THE PERCEPTION OF PHARMACISTS REGARDING THE ROLE OF COMPLEMENTARY MEDICINE IN THE CONTEXT OF HEALTH CARE IN SOUTH AFRICA

By

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Dissertation submitted in partial compliance with the requirements for the Masters Degree in Technology: Homoeopathy, in the Faculty of Health services at Technikon Natal.

I, Antoinette Daphne, do declare that this dissertation is representative of my own work.

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DEDICATION

I dedicate this dissertation to my mother, Joy Daphne, for all her encouragement and support.

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Dr Gillies Mc David. For his help, guidance and supervision of this dissertation.

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All the pharmacists who responded to the questionnaire.

ABSTRACT

The aim of this study was to assess pharmacists' perception of complementary medicine in the health care system of South Africa.

At the time of the study, no survey of this nature had been carried out in South Africa. A questionnaire was constructed based on similar studies carried out in the United Kingdom (Davies et. al 1992 and Kayne 1993), United States (Nelson et. al 1990) and a survey carried out by Steenkamp (1984). The questionnaire contained questions regarding demographic and educational information as well as questions designed to facilitate the assessment pharmacists' general attitudes towards and knowledge of complementary medicine in South Africa. The questionnaire was accompanied by a covering letter and an instruction sheet to the pharmacists. Of the 725 questionnaires sent to pharmacies in Durban, Cape Town, Johannesburg, Bloemfontein, Port Elizabeth, East London and Pietermaritzburg, only 160 were returned. This low response rate was not adequately representative of pharmacists in South Africa, and the findings may have represented a distorted view of the knowledge of complementary medicine by pharmacists.

The computer statistical package SPSS was used to analyze the data. The Pearson Chisquare test was used to examine any relationship between the various factors in the questionnaire at 5% and 10% level of significance.

On analyzing the results it was found that very few pharmacists (23%) had been instructed in any complementary medicine during their pharmaceutical education. More than half of the pharmacists who had been taught complementary medicine said that only 2-4 hours had been spent on the particular subjects. More pharmacists were exposed to homoeopathy than to any other complementary medicine. Of the

respondents, 84.4% agreed that complementary medicine should be included into the pharmaceutical curriculum.

The majority of pharmacists knew nothing or very little about ayurveda, osteopathy, chiropractic, acupuncture, reflexology, herbalism, aromatherapy and homoeopathy. More pharmacists knew an average to a substantial amount about homoeopathy and thought it more effective than any other complementary therapy. The main reasons respondents provided for the perception that homeopathic treatment was effective was that it contained herbal ingredients, and that patients had 'faith' in the medicine. Almost nothing was known about ayurveda and osteopathy and their effectiveness as treatments. It was found that there was a significant association between pharmacists consulting complementary practitioners and whether they considered chiropractic, acupuncture, herbalism, reflexology and aromatherapy as effective forms of treatments at a 5% level of significance.

Almost half the respondents had consulted a complementary medical practitioner of which chiropractors and homoeopaths were most frequently utilized.

Approximately three quarters of the pharmacists had referred patients to a complementary medical practitioner. More referrals were made to homoeopaths and chiropractors than to any other complementary health field. The Pearson Chisquare test showed a strong significant association between pharmacists consulting complementary medical practitioners and referring patients to homoeopaths, chiropractors, acupuncturists, reflexologists and aromatherapists at a 5% level of significance.

Although three quarters of pharmacies investigated stated that they stocked homoeopathic medicines and under half of the pharmacies stocked aromatherapy and herbal products, 58.1% of pharmacists stated that they would only recommend or

prescribe complementary medicine if the patient requested it. The main reason why pharmacists did not incorporate complementary medicine into their pharmaceutical practice was the lack of knowledge of this field.

Very little was known about preparing homoeopathic and herbal medicine and only a few pharmacists prepared their own homoeopathic and herbal medicines. The main source of information of complementary medicine was obtained mainly from layman's books, journals and colleagues.

It was found that pharmacists thought homoeopathy treated obesity, high blood pressure, rheumatoid arthritis, allergies, eczema, headaches, burns, acne, depression, insomnia, stress, menstrual problems, hayfever, childhood diseases and the common cold more effectively than any other complementary therapy. Over half the pharmacists did not know if complementary medicine treated obesity, high blood pressure, burns, acne, depression and menstrual problems effectively. Chiropractic manipulation was thought to treat back problems most effectively.

The majority of pharmacists saw complementary therapy as a supportive therapy. A small minority did not think complementary medicine was of any value in the health care system.

Most pharmacists agreed to a great extent that basic health care is a right and that complementary medicine should play an active role in the health care system of South Africa.

It was concluded that pharmacists generally have a positive attitude towards complementary medicine, but have little knowledge of the subjects and therefore may not recommend or prescribe complementary medicine to the patient. Most pharmacists recognized the need for knowledge of complementary medicine.

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CHAPTER 1

INTRODUCTION

Increased specialization and isolation of various health care providers have resulted in a need for more communication and co-operation and for a greater emphasis on working together for the good of the patient (Elias 1993). There is concern for safe, efficient and cost effective treatments for spiraling health care problems. The failure of the segregated medical services to effectively address current medical problems calls for an interdisciplinary approach to diagnoses, treatment and prevention of disease (Berman et. al 1992).

Complementary medicine is becoming increasingly popular, possibly due to the fear of conventional drug side effects, general dissatisfaction with existing therapies and the increasing cost of conventional medical treatment (Kayne 1993). In Europe the use of 'natural medicine' increases each year by 3,5%, and in the United Kingdom (UK) the figure amounts to 6% (Ernst 1994). The World Health Organization (WHO) estimates that between 60% and 90% of the population of developing countries rely on traditional herbal medicines either entirely or partially for their primary health care needs (Dheyangera 1995). However, traditional herbal medicines have not been incorporated into most health care systems and it is evident that there is a continuing need for better assessment of the benefits of alternative forms of medicine, including traditional medicine (WHO 1995).

