Human Subjects

15. Du Plessis, Jan Leonard	The efficacy of *House Dust Mite* 30CH in ameliorating the symptoms of dust allergy
16. Durandt, Gerhardus	The effect of *Ferrum phosphoricum* 6CH on maximum oxygen consumption during continuous graded exercise
17. Eden, Julie Michelle	The effect of *Bacillinum* 200CH on tinea capitis, tinea corporis and tinea versicolor
18. Ferguson, Glen	A comparison of the efficacy of auricular acupuncture and homoeopathic treatment in smoking cessation
19. Fleming, Colleen	The efficacy of *Hydrastis canadensis* mother tincture and 3X potency in the treatment of sinusitis
20. Hardy, Robert	A comparison of the efficacy of centesimal and quinquagenimillisimal isotherapeutic potencies in nicotine withdrawal and smoking cessation
21. Hoorzoak, Zureena	The effect of *Conium maculatum* 12CH in the treatment of fibroadenoma of the breast in pre-menopausal women
22. Jacobs, Taryn	The effect of the homoeopathic similimum in binge eating disorder
23. Johnston, Gavin Ewan	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating leukocytes.
24. Khayltash, Shekufeh	A study to determine the ameliorating effects of *Vitis vinifera* D1 in the treatment of osteoarthritis of the knee joint
25. Knipe, Irene	An exploratory study to establish the effect of a homoeopathic complex remedy in the treatment of multiple sclerosis
26. Lazarus, Kerri Leigh	The effect of *Agnus cactus* D3 on menopausal symptoms
27. Leckie, Vera E.	The effect of *Tryptophan* 4X in the treatment of patients with symptoms of unipolar depression
28. Leggatt, Karin	The efficacy of a homoeopathic complex remedy, (*Atropa belladonna 6CH, Gelsemium 6CH, Phosphorus 6CH*), in treating influenza
29. Leibenguth, Manfred	The treatment of essential hypertension amongst Black African population using simplex homoeopathic medicines
30. Long, Angela Christine	A study to determine the efficacy of the homoeopathic nosode *Rubella* 30 as a German measles prophylactic.

Appendix B:
All *In Vivo* Studies done on Human Subjects

31. Mckechnie, Bronwen	A study on the influence of homoeopathically prepared *Ginkgo biloba* on the results of psychometric tests used to ascertain short-term memory loss in the geriatric subject.
32. McLeod, Lynette Ann	The effect of *Conium maculatum* 15CH in the treatment of fibroadenoma of the breast in pre-menopausal women
33. Meyer, Johan	The efficacy of Melotone syrup in the treatment of attention deficit disorder
34. Montgomerie, Kylee	The effectiveness of *Ornithagalum umbellatum* mother tincture in the treatment of acid indigestion
35. Neaves, Nicholas Mark	The effect of *Astragalus membranaceus* mother tincture on circulating white blood cells
36. Pelser, Karin	The effect of *Gelsemium sempervirens* 200CH on urine cortisol levels and perceived levels of anxiety
37. Penny, Ryan Hilton	A study on the effect of a homoeopathic complex preparation consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating white blood cells.
38. Penny, Sean Ivan	A study on the effect of a complex formula of *Echinacea angustifolia* mother tincture, *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating white blood cells.
39. Pieterse, Carine	A comparative study of the homoeopathic complex remedy Spascupreel® and the homoeopathic simplex *Zincum metallicum* in D6 potency in the treatment of restless leg syndrome.
40. Prangley, Adrian Bryan	The efficacy of *Lacticum acidum* in the treatment of chronic tension-type headaches
41. Rautenbach, Hanli	A study on the effect of a complex formula consisting of homoeopathic *Thuja occidentalis* D1 and *Baptisia tinctoria* mother tincture on circulating leukocytes.
42. Robinson, Denise	A study to determine the effect of the biochemic tissue salt *Magnesia phosphorica* 6X in the treatment of irritable bowel syndrome
43. Roohani, Joanne	The effect of *Avena sativa* comp, a homoeopathic complex remedy, on subjective sleeping ability and sleep quality in sufferers of secondary insomnia.
44. Scarcella, Daniela	A study on the effect of a homeopathic complex formula consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating leukocytes.
45. Schultz, Jacquelyn Loren	A study to determine the effectiveness of the homoeopathic remedies *Argentum nitricum* 6CH and *Lycopodium clavatum* 6CH on the individualised treatment of patients suffering from irritable bowel syndrome.

Appendix B:
All *In Vivo* Studies done on Human Subjects

46. Smit, Adriaan	The effects of the application of a cream containing *Botulinum* toxin expressed in a potency of D26, D30 or 200CH on vertical frown lines
47. Smit, Sandra	A study to determine the efficacy of a homoeopathic similimum remedy in the symptomatic treatment of chronic sinusitis
48. Smith, Debbie	The effects of *Physostigma venenosum* 30CH and combined with Bates Method eye exercises on the management of myopia.
49. Smith, Lauren	The effect of Cerbo ® and Nerva ® on attention deficit hyperactivity disorder
50. Squara, Sandra	The effect of *Olea europea* and *Juniperus communis* on hypercholesterolemia
51. Straus, Leon Christiaan	The efficacy of Selenium-Homaccord® in the management of attention deficit hyperactivity disorder.
52. Thomson, Rowena Emmeline Kathryn	The effect of a homoeopathic complex remedy (*Argentum nitricum* 200CH, *Kalium phosphoricum* 200CH and *Gelsemium sempervirens* 200CH) on perceived levels of anxiety and cortical levels in students
53. Torline, John Ross	The effect of *Aconitum napellus* 30C on the occurrence and severity of adverse reactions following diphtheria-tetanus-pertussis and haemophilus influenzae type B immunisation
54. Traub, Gabrielle Amber	The influence of homoeopathic medicines on thought interference, nervousness and anxiety in university students under examination conditions.
55. Van de Veen, Robert John	A qualitative determination of the efficacy of *Selenium* 7CH on oxidative stress levels in type 1 diabetic patients
56. Vlachos, Dimitrios	A study of the effect of a complex formula of *Echinacaea angustifolia* mother tincture and *Echinacaea purpurea* mother tincture on circulating white blood cells
57. Vlok, Tania Ann	A study to establish the effect of a homoeopathically prepared complex formulation of mixed allergens and histamine in the treatment of allergic rhinitis.
58. Woodcock, Gillian Elizabeth	A comparative study of the effects of *Vitex agnus castus* upon premenstrual symptoms in a mother tincture preparation and in a 3X homoeopathic preparation.
59. Yutar, Graham Marc	The efficacy of isotherapeutic Nicotine 3CH in Nicotine withdrawal and smoking cessation