Pharmacists form an important bridge between conventional and complementary medicine and it is time to operate as a group for the good of all (Tomlinson 1991). It is therefore necessary for the pharmacist to be aware of the wide ranging therapeutic strategies adopted by both orthodox and unorthdox medical practitioners. (Naidoo 1995).

Pharmacy today has evolved to entail direct interaction of the pharmacist with the patient for the purpose of caring for the patients needs, advising on a wide range of topics including medication and possible side effects, family planning and vaccinations (Lombard 1991). The pharmacist's advice is without charge and readily accessible without prior appointment (Bayever 1993). It is a fact that many people can afford only traditional herbal medicine as a method of treatment of illness. However pharmacists are unable to say whether the medicines are harmless, dangerous, useful or useless. As a pharmacist is trained in the use of drugs, it is essential that he knows about these herbal medicines to advise patients on their potential uses and side effects (Dheyangera 1995).

At the time of this study no survey assessing how South African pharmacists perceive complementary medicine had been carried out before.

A survey carried out in the Stoke-on-Trent area in the United Kingdom showed an increasing willingness amongst conventional pharmacist to discuss homoeopathy, but had little understanding of the subject (Davies et. al 1992).

Another survey conducted compared United States (US) and British pharmacists' perceived knowledge, perceived usefulness, referrals and utilization of a variety of alternative health approaches. Acupuncture was found to be most useful by both US and British pharmacists. US pharmacists found osteopathy and chiropractic to be useful, whereas British pharmacists found homoeopathy and herbalism to be more useful (Nelson et. al 1990).

It was found in a recent survey that three times as many respondents said that they had heard about homoeopathy through their pharmacist than through their general practitioner. At the British Pharmaceutical Conference in 1992 it was debated

whether pharmacists should be involved in promoting homoeopathy, and it was concluded by a huge majority that they should (Kayne 1993).

On 11 October 1994 the Medical and Dental Council proposed to abolish rule 7(2) which restricts free communication between complementary health practitioners and the other medical professions (Van der Veen 1996). The abolishment of this rule should create new opportunities for interprofessional relationships.

From this survey the current position of complementary medicine amongst the pharmacists in South Africa was determined. Pharmacists play a vital role in promoting complementary medicine (Davies et. al 1992). Findings of this study and other similar investigations should aid in creating a better understanding between pharmacists and complementary health practitioners, and in creating a better health care system for the people of South Africa.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 WORLD HEALTH ORGANIZATION AND COMPLEMENTARY MEDICINE

'Health for all by the year 2000', was the stated goal of the World Health Organization (WHO) at Alma Ata in 1978. It was agreed by the delegates that the only way to reach this goal was through an emphasis on primary health care (Bayever 1993).

Primary health care is defined as "essential health care based on practical, scientifically sound and sociably acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community can afford to maintain at every stage of their development in the spirit of self reliance and self determination" (WHO 1978).

The WHO stated in the declaration at Alma Ata that primary health care is likely to be more effective if it employs means that are understood and accepted by the community. Health care workers, including traditional practitioners, will function best if they live in the community (WHO 1978).

Traditional medicine continues to be an important part of health care in many developing countries and various 'alternative' or complementary therapies have a large following in developed countries. However, traditional medicine has not been incorporated into most health care systems. The benefits of complementary therapies and traditional medicine are not being fully utilized in the health care system (WHO 1995). At all levels, the provision of health care is multiprofessional (WHO 1990). A fragmented health care system jeopardizes the effective use of the available resources and the sustainability of services (WHO 1995).

2.2 THE ROLE OF THE PHARMACIST IN THE HEALTH CARE SYSTEM

Today, pharmacy practice involves the direct interaction of the pharmacist with the patient. The pharmacist evaluates the needs of the patient, determines whether the patient has one or more potential problems and works with the patient and other health professionals to resolve the problem effectively and improve the patient's quality of life (Bayever 1993).

Pharmacists supply medicine in accordance with prescription practices or, when legally permitted, sell them without prescription (WHO 1990). The WHO suggests that proven traditional remedies be incorporated in the essential drugs listed for primary health care (WHO 1978).

The pharmacist is easily accessible, offers extended hours of service and free professional advice and is therefore in an ideal position to influence the attitudes and behaviour of the patient concerning preventative and promotive health aspects (Bayever 1993).

To be effective practitioners within the system, pharmacists must understand that many of the important areas of health care provision will involve team work with other health professionals (Elias 1993). As orthodox medicine reaches its limits of economic viability it is in everyone's interest to work to integrate complementary medicine into the health care system (Mc Dermott et. al 1995).

2.3 THE ROLE OF COMPLEMENTARY MEDICINE IN THE HEALTH CARE SYSTEM

Complementary medicine is the term given to a number of therapies that depart in principle and practice from orthodox and established medicine (Naidoo 1995).

The popularity of alternative medicine has increased in the United States (US) and Europe. Data from a survey carried out in the US indicated that one in three Americans used at least one alternative therapy in 1993 (Berman et. al 1994). The demand is generated by a number of factors, which possibly include fear of conventional drugs' side effects, general dissatisfaction with existing therapies and the need for cost effective treatments, particularly in the current situation of budget cutting and declining resources (Kayne 1993). The fact that chronic health care problems are on a rise in the US and are not being effectively addressed by present treatments also contributes to the need for health care reform. Surveys in Europe concluded that: (1) complementary health approaches are of interest to both consumers and health care providers; (2) the integration of complementary medicine will improve quality of care and quality of life and; (3) the scientific evaluation of complementary medicines is necessary (Bernam et. al 1994).

The Centre for the Study of Complementary Medicine found that the majority of patients choose to consult an alternative practitioner as a last resort or due to the failure of conventional medicine (Finnigan 1991).

The Lewisham Hospital, London, England has successfully integrated natural medicine into the public health service. An outpatient service has been set up offering acupuncture, homoeopathy and osteopathy (Richardson 1996).