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Appendix C:
***In Vivo* Studies done using Homeopathic Complexes and Non-Homeopathic Medicines**

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Baillie, Trevor Douglas	A study of the effect of a homoeopathic complex preparation of *Allium sativum* D6, D12, *Coecum* D6, D12, *Glandulae thymi* D6, D12, *Lymphocytes* D6, D12, *Medulla ossium* D6, D12, *Tonsillae pharyngae* D6, D12, *Zincum Metallicum* D10, D12, on the circulating white blood cells.
2. Blake, Graeme	The effect of Angio in the treatment of postural hypotension
3. Breedveld, Sancia Nicole	A study to compare the efficacy of Saline versus Traumeel® injection in terms of pain reduction in patients suffering from myofascial pain syndrome.
4. Cole, Caron Luanne	The efficacy of *Endometrium compositum* in the treatment of endometriosis.
5. Compere, Vicki Catherine	The Efficacy of Sepia™ in Climacteric Symptoms
6. Davey, Karen Lee	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* tincture, *Echinacea angustifolia* tincture and *Thuja occidentalis* D1 on circulating leukocytes.
7. Donly, Alan	The efficacy of the homoeopathic preparation Nervuton 2 in the treatment of stress
8. Johnston, Gavin Ewan	A study on the effect of a homoeopathic complex formula consisting of *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating leukocytes.
9. Knipe, Irene	An exploratory study to establish the effect of a homoeopathic complex remedy in the treatment of multiple sclerosis
10. Leggatt, Karin	The efficacy of a homoeopathic complex remedy, (*Atropa belladonna 6CH, Gelsemium 6CH, Phosphorus 6CH*), in treating influenza
11. Meyer, Johan	The efficacy of Melotone syrup in the treatment of attention deficit disorder
12. Penny, Ryan Hilton	A study on the effect of a homoeopathic complex preparation consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating white blood cells.
13. Penny, Sean Ivan	A study on the effect of a complex formula of *Echinacea angustifolia* mother tincture, *Echinacea purpurea* mother tincture and *Thuja occidentalis* D1 on circulating white blood cells.

Appendix C:
***In Vivo* Studies done using Homeopathic Complexes and Non-Homeopathic Medicines**

14. Rautenbach, Hanli	A study on the effect of a complex formula consisting of homoeopathic *Thuja occidentalis* D1 and *Baptisia tinctoria* mother tincture on circulating leukocytes.
15. Roohani, Joanne	The effect of *Avena sativa* comp, a homoeopathic complex remedy, on subjective sleeping ability and sleep quality in sufferers of secondary insomnia.
16. Scarcella, Daniela	A study on the effect of a homeopathic complex formula consisting of *Baptisia tinctoria* mother tincture and *Echinacea purpurea* mother tincture on circulating leukocytes.
17. Schultz, Jacquelyn Loren	A study to determine the effectiveness of the homoeopathic remedies *Argentum nitricum* 6CH and *Lycopodium clavatum* 6CH on the individualised treatment of patients suffering from irritable bowel syndrome.
18. Smith, Lauren	The effect of Cerbo ® and Nerva ® on Attention Deficit Hyperactivity Disorder
19. Squara, Sandra	The effect of *Olea europea* and *Juniperus communis* on hypercholestrolemia
20. Straus, Leon Christiaan	The efficacy of Selenium-Homaccord® in the management of attention deficit hyperactivity disorder.
21. Thomson, Rowena Emmeline Kathryn	The effect of a homoeopathic complex remedy (*Argentum nitricum* 200CH, *Kalium phosphoricum* 200CH and *Gelsemium sempervirens* 200CH) on perceived levels of anxiety and cortical levels in students
22. Traub, Gabrielle Amber	The influence of Homoeopathic medicines on thought interference, nervousness and anxiety in University students under examination conditions.
23. Vlachos, Dimitrios	A study of the effect of a complex formula of *Echinacaea angustifolia* mother tincture and *Echinacaea purpurea* mother tincture on circulating white blood cells
24. Vlok, Tania Ann	A study to establish the effect of a homoeopathically prepared complex formulation of mixed allergens and histamine in the treatment of allergic rhinitis.

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Appendix D:
***In Vivo* Studies done using Homeopathic Simplexes**

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Beukes, Stefan	The efficacy of sodium phosphate D6 in delaying the onset of muscle fatigue during short duration high intensity exercise
2. Brodie, Kerian Joy	The efficacy of *Phytolacca decandra* 15CH in the treatment of fibroadenoma of the breast in pre-menopausal females
3. De Canha, Nicole Castro	The effect of *Phytolacca decandra* 12CH on the treatment of fibroadenoma of the breast in pre-menopausal females
4. Domeisen, Debbie	The efficacy of the genus epidemicus remedy in the treatment of influenza
5. Doolabh, Pranay Amrih	The effect of *Calendula officinalis* mother tincture on circulating leukocytes
6. Dracevac, Ivanka	A study to compare the effect of Homoeopuncture and acupuncture on the electrical activity of hypertonic muscles
7. Du Plessis, Jan Leonard	The efficacy of *House Dust Mite* 30CH in ameliorating the symptoms of dust allergy
8. Durandt, Gerhardus	The effect of *Ferrum phosphoricum* 6CH on maximum oxygen consumption during continuous graded exercise
9. Eden, Julie Michelle	The effect of *Bacillinum* 200CH on tinea capitis, tinea corporis and tinea versicolor
10. Ferguson, Glen	A comparison of the efficacy of auricular acupuncture and homoeopathic treatment in smoking cessation

Appendix D:
***In Vivo* Studies done using Homeopathic Simplexes**

11. Fleming, Colleen	The efficacy of *Hydrastis canadensis* mother tincture and 3X potency in the treatment of sinusitis
12. Hardy, Robert	A comparison of the efficacy of centesimal and quinquagenimillisimal isotherapeutic potencies in nicotine withdrawal and smoking cessation
13. Hoorzoak, Zureena	The effect of *Conium maculatum* 12CH in the treatment of fibroadenoma of the breast in pre-menopausal women
14. Khayltash, Shekufeh	A study to determine the ameliorating effects of *Vitis vinifera* D1 in the treatment of osteoarthritis of the knee joint
15. Lazarus, Kerri Leigh	The effect of *Agnus cactus* D3 on menopausal symptoms
16. Leckie, Vera E.	The effect of *Tryptophan* 4X in the treatment of patients with symptoms of Unipolar Depression
17. Long, Angela Christine	A study to determine the efficacy of the homoeopathic nosode Rubella 30 as a German measles prophylactic.
18. McKechnie, Bronwen	A study on the influence of homoeopathically prepared *Ginkgo biloba* on the results of psychometric tests used to ascertain short-term memory loss in the geriatric subject.
19. McLeod, Lynette Ann	The effect of *Conium maculatum* 15ch in the treatment of fibroadenoma of the breast in pre-menopausal women
20. Montgomerie, Kylee	The effectiveness of *Ornithagalum umbellatum* mother tincture in the treatment of acid indigestion
21. Neaves, Nicholas Mark	The effect of *Astragalus membranaceus* mother tincture on circulating white blood cells

Appendix D:
***In Vivo* Studies done using Homeopathic Simplexes**

22. Pelser, Karin	The effect of *Gelsemium sempervirens* 200CH on urine cortisol levels and perceived levels of anxiety
23. Pieterse, Catharine Petronella	A comparative study of the homoeopathic complex remedy Spascupreel® and the homoeopathic simplex *Zincum metallicum* in D6 potency in the treatment of restless leg syndrome.
24. Prangley, Adrian Bryan	The efficacy of *Lacticum acidum* in the treatment of chronic tension-type headaches
25. Robinson, Denise	A study to determine the effect of the biochemic tissue salt *Magnesia phosphorica* 6X in the treatment of irritable bowel syndrome
26. Smit, Adriaan Johan	The effects of the application of a cream containing *Botulinum* toxin expressed in a potency of D26, D30 or 200CH on vertical frown lines
27. Smith, Debbie	The effects of *Physostigma venenosum* 30CH and combined with Bates Method eye exercises on the management of myopia.
28. Torline, John Ross	The effect of *Aconitum napellus* 30C on the occurrence and severity of adverse reactions following diptheria-tetanus-pertussis and haemophilus influenzae type B immunisation
29. van de Veen, Robert John	A qualitative determination of the efficacy of *Selenium* 7CH on oxidative stress levels in type 1 diabetic patients
30. Woodcock, Gillian Elizabeth	A comparative study of the effects of *Vitex Agnus castus* upon premenstrual symptoms in a mother tincture preparation and in a 3X homoeopathic preparation.
31. Yutar, Graham Marc	The efficacy of isotherapeutic Nicotine 3CH in Nicotine withdrawal and smoking cessation

As at April 22nd 2003.

Appendix E:
***In Vitro* Studies done by Homeopathic Students**

NAME	TOPICS OF DISSERTATIONS: HOMOEOPATHIC *IN VITRO* STUDIES
1. Baerveldt, Cherise	The effect of homeopathic preparations of *Senecio latifolius* on hepatic cell cultures pre-treated with the same substance
2. Bengsch, Heidi	A study on the effect of *Arnica montana* 30 CH on blood coagulation *in vitro*
3. Bond, Joddina	A comparative study of the effects of the essential oil tea-tree (*Melaleuca alternifolia*) both in pure extract and in homoeopathic potencies, and nizoral (Ketoconazole®) on the growth of *Candida albicans*.
4. Bradshaw, Candice Louise	A study to establish the effect of homoeopathic *Sepia officinalis* on the growth of *Candida albicans* and *Streptococcus pyogenes*.
5. Cox, Samantha Jayne	A comparative study to establish the effect of homoeopathic *Mercurius corrosivus* and homoeopathic *Terebinthina* on the growth of *Escherichia coli* and *Enterococcus faecalis*
6. De Klerk, Marike	The anti-fungal properties of *Calendula officinalis* on *Candida albicans*
7. Groves, Isabel	The antimicrobial efficacy of *Calendula officinalis* and *Cantharis vesicatoria* on *Candida albicans* and B-haemolytic *Streptococcus influenzae.*
8. Hatzikonstandinau, Kanellie	A study to compare the possible antifungal and antimicrobial effects of a homoeopathic complex of *Angustifolia-Echinacea purpurea* with that of a single entity remedy prepared from *Echinacea angustifolia* and *Echinacea purpurea* respectively.
9. Jeena, Anjana	The *in-vitro* effect of *Bothrops lanceolatus* 6CH, 9CH and 12CH on the coagulation of blood
10. Jooste, Petra	An *in vitro* study of the comparative effect of individual components of two anthroposophical complexes to chloramphenicol on the growth of *Staphylococcus aureus*
11. Lala, Brijesh	The *in-vitro* effect of *Lachesis mutas* 6CH, 9CH and 12CH on the coagulation of blood
12. Lewis, George	The effect of homoeopathically prepared *Senecio latifolius* on hepatic cell cultures poisoned with the same substance
13. Martin, Chanel	The effect of *Atropa belladonna* on the immune response
14. Mercer, Monica	A study to determine the in vitro antimicrobial activity of the homoeopathic remedies *Silicea* 30CH, *Hepar sulphuris* 30CH and *Myristica sebifera* 6CH with the in vitro antimicrobial activity of cloxacillin against *Staphylococcus aureus*