In 1991 the Project for the Integration of Orthodox and Complementary Medicine at the University of Maryland School of Medicine was instigated. It aimed at exploring

the integration of complementary medicine and orthodox medical care whilst expanding awareness of alternative treatments. Incorporated with this was the aim to integrate treatments such as acupuncture, homoeopathy and behavioural medicine with mainstream medical training and practice, and to develop an interdisciplinary program to educate the medical community (Bernam et. al 1994).

2.3.1 COMPLEMENTARY MEDICINE IN SOUTH AFRICA

The practice of complementary medicine in South Africa in the past century has been restricted. It was declared illegal and unscientific in 1953, and in 1974, the Mental, Dental and Supplementary Health Service Professions Act only provided registration for practicing alternative practitioners and did not provide for admission of new practitioners.

In 1985 the turning point for complementary medicine came about. Legislation was accepted (Act 101 of 1985) which facilitated training into certain complementary therapies. In this regard, South Africa set an example for other countries in respect of the process of legitimization of complementary medicine. (Pretorius1993)

Available information relating to the public acceptance of complementary medicine in South Africa is limited. A survey carried out by Steenkamp in 1984 found that 17% of white South Africans had never heard of homoeopathy, chiropractic or any other alternative health profession. It was estimated from the survey that approximately 600 000 whites in South Africa had consulted a chiropractor or homoeopath. Of the respondents, 53.2 % were in favour of the recognition of complementary medicine by medical aid schemes. (Steenkamp 1987)

2.4 THE PHARMACIST AND COMPLEMENTARY MEDICINE

Pharmacists form an important bridge between the orthodox and the complementary health practitioner (Tomlinson 1991). Results of a survey conducted in Manchester, United Kingdom, showed that 23% of patients sampled said their main source of information on homoeopathy was from pharmacists (Kayne 1993). One out of eight persons in the British population is thought to use herbal remedies, homoeopathy, acupuncture, manipulative treatment such as chiropractic and osteopathy, as well as hypnotherapy, anthroposophical medicine and spiritual healing.

In South Africa, traditional medicines are popular because they are cheaper, more readily accessible than modern medicines and also blend into the social cultural lives of many South Africans. However, many of these people do not know about the safety, usefulness and quality of these remedies. If pharmacists, the people supposed to know about drug action, cannot answer the consumers' questions, who else will? (Dyeyongera 1995). If a drug proves harmful to a patient, it is the pharmacists' responsibility to intervene for the patients safety (Kaatz et. al 1995).

Sixteen UK schools of pharmacy were surveyed to investigate whether undergraduate students were exposed to teaching in complementary medicine. Exposure varying from one to twenty hours was reported by 56% of the schools, with exposure to homoeopathy and herbalism in all the pharmacy schools. Acupuncture and chiropractic were ignored largely due to the fact that opportunities for practicing these disciplines in the average community pharmacy are negligible (Kayne 1993).

With the present trend towards 'natural medicine', homoeopathy is becoming increasingly popular. In the US in 1994, figures showed that sales of homoeopathic remedies totaled approximately $100 million, with 69% of chain drugstores and 3000 independent pharmacies stocking homoeopathic medicines. This suggests that the

pharmacist needs to have some level of understanding of alternative medicine, including homoeopathy (Mc Dermott et. al 1995). Many pharmacies stock a selection of homoeopathic remedies, but few pharmacists know much about this form of medicine (Dew 1991). Most UK community pharmacists involved in the supply of homoeopathic medicines have adopted a reactive approach seeking to satisfy an over-the-counter demand from the public. The Faculty of Homoeopathy in the UK has provided courses that are available to all pharmacists in order to create an awareness of correct dispensing techniques, contamination risks and counseling needs. They are taught the remedies for the treatment of first aid and simple acute conditions (Kayne 1993). The pharmacist will have more scope and a wider range of remedies to choose from (Dew 1991). If a patient chooses an alternative therapy like homoeopathy as a treatment, the pharmacist must be able to explain and provide information to the patient, even if the pharmacist does not believe in it (Kaatz et. al 1995).

2.5 CONDUCTING A SURVEY

A survey is a method of collecting information from people about their ideas, feelings, plans, beliefs, and their social, educational and financial background. It usually takes place in the form of questionnaires and interviews. (Fink 1985)

Surveys can be used to help make policies, plan and evaluate programs and conduct research when the information you need should come directly from people. The data they provide are descriptions of attitudes, values, habits and background characteristics (Fink 1985).

When designing the questionnaire it is important to make sure it is the right length, that the questions are clear and unambiguous and that the questions are not leading (Doman et al 1993).

Questionnaires consist of (1) questions; (2) instructions; (3) sampling and design; (4) data processing and analysis; (5) pilot testing; (6) response rate and (7) reporting results (Fin 1985). There are four types of questions: (1) Two-choice which gives the respondent either/or selection ; (2) Multiple choice which allows the respondent to choose one or more possibilities; (3) Ranking questions which evaluate a single item on a scale; (4) Open-ended questions which are used when more information is needed than you can get from the other question types (Doman et. al 1993).

The survey is started with a brief introduction stating the purpose of the study and to give any instructions in answering the questionnaire (Doman et. al 1993).

Pilot testing is a tryout of the questionnaire on a sample of people to reveal if instructions are understood and questions can be answered. It is essential that a pilot study be carried out as it improves the response rate as well as the reliability and usefulness of the questionnaire. The response rate tends to entirely subjective, but the higher the response rate the better (Fink 1985).

The main advantages of a postal questionnaire is the low cost of data collection, the low cost of processing, avoidance of interviewer bias and the ability to reach respondents who live at widely dispersed addresses. Disadvantages include a generally low response rate, no opportunity to correct misunderstandings or offer explanations, no control over the order in which questions are answered, no check on incomplete responses and no opportunity to collect assessments based on observations.

The questionnaire is an important tool of research for data collection (Oppenheim 1992).