Appendix E:
***In Vitro* Studies done by Homeopathic Students**

15. Michele, Sacha Daniel Piedallu	A comparative study to establish the effect of homoeopathic *Echinacea angustifolia* and conventional Ciprobay® on the growth of *Escherichia coli.*
16. Moore, Heloise	A study to determine the *in vitro* antibacterial effect of homoeopathic *Mercurius iodatus flavus* and *Mercurius iodatus ruber* against *Streptococcus pyogenes.*
17. Motala, Vicky	A pilot study on the effect of a homoeopathic remedy *Arnica montana* 12CH on the blood coagulation
18. Moukangoe, Isaac Phaswane Justice	The effect of Wecesin powder on the growth of *Staphylococcus aureus* and *Streptococcus pyogenes*
19. Parbhoo, Anupa	The *in-vitro* effect of *Bothrops lanceolatus* 6XH, 9XH and 12XH on the coagulation of blood
20. Quaroni, Loretta	A study of the antimicrobial efficacy of the Homoeopathic compound *Streptococcinum* on *Streptococcus pyogenes.*
21. Razlog, Radmila	A study to determine the effect of homoeopathic *Baptisia tinctoria* (3CH, 15CH and 30CH) on the growth production of *Streptococcus pyogenes* and *Candida albicans* respectively.
22. Singh, Raksha	The *in-vitro* effect of homoeopathically prepared *Lachesis mutas* 6XH, 9XH and 12XH on the coagulation of blood
23. Sutherland, Jodi Elizabeth	A comparative *in vitro* study to establish the effect of homoeopathic *Echinacea purpurea* and conventional nystatin on the growth and germ tube production of *Candida albicans.*
24. Van Meygaarden, Erica	The effect of *Apis mellifera* on the immune response
25. Vermeulen, Jacqueline	A pilot study on the effect of a homeopathic remedy *Arnica montana* mother tincture on the coagulation of blood

As at April 22nd 2003

Appendix F:
Plant Studies done using Homeopathic Medicines

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Jordi, Marie Louise	A comparative study of the effects of homoeopathically potentised *Argentum nitricum* on the growth rate of germinating *Zea mays* seeds.
2. Mower, Gary Wayne	A comparative study of the effects of homoeopathically prepared *Carbo vegetabilis* on the growth rate of germinating *Zea mays* seeds.
3. Van Es, Sonia	A comparative study of the effects of Homoeopathically prepared *Avena sativa* on the growth rate of *Zea mays*

As at April 22nd 2003

Appendix F:
Plant Studies done using Homeopathic Medicines

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Jordi, Marie Louise	A comparative study of the effects of homoeopathically potentised *Argentum nitricum* on the growth rate of germinating *Zea mays* seeds.
2. Mower, Gary Wayne	A comparative study of the effects of homoeopathically prepared *Carbo vegetabilis* on the growth rate of germinating *Zea mays* seeds.
3. Van Es, Sonia	A comparative study of the effects of Homoeopathically prepared *Avena sativa* on the growth rate of *Zea mays*

As at April 22nd 2003

Appendix G:
Animal Studies done using Homeopathic Medicines

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Cascioli, Tracy Rozanne	The efficacy of a homoeopathic complex on canine parvoviral enteritis.
2. Jeannes, Rene	A study to determine the comparative effectiveness of homoeopathic complex in the treatment of intestinal parasites in small dogs
3. Le Roux, Yolande	The effect of centesimal potencies of thyroxine on the morphogenesis of *Xenopus laevis* tadpoles
4. Teixeira, Noel Deon	The effect of decimal potencies of thyroxine on the morphogenesis of *Xenopus laevis* tadpoles
5. Van Niekerk, Sonja	The effect prophylactic *Escherichia coli* nosodes may have on alleviating enteric disease in pre-weaned piglets

As at April 22nd 2003

Appendix H:
Miscellaneous Studies done on Homeopathic Topics

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Bayer, Philip	A study of the toxicology of five arthropods with possibilities as new homoeopathic remedies
2. De Preez, Hermanus Carel	A study to investigate the role of the homoeopath as a member of the multi-disciplinary team in the South African hospital environment: The view of the team members.
3. Lessing, Anna Christina	A study to determine the ameliorating effects of *Vitis vinifera* D1 in the treatment of osteoarthritis of the knee joint
4. Panovka, Leigh	A study to determine the *in vitro* antimicrobial activity of the homoeopathic remedies *Silicea* 30CH, *Hepar sulphuris* 30CH and *Myristica sebifera* 6CH with the *in vitro* antimicrobial activity of cloxacillin against *Staphylococcus aureus*
5. Wolf, Natascha Melanie	The effect of *Aconitum napellus* 30C on the occurrence and severity of adverse reactions following diphtheria-tetanus-pertussis and haemophilus influenzae type B immunisation

As at April 22nd 2003

Appendix I:
Homeopathic Similimum Studies

NAME	TOPICS OF COMPLETED MASTER RESEARCH DISSERTATIONS: HOMOEOPATHY
1. Didcott, Helen Sarah	The application of the classical homoeopathic approach in the treatment of depression.
2. Jacobs, Taryn	The effect of the homoeopathic similimum in binge eating disorder
3. Leibenguth, Manfred	The treatment of essential hypertension amongst Black African population using simplex homoeopathic medicines
4. Smit, Sandra	A study to determine the efficacy of a homoeopathic similimum remedy in the symptomatic treatment of chronic sinusitis

As at April 22nd 2003

Appendix J:

Research Checklist

Section A: **The Thesis**

1. Title

2. Author

3. Gender of Author

3.1 Is the author female or male? ☐

Male = 1

Female = 2

4. Supervisor

5. Co-Supervisor

6. Any additional supervision

7. Date completed

Appendix J:

Section B: The Subjects

1. Group Size and Composition

1.1 Size of Whole Study Group

1.1.1 How many subjects are in the whole study group at the beginning of the research study? ☐

1.1.2 How many subjects are in the whole study group at the end of the research study? ☐

1.2 Number of Groups

How many groups are there in the research study, including the control group? ☐

1.3 Control Group

1.3.1 How many subjects were in the control group at the beginning of the research study? ☐

1.3.2 How many subjects were in the control group at the end of the research study? ☐

Appendix J:

1.4 First Experiment Group

1.4.1 How many subjects were in the first experiment group at the beginning of the research study? ☐

1.4.2 How many subjects were in the first experiment group at the end of the research study? ☐

1.5 Second Experiment Group

1.5.1 How many subjects were in the second experimental group at the beginning of the research group? ☐

1.5.2 How many subjects were in the second experimental group at the end of the research group? ☐

1.6 Non-Compliance

Are any reasons given for non-compliance of subjects? ☐

Yes = 1

No = 2

Not applicable = 3

Appendix J:

2. Racial Composition of Subjects

2.1 Race Specificity

Is the research study race specific? ☐

Yes = 1

No = 2

2.2 Race Distribution

2.2.1 How many Blacks are in the research study? ☐

2.2.2 How many Whites are in the research study? ☐

2.2.3 How many Coloureds and Indians are in the research study? ☐

3. Gender Composition of Subjects

3.1 Gender Specificity

Is the research study gender specific? ☐

Yes = 1

No = 2

Appendix J:

3.2 Gender Distribution

3.2.1 How many female subjects in the research study? ☐

3.2.2 How many male subjects in the research study? ☐

(N.B. Use numbers of subjects finishing the research study.)

4. Age Composition of Subjects

4.1 Age Criterion

Is an age criterion given to qualify subjects for a research study? ☐

Yes = 1

No = 2

4.2 Definition of the Age Description of Subjects

This reflects the age composition of the subjects in the research study as it is expressed by the student researcher in their dissertation.

4.2.1 Is age composition expressed as a frequency distribution of years of age? ☐

Yes = 1

No = 2

Not applicable = 3

Appendix J:

4.2.2 Is age composition expressed as a mean of years of age? ☐

Yes = 1

No = 2

Not applicable = 3

4.2.3 Is age composition expressed as a standard deviation of years of age? ☐

Yes = 1

No = 2

Not applicable = 3

4.2.4 Is age composition expressed as a value defined by minimum and maximum values? ☐

Yes = 1

No = 2

Not applicable = 3

4. Diagnostic and Screening Criteria

Do the subjects fulfill the diagnostic and screening criteria for the condition being researched in this research study? ☐

Yes = 1

No = 2

Appendix J:

Section C: The Design of the Research Study

1. Double-blinding

Has the research study been performed in a double-blinded manner? ☐

Yes = 1

No = 2

2. Single-blinding

Has the research study been performed in a single-blinded manner? ☐

Yes = 1

No = 2

3. Randomisation

3.1 Random Allocation to Placebo and Experimental Groups

Have the subjects of this research study been randomly allocated to the experimental and placebo groups? ☐

Appendix J:

Yes = 1

No = 2

3.2 Matched Groups

If the allocation above has been non-randomised, has the allocation of subjects resulted in matched experimental and placebo groups?

☐

Yes = 1

No = 2

Not applicable = 3

3.3 Sample Size Recommendations

3.3.1 Presence of Any Recommendations about Sample Size

Does the student researcher make recommendations about the size of the sample in their research study? ☐

Yes = 1

No = 2

3.3.2 Recommendations for a Bigger Sample Size

Does the student researcher recommend a bigger sample size?

☐

Yes = 1

No = 2

Appendix J:

Not applicable = 3

3.3.3 Recommendations for a Smaller Sample Size

Does the student researcher recommend a smaller sample? ☐

Yes = 1

No = 2

Not applicable = 3

3.4 Duration of the Research Study

How long was the research study?

Yes = 1

No = 2 (For 4.1 to 4.7 below)

3.4.1 0-8 hours ☐

3.4.2 49-72 hours ☐

3.4.3 4-7 days ☐

3.4.4 8-14 days ☐

3.4.5 15-30 days ☐

3.4.6 31-60 days ☐

3.4.7 More than 60 days ☐

Appendix J:

Section D: Medicinal Variables

1. Vehicle of Active Ingredient

In what form is the medicine being administered, i.e. what is the vehicle for the active ingredient of the homeopathic simplex?

Yes = 1

No = 2 (For 1.1 to 1.10 below)

1.1 Granules ☐

1.2 Pillules ☐

1.3 Globules ☐

1.4 Tablets ☐

1.5 Capsules ☐

1.6 Drops ☐

1.7 Syrup ☐

1.8 Injectables (any sort) ☐

1.9 Cream ☐

2. Frequency of Dosage

How frequently was the dose of medicine administered to the subjects?

Yes = 1

No = 2 (For 2.1 to 2.10 below)

2.1 Quarter hourly ☐

2.2 Hourly ☐

2.3 Two hourly ☐

Appendix J:

2.4 Four hourly ☐

2.5 Eight hourly or three times daily ☐

2.6 Twelve hourly or twice daily ☐

2.7 Once daily ☐

2.8 Once weekly ☐

2.9 Single dose only ☐

2.10 Other ☐

3. Duration of Treatment

What is the duration of the actual treatment of the test subjects, i.e. over what period was the medication administered to the test subjects?