CHAPTER 3

MATERIALS AND METHODS

3.1 STUDY DESIGN AND PROTOCOL

The data and results of this research were obtained by means of a postal questionnaire (APPENDIX C). Since no study of this nature had been carried out before in South Africa, a questionnaire was constructed using similar studies carried out in the UK and US (Nelson et. al 1990). Information from studies published in journal articles and a survey carried out by Steenkamp (1984) was also used. The survey carried out in the UK in the Stoke-on-Trent area, which contributed questions to the questionnaire included the attitudes and awareness of pharmacy staff to homoeopathy (Davies et. al 1992). Questions from a survey on the teaching of complementary medicine in the British schools of pharmacy (Kayne 1993) was also incorporated into the questionnaire of this study. A questionnaire carried out by the Centre for the Study of Complementary Medicine in attempt to understand complementary medicines' popularity through psychological, demographic and operational criteria was also used. Questions were not used directly from these surveys, but as guidelines for the construction of the questionnaire used in this survey. The questionnaire was constructed to assess the prevailing trends amongst pharmacists with respect to complementary medicine in South Africa. In this questionnaire, complementary medicine incorporated acupuncture, ayurveda, aromatherapy, chiropractic, herbalism, homoeopathy, osteopathy and reflexology.

Two types of questions were used: dichotomous and five point Likert scale (Piper 1995). The survey was grouped into demographic and background information; data pertaining to pharmaceutical education with respect to complementary medicine and data pertaining to the pharmacist's views and opinions of complementary therapies and their role in the health care system in South Africa.

A pretest and pilot study were carried out to establish the reliability and validity of the questionnaire. The pretest was administered to a group of five pharmacists who answered and commented on the questionnaire. The results were then assessed and alterations were made according to any problems that had arisen. A pilot study was then conducted using ten different pharmacists who each completed the questionnaire. A week later the same pharmacists completed the questionnaire again. The answers of the two questionnaires of each pharmacist were then compared in order to check that the answer to each question was the same. This confirmed the validity of each question of the questionnaire.

A questionnaire was posted to the pharmacists with an accompanying covering letter (APPENDIX A), instructions (APPENDIX B), and a self addressed stamped envelope. The list of pharmacies was obtained from the Chamber of Commerce and a list of pharmacists registered under the South African Pharmacy Council was obtained from the local Pharmacy Council.

The completed questionnaires were examined by the researcher to determine whether all the criteria had been met.

3.2 SUBJECTS

To obtain a broad spectrum of South African pharmacists' perception of complementary medicine, the survey included all pharmacies in the Durban, Pietermaritzburg, Johannesburg, Cape Town, Port Elizabeth, East London and Bloemfontein areas. The total number of pharmacies included in the study amounted to 725. Only pharmacists registered with the South African Pharmacy Council regardless of sex, race and age were included in the study.

3.3 ETHICS

The answers to each questionnaire were regarded as strictly confidential. The pharmacists were not required to write their names on the questionnaires and therefore remained anonymous. Questionnaires not fully completed were considered invalid and were discarded.

3.4 STATISTICAL ANALYSIS

Analysis of the data obtained was done by using the computer statistical package SPSS. The Pearson's Chisquare test was used to examine any relationship between various factors in the questionnaire using the alpha value 5% and 10% level of significance.

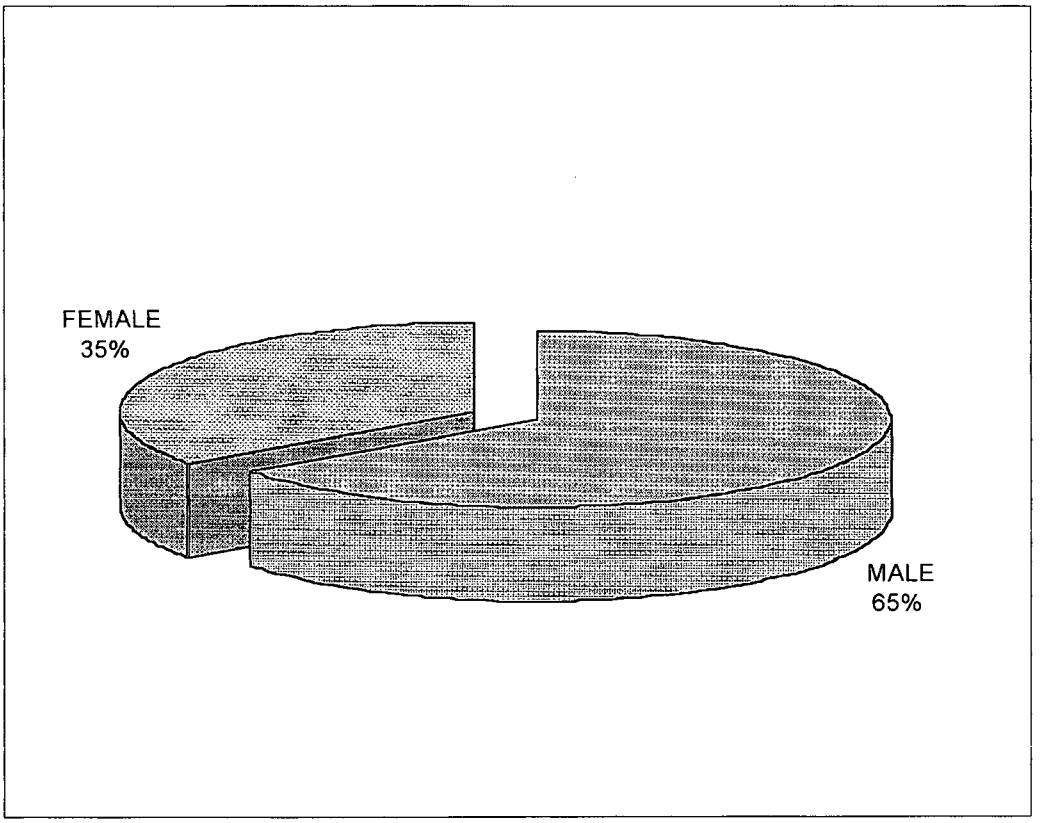
CHAPTER 4

RESULTS

Criteria for admissibility of the data
Only fully completed questionnaires were regarded as valid.