Yes = 1

No = 2 (For 3.1 to 3.5 below)

3.1 0 –8 hours ☐

3.2 >8 –72 hours ☐

3.3 >72 hours to 3 weeks ☐

3.4 >3 weeks to 3 months ☐

3.5 More than 3 months ☐

Appendix J:

4. Potency of Homeopathic Medicine

4.1 Number of Potencies Used

How many different potencies, not including the placebo medicine, have been used in this research study? ☐

4.2 Potencies Used

Which homeopathic potencies have been used in this research study?

Yes = 1

No = 2

4.2.1 Mother tincture ☐

4.2.2 3X-6X ☐

4.2.3 7X-12X ☐

4.2.4 13X-30X ☐

4.2.5 3CH-6CH ☐

4.2.6 7CH-12CH ☐

4.2.7 13CH-15CH ☐

4.2.8 16CH-30CH ☐

4.2.9 31CH-200CH ☐

4.2.10 1M-9M ☐

4.2.11 10M-50M ☐

4.2.12 Any LM potencies ☐

Appendix J:

5. Reputable Manufacture of Medicines

Have the medicines and placebos used in this research study been manufactured in a reputable homeopathic laboratory? ☐

Yes = 1

No = 2

6. Placebo Action vs Carrier Substance

As the carrier substance (the vehicle for the active ingredient) is the same as the placebo substance, it is important to check for any intrinsic action in the carrier substance or to acknowledge any intrinsic action as it is known in the homeopathic literature.

Is the intrinsic action of the carrier substance known or acknowledged in the research study?

Yes = 1 ☐

No = 2

Appendix J:

Section E: Other Factors

1. Duplication of Previous Studies

Is the theoretical basis for this research study the fact that this study is duplicating a previously researched topic? ☐

Yes = 1

No = 2

2. Comparable Studies in Literature Review

Is this research study grounded in the literature review of the research study? ☐

Yes = 1

No = 2

3. Available Information

Is all relevant information about the subjects of the research study available in the final write-up of the dissertation? ☐

Yes = 1

No = 2

Appendix J:

4. Acceptable Choice of Medicine

Is the remedy chosen by the research student appropriate to the condition being studied, i.e. according to accepted literature and/or repertorisation? ☐

Yes = 1

No = 2

5. Statistical Significance of Results

Has this research study culminated in any statistically significant results? ☐

Yes = 1

No = 2

Appendix J:

Section F: **The Student Researcher**

N.B.: This section is the subjective perception of the bias in interpretation and presentation and the standard of supervision as perceived by this researcher.

1. Bias in Interpretation and Presentation

Is there an obvious bias in interpretation and presentation of the research study according to this researcher? ☐

Yes = 1

No = 2

2. Standards of Supervision

Is the supervision of the research study of a high standard according to this researcher? ☐

Yes = 1

No = 2

Appendix K:

Research Statistics

Theses	SECTION A	Author gender	Supervisor	Co-Supervisor	Date completed	SECTION B	1.1.1Whole group:start	1.1.2Whole group:end	1.2Number of groups	1.3.1 Control group:start	1.3.2 Control group:end	1.4.1 Exp group 1:start	1.4.2 Exp group 1:end	1.5.1 Exp group 2:start	1.5.2 Exp group 2:end	1.5.1(a) Exp group 3:start
		Male=1 Female=2	Moiloa=1 Solomon=2 Van Olden=3 Razlog=4 Peck=5 Roohani=6 External=7 De villiers=8	Moiloa=1 Solomon=2 Van Olden=3 Razlog=4 Peck=5 Roohani=6 External=7 De villiers=8												
1	**1**	1	4	7	2001/09/03	**1**	40	40	2	20	20	20	20			
2	**2**	2	6	7	28/02/2002	**2**	36	27	2	18	14	18	13			
3	**3**	2	7	1	30/10/2002	**3**	40	30	2	20	15	20	15			
4	**4**	2	7	4	27/02/2002	**4**	30	30	2	15	15	15	15			
5	**5**	2	7	2	29/01/2001	**5**	45	45	3	15	15	15	15	15	15	
6	**6**	1	4		2001/04/04	**6**	30	30	2	16	16	14	14			
7	**7**	1	6	7	21/11/2002	**7**	30	30	3	10	10	10	10	10	10	
8	**8**	2	4		2001/03/05	**8**	50	36	2	25	15	25	21			
9	**9**	2	7	1	14/01/2002	**9**	45	37	3	15	12	15	12	15	13	
10	**10**	2	7	1	28/11/2002	**10**	35	31	2		15		16			
11	**11**	2	7	2	2001/08/10	**11**	30	30	2	16	16	14	14			
12	**12**	2	7	1	28/05/2002	**12**	30	24	2	15	10	15	14			
13	**13**	2	8	1	19/02/1999	**13**	40	38	2	20		20				
14	**14**	2	7	1	18/11/2002	**14**	34	31	2	17	15	17	16			
15	**15**	1	8	2	00/00/2000	**15**	25	25	2	12	12	13	13			
16	**16**	2	7	7	00/11/2002	**16**	30	20	2	15	10	15	10			
17	**17**	2	3	7	27/09/1999	**17**	30	30	3	10	10	10	10	10	10	
18	**18**	2	7	3	28/11/2000	**18**	31	29	2	15	13	16	16			
19	**19**	1	7	1		**19**	64	56	4	16	14	16	14	16	14	16
20	**20**	2	7	7	24/08/2000	**20**	30	30	2	14	14	16	16			
21	**21**	1	7	7	20/07/2001	**21**	32	30	2		14		16			
22	**22**	1	7	3	18/06/2001	**22**	27	27	2	14	14	13	13			
23	**23**	2	7	3	23/01/1998	**23**	15	15	3	5	5	5	5	5	5	
24	**24**	1	7	7	15/11/2002	**24**	30	30	2	15	15	15	15			
25	**25**	2	6	2	19/00/2002	**25**	30	30	2	15	15	15	15			