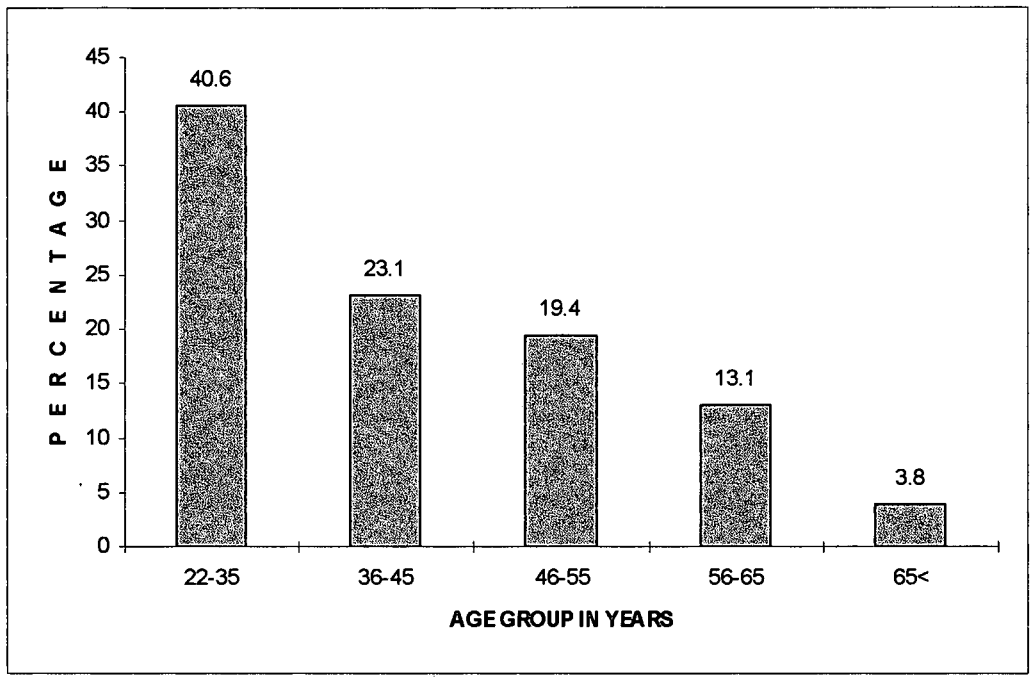
4.1 DEMOGRAPHIC DATA

Figure 4.1 Pie chart indicating gender distribution of pharmacists answering the questionnaire



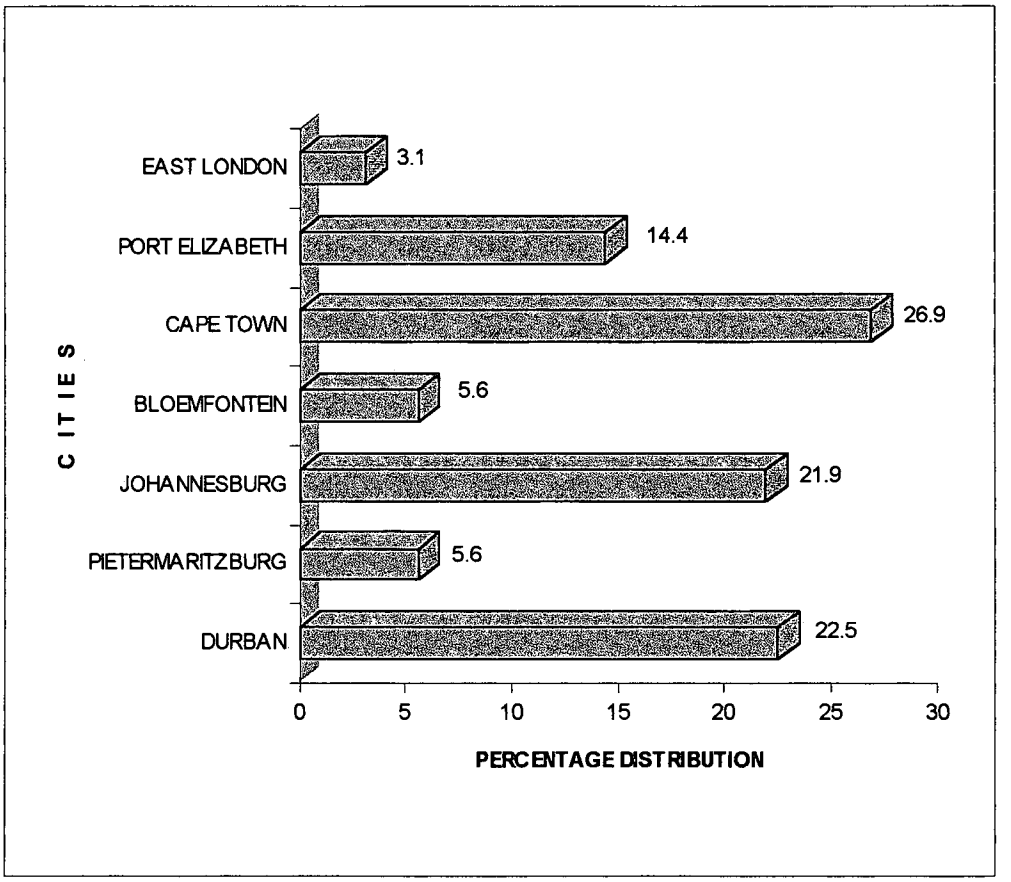
The pie chart indicates that there were more male than female respondents.

Figure 4.2 Age distribution of pharmacists completing the questionnaire



The graph indicates that the majority of pharmacists completing the questionnaire were between ages 22 and 35 years.