1.5.1(b) Exp group 3:end	1.6 Non Compliance:reasons	2.1.1Race specificity	2.1.2.1No of Blacks	2.1.2.2 No of Whites	2.1.2.3 No of C&I"s	3.1 Gender specificity	3.2.1.No of females	3.2.2 No of males	4.1 Age criterion	4.2.1 Age:Freq Distribution	4.2.2 Age:mean of years	4.2.3 Age: SD of years	4.2.4 Age:max&min	5.Diagnostic screening	SECTION C
	Yes=1 No=2	Yes=1 No=2				Yes=1 No=2			Yes=1 No=2	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2	
	3	2				2	0	40	1	2	1	2	1	1	**1**
	2	2				1	27	0	1	2	2	2	1	1	**2**
	1	2				1	30	0	1	1	2	2	1	1	**3**
	3	2				2	21	9	1	1	1	1	1	1	**4**
	3	2				2	19	26	1	2	2	2	1	1	**5**
	3	2				2			2	3	3	3	3	1	**6**
	3	2				2	0	30	1	2	2	2	1	1	**7**
	2	2				2	12	24	2	3	3	3	3	1	**8**
	2	1				2	18	19	1	1	2	2	1	2	**9**
	2	2	15	0	16	1	31	0	1	1	2	2	1	1	**10**
	3	2				1	30	0	1	2	2	2	1	1	**11**
	2	2				2	20	10	1	2	2	2	1	1	**12**
	2	2				2			1	2	1	2	1	1	**13**
	2	2				1	31	0	1	1	2	2	1	1	**14**
	3	2				2	11	14	1	2	1	2	1	1	**15**
	2	2				2			1	2	2	2	1	1	**16**
	3	2				2			2	3	3	3	3	1	**17**
	2	2				2	25	4	1	1	2	2	1	1	**18**
14	2	2		56		2			1	2	1	2	1	1	**19**
	3	2				2			1	2	2	2	1	1	**20**
	2	2				2	19	11	1	2	1	2	1	1	**21**
	3	2		27		2	11	16	1	2	1	2	1	1	**22**
	3	2				1	15	0	1	2	2	2	1	1	**23**
	3	2				2	13	17	1	2	2	2	1	1	**24**
	3	2	11	16	3	2	13	17	1	2	1	2	1	1	**25**

1.Double-Blinding	2. Single-Blinding	3.1.1 Randomisation	3.1.2 Non-Randomisation:Matched Group	3.2 Recommendations:Sample Size	3.3.1 Recommends:Bigger Sample Size	3.3.2 Recommends:Smaller Sample Size	4.1Duration Study:0-48hrs	4.2 Duration Study:49=72 hrs	4.3 Duration Study:4-7 days	4.4 Duration Study:7-14 days	4.5 Duration Study:15-30 days	4.6 Duration Study:31-60 days
Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2 N/a=3	Yes=1 No=2	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3	Yes=1 No=2 N/A=3
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1	2	1	3	1	1	2	2	2	2	2	2	2
1	2	1	3	1	1	2	2	2	2	2	2	1
1	2	1	3	1	1	2	2	2	2	2	2	1

4.7 Duration Study:More than 60 days	SECTION D	1.1 Vehicle:Granules	1.2 Vehicle:Pillules	1.3 Vehicle:Globules	1.4 Vehicle:tablets	1.5 Vehicle:Capsules	1.6 Vehicle:Drops	1.7 Vehicle:Syrup	1.8 Vehicle:Injectables	1.9 Vehicle:Cream	1.10 Vehicle:Powders	2.1Freq Dosage:Quarter hourly
Yes=1 No=2 N/A=3		Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2
2	**1**	2	2	2	1	2	2	2	2	2	2	1
2	**2**	2	2	2	1	2	2	2	2	2	2	2
2	**3**	2	2	2	1	2	2	2	2	2	2	2
2	**4**	2	1	2	2	2	2	2	2	2	2	2
2	**5**	2	2	2	2	2	2	2	1	2	2	2
2	**6**	2	2	2	1	2	2	2	2	2	2	2
2	**7**	2	2	2	1	2	2	2	2	2	2	2
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2	**9**	2	2	2	2	2	1	2	2	2	2	2
2	**10**	2	2	2	1	2	2	2	2	2	2	2
1	**11**	2	2	2	2	2	1	2	2	2	2	2
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2	**16**	2	2	2	2	2	2	2	2	2	1	2
1	**17**	2	2	2	1	2	2	2	2	2	2	2
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1	**19**	2	2	2	2	2	2	2	2	1	2	2
1	**20**	2	2	2	1	2	2	2	2	2	2	2
2	**21**	1	2	2	2	2	2	2	2	2	2	2
2	**22**	2	2	2	2	2	1	2	2	2	2	2
1	**23**	2	2	2	2	2	1	2	2	2	2	2
2	**24**	2	1	2	2	2	2	2	2	2	2	2
2	**25**	2	2	2	2	2	1	2	2	2	2	2

2.2 Freq Dosage:Hourly	2.3 Freq Dosage:2 Hourly	2.4 Freq Dosage:4 Hourly	2.5 Freq Dosage:8 Hourly	2.6 Freq Dosage:12 Hourly	2.7 Freq Dosage:Once Daily	2.8 Freq Dosage:Once Weekly	2.9 Freq Dosage:Single Dose	2.10 Freq Dosage:Other	**SECTION D continued**	3.1 Duration Treatment:0-8 Hours	3.2 Duration Treatment:>8Hrs-72hrs	3.3 Duration Treatment:>72hrs-3weeks
Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2		Yes=1 No=2	Yes=1 No=2	Yes=1 No=2
2	2	2	2	2	2	2	2	2	**1**	1	2	2
2	2	2	2	1	2	2	2	2	**2**	2	2	2
2	2	2	2	1	2	2	2	2	**3**	2	2	2
2	2	2	1	2	2	2	2	2	**4**	2	1	2
2	2	2	2	2	2	2	1	2	**5**	1	2	2
2	2	2	2	1	2	2	2	2	**6**	2	2	1
2	2	2	1	2	2	2	2	2	**7**	2	2	1
2	2	2	2	2	2	1	2	2	**8**	2	2	2
2	2	2	2	1	2	2	2	2	**9**	2	2	1
2	2	2	2	1	2	2	2	2	**10**	2	2	2
2	2	2	1	2	2	2	2	2	**11**	2	2	2
2	2	2	1	2	2	2	2	2	**12**	2	2	2
2	2	2	1	2	2	2	2	2	**13**	2	2	2
2	2	2	2	1	2	2	2	2	**14**	2	2	2
2	2	2	2	2	2	2	2	1	**15**	1	2	2
2	2	2	2	1	2	2	2	2	**16**	2	1	2
2	2	2	1	2	2	2	2	2	**17**	2	2	2
2	2	2	2	1	2	2	2	2	**18**	2	2	2
2	2	2	2	1	2	2	2	2	**19**	2	2	2
2	2	2	2	1	2	2	2	2	**20**	2	2	2
2	2	1	2	2	2	2	2	1	**21**	2	1	2
2	2	2	2	1	2	2	2	2	**22**	2	2	2
2	2	2	1	2	2	2	2	2	**23**	2	2	2
2	2	1	2	2	2	2	2	1	**24**	2	2	2
2	2	2	2	1	2	2	2	1	**25**	2	2	2

3.4 Duration Treatment:>3wks-3months	3.5 Duration Treatment:>3 Months	4.1Number of Potencies Used	4.2 1Potency:Mother Tincture	4.2.2Potency:3X-6X	4.2.3Potency:7X-12X	4.2.4 Potency:13X-30X	4.2.5 Potency:3CH-6CH	4.2.6 Potency:7CH-12CH	4.2.7 Potency:13CH-15CH	4.2.8 Potency:16CH-30CH	4.2.9 Potency:31CH-200CH	4.2.10 Potency:1M-9M
Yes=1 No=2	Yes=1 No=2		Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2
2	2	1	2	1	2	2	2	2	2	2	2	2
1	2	1	2	2	2	2	2	2	1	2	2	2
1	2	1	2	2	2	2	2	1	2	2	2	2
2	2	1	2	2	2	2	2	2	2	1	2	2
2	2	1	2	2	2	2	2	2	2	2	1	2
2	2	1	2	2	2	2	2	2	2	1	2	2
2	2	1	2	1	2	2	2	2	2	2	2	2
1	2	1	2	2	2	2	2	2	2	2	1	2
2	2	2	1	1	2	2	2	2	2	2	2	2
1	2	1	2	2	2	2	2	1	2	2	2	2
1	2	1	2	1	2	2	2	2	2	2	2	2
1	2	1	2	1	2	2	2	2	2	2	2	2
1	2	1	2	2	2	2	2	2	2	1	2	2
1	2	1	2	2	2	2	2	2	1	2	2	2
2	2	1	1	2	2	2	2	2	2	2	2	2
2	2	1	2	2	2	2	2	2	2	2	1	2
1	2	1	2	1	2	2	2	2	2	2	2	2
1	2	1	2	1	2	2	2	2	2	2	2	2
2	1	3	2	2	2	1	2	2	2	2	1	2
1	2	1	2	2	2	2	2	2	2	1	2	2
2	2	1	2	2	2	2	2	2	2	1	2	2
1	2	1	2	2	2	2	2	1	2	2	2	2
1	2	2	1	1	2	2	2	2	2	2	2	2
1	2	1	2	2	2	2	1	2	2	2	2	2
1	2	1	1	2	2	2	2	2	2	2	2	2

4.2.11 Potency:10M-50M	4.2.12 Potency:Any LM potencies	5. Reputable Manufacture	6. Placebo vs Carrier Action	SECTION E	1. Duplication of Studies	2. Comparable Studies	3. Available Information	4. AcceptableChoice of Meds	5. Statistical Significance	SECTION F	1. Presence of Bias	2. Standards of Supervision
Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2		Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2	Yes=1 No=2		Yes=1 No=2	Yes=1 No=2
2	2	1	2	**1**	2	1	2	1	1	**1**	2	1
2	2	1	2	**2**	2	2	2	1	1	**2**	2	1
2	2	1	2	**3**	2	2	2	1	2	**3**	2	1
2	2	1	2	**4**	2	2	2	1	1	**4**	2	1
2	2	1	2	**5**	1	1	2	1	1	**5**	2	1
2	2	1	2	**6**	2	1	2	1	2	**6**	2	2
2	2	1	2	**7**	2	2	2	1	1	**7**	2	1
2	2	1	2	**8**	2	2	2	1	1	**8**	2	1
2	2	2	2	**9**	2	2	2	1	2	**9**	2	2
2	2	1	2	**10**	2	1	2	1	2	**10**	2	1
2	2	2	2	**11**	1	1	2	1	2	**11**	2	1
2	2	1	2	**12**	2	1	2	1	1	**12**	2	2
2	2	1	2	**13**	2	2	2	1	2	**13**	2	2
2	2	1	2	**14**	2	2	2	1	2	**14**	2	1
2	2	1	2	**15**	1	1	2	1	1	**15**	2	1
2	2	1	2	**16**	2	2	2	1	1	**16**	2	1
2	2	1	2	**17**	2	2	2	1	1	**17**	2	2
2	2	1	2	**18**	2	2	2	1	2	**18**	1	1
2	2	1	2	**19**	2	2	2	1	1	**19**	2	1
2	2	1	2	**20**	2	1	2	1	2	**20**	2	1
2	2	1	2	**21**	2	2	2	1	2	**21**	2	2
2	2	1	2	**22**	2	2	1	2	2	**22**	2	1
2	2	1	2	**23**	2	1	2	1	1	**23**	2	1
2	2	1	2	**24**	1	1	2	1	2	**24**	2	1
2	2	1	2	**25**	2	2	1	1	1	**25**	2	1