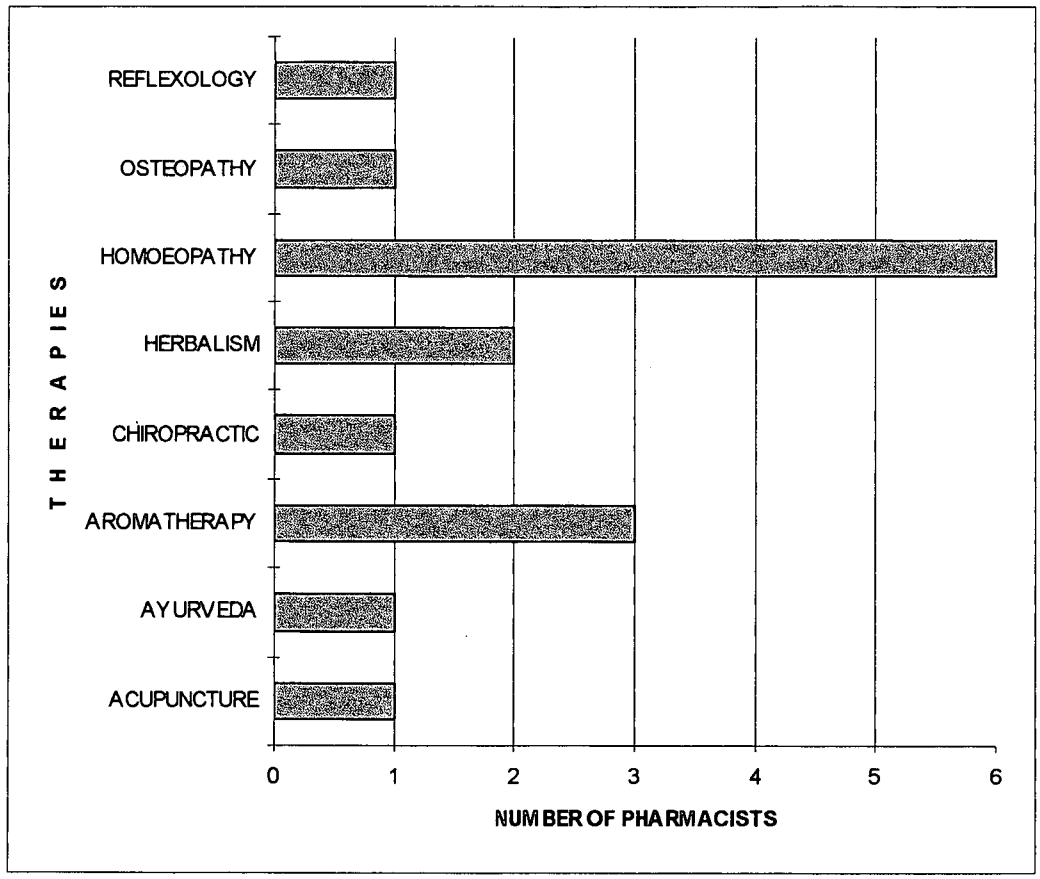
Figure 4.3 Distribution of pharmacists in the cities included in the study



Most of the respondents were from Cape Town, Durban and Johannesburg.

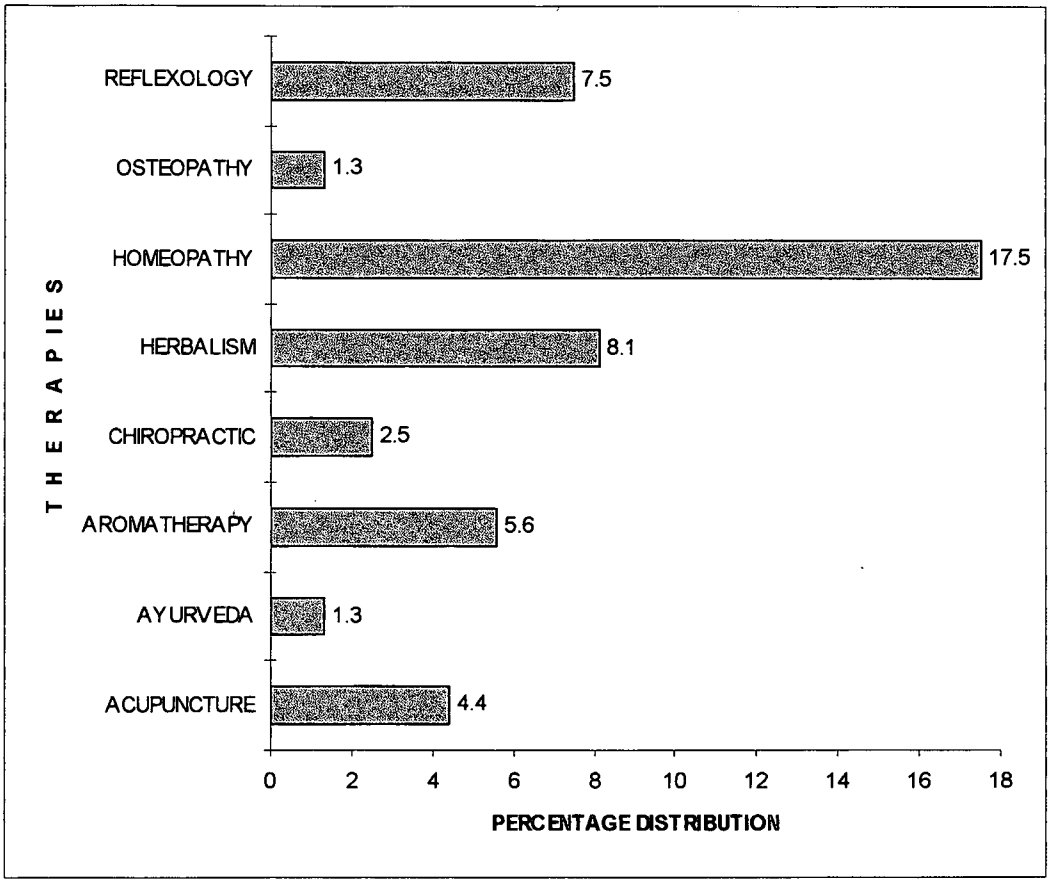
4.2 PHARMACEUTICAL EDUCATION

Figure 4.4 Distribution of pharmacists with a qualification in complementary medicine



Of the 160 questionnaires answered it was found that very few pharmacists had any qualification in complementary medicine. More pharmacists had a qualification in homoeopathy than in any other complementary medicine.

Figure 4.5 Complementary therapies taught during pharmaceutical education



During their pharmaceutical training, complementary therapies were not taught to the majority of pharmacists who answered the questionnaire. Homoeopathy was taught more than any other complementary medicine.

Table 4.1 The amount of hours exposed to the teaching of complementary medicine during pharmaceutical education

Time in hours	Frequency	Percentage
2-4	16	10.0
4-8	11	6.9
8-15	4	2.5
15<	5	3.1
none	124	77
TOTAL	160	100

The time exposed to the teaching of complementary medicine was minimal. Most of the pharmacists who said they had been taught complementary therapies during pharmaceutical education only spent 2-4 hours on the subjects.

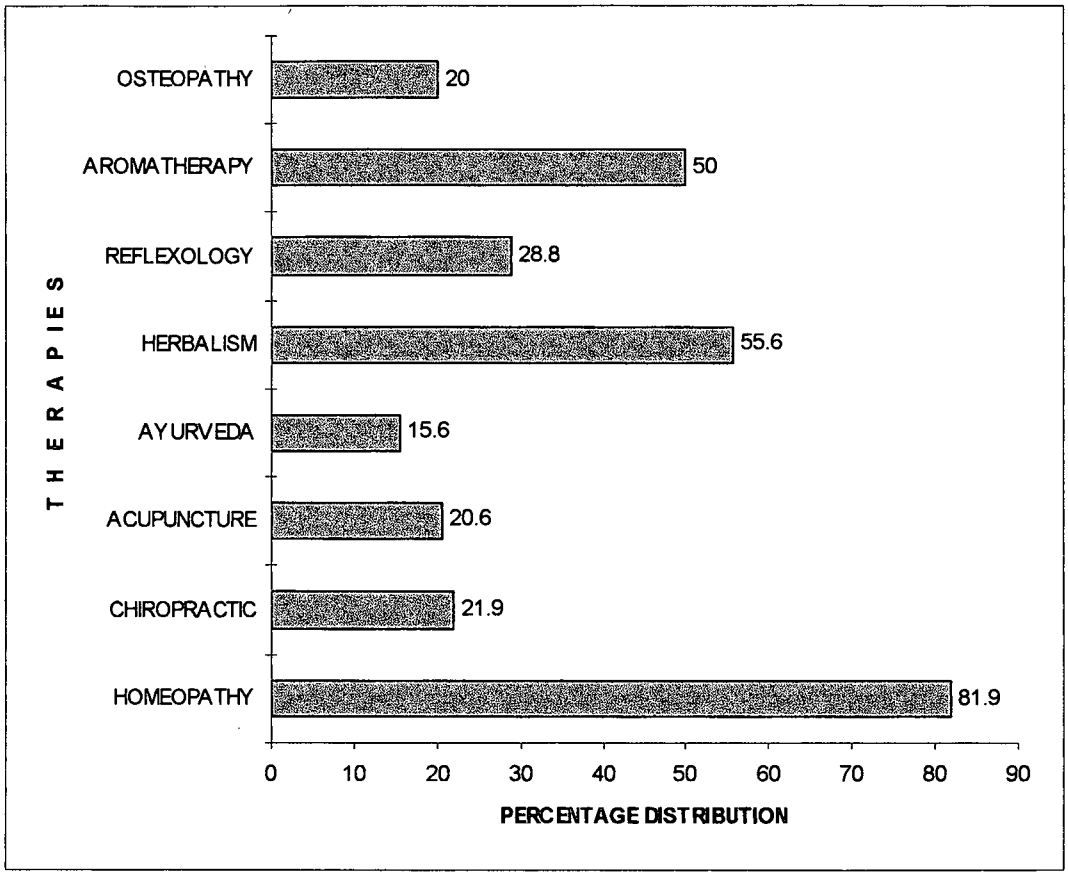
Table 4.2 Should complementary medicine be included into the pharmaceutical curriculum?

	Frequency	Percentage
Yes	135	84.4
No	25	15.6
TOTAL	160	100

The table indicates that a majority of pharmacists thought that complementary therapies should be included into the pharmaceutical curriculum.

The Pearson Chisquare test showed there was no significant association between gender and age of the respondents and their perception whether complementary medicine should be included in the pharmaceutical curriculum.

Figure 4.6 Complementary therapies pharmacists thought should be included into the pharmaceutical curriculum



The graph indicates that although respondents thought all of the above complementary therapies should be included into the pharmaceutical curriculum, homoeopathy, herbalism and aromatherapy were by a large margin perceived to be of more importance to the pharmaceutical curriculum than the other fields.

4.3 VIEWS AND OPINIONS

Table 4.3 Pharmacists' perceived knowledge of complementary medicine

	Know nothing %	Know a little %	Average %	Know quite a lot %	Know everything %
Homoeopathy	20	46.9	27.5	5	0.6
Chiropractic	56.3	35.6	6.9	0.6	0.6
Acupuncture	58.8	33.1	6.9	0.6	0.6
Ayurveda	85.6	10.6	3.1	0.6	0
Herbalism	46.9	34.4	16.3	2.5	0
Reflexology	55	32.5	11.3	0.6	0.6
Aromatherapy	44.4	35	15.6	4.4	0.6
Osteopathy	83.1	14.4	1.3	1.3	0

The table shows that most respondents knew nothing or very little about chiropractic, acupuncture, hebalism, reflexology and aromatherapy. Although most pharmacists knew very little about homoeopathy, more pharmacists knew an average amount or quite a lot about homoeopathy than about any other complementary therapy. Most pharmacists knew nothing about ayurveda and osteopathy.

The Pearson Chisquare test showed there was significant association between the gender of the respondents and their knowledge of homoeopathy and osteopathy at 10% level of significance. There was a significant association between the gender of pharmacists and their knowledge of aromatherapy at a 5% level of significance. There was no significant association between gender and their knowledge of chiropractic, acupuncture, ayurveda, herbalism and reflexology.

The Pearson chisquare test shows there was a significant association between the age of the pharmacists and their knowledge of acupuncture and aromatherapy at a 5% level of significance. There was no significant association between the age of the pharmacists and their knowledge of homoeopathy, chiropractic, herbalism,reflexology, osteopathy and ayurveda.

The Pearson Chisquare test showed no significant association between whether pharmacists thought complementary medicine should be included into the pharmaceutical curriculum and their knowledge of homoeopathy, chiropractic, acupuncture, ayurveda, herbalism, reflexology, aromatherapy and osteopathy.

The Pearson Chisquare test showed there was a significant association between pharmacists consulting complementary practitioners and their knowledge of reflexology and aromatherapy at a 5% level of significance. There was no significant association between pharmacists who had consulted a complementary practitioner and their knowledge of homoeopathy, chiropractic, acupuncture, ayurveda, herbalism and osteopathy.

Table 4.4 Perceived effectiveness of complementary medicines

	Not effective %	A little effective %	Average %	Effective %	Very effective %	Do not know %
Homoeopathy	6.3	10.6	30.6	22.5	18.1	11.9
Chiropractic	4.4	11.9	26.9	21.9	10.6	24.4
Acupuncture	6.9	18.8	21.9	13.8	11.9	26.9
Ayurveda	5	6.3	2.5	5.6	1.9	78.8
Herbalism	4.4	18.8	23.1	16.3	5	32.5
Reflexology	7.5	16.3	25	10.6	10.6	30
Aromatherapy	8,1	21.3	20	13.8	6.3	30.6
Osteopathy	3.1	6.9	6.9	6.9	4.4	71.9

The majority of pharmacists thought homoeopathy ranged from an average to an effective form of treatment. The pharmacists rated the effectiveness of chiropractic as average to effective. Acupuncture was considered mainly as average in its effectiveness as a therapy, although about a quarter of pharmacists did not know if acupuncture was effective. Pharmacists found herbalism, reflexology and aromatherapy a little effective to effective. Approximately a third of the pharmacists did not know if the previous three therapies were effective at all. Most pharmacists did not know if ayurveda and osteopathy were effective treatments.

The Pearson chisquare test showed there was a significant association between the age of the pharmacist and whether they thought reflexology and aromatherapy were effective forms of treatment at 5% level of significance. There was no significant association between the age of the pharmacist and whether they thought homoeopathy, chiropractic, acupuncture, ayurveda, herbalism and osteopathy were effective forms of treatments.

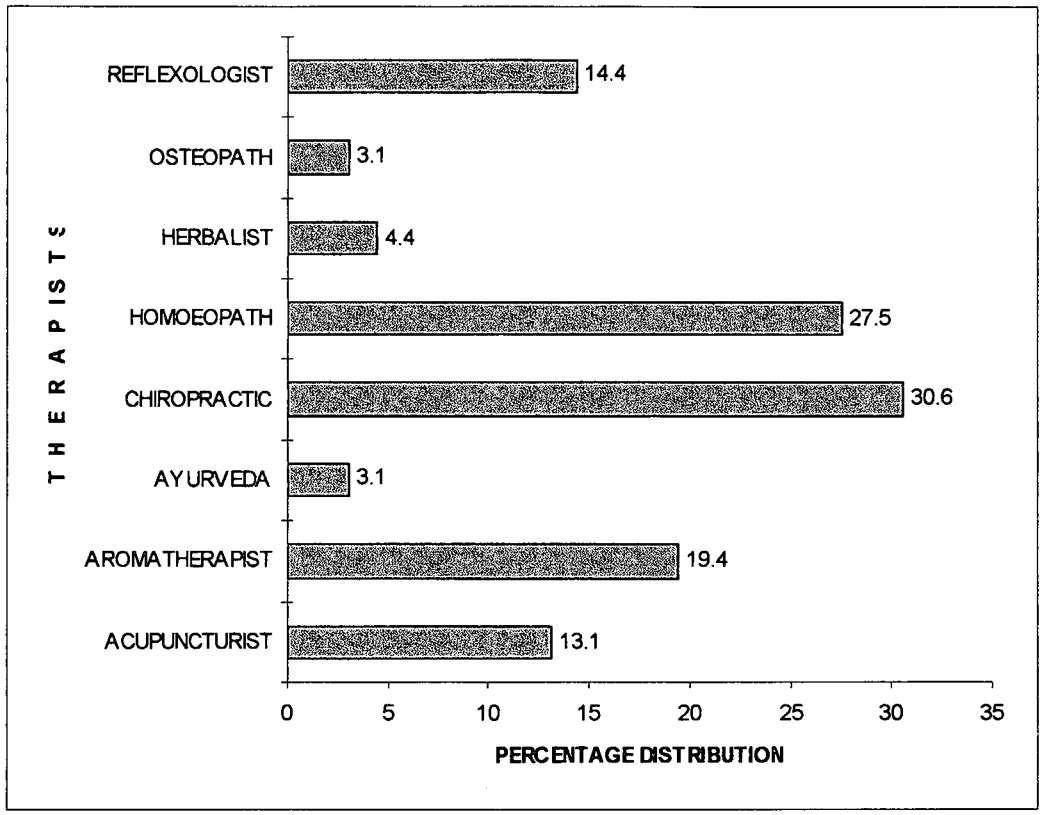
The Pearson Chisquare test showed there was significant association between pharmacist consulting complementary medical practitioners and whether they considered chiropractic, acupuncture, herbalism, reflexology, aromatherapy and osteopathy as effective forms of treatments at a 5% level of significance. There was no significant association between pharmacists consulting complementary practitioners and whether they thought homoeopathy and ayurveda were effective forms of treatments.

Table 4.5 Pharmacists who had consulted a complementary medical practitioners

	Frequency	Percentage
YES	79	49.4
NO	81	50.6
TOTAL	160	100

Approximately half of the pharmacists answering the questionnaire had consulted a complementary practitioner.

Figure 4.7 Percentage of pharmacists who had consulted the following complementary medical practitioners



More pharmacists had consulted chiropractors and homoeopaths than any of the other health practitioners. Very few pharmacist had consulted ayurvedic practitioners, herbalists, or osteopaths.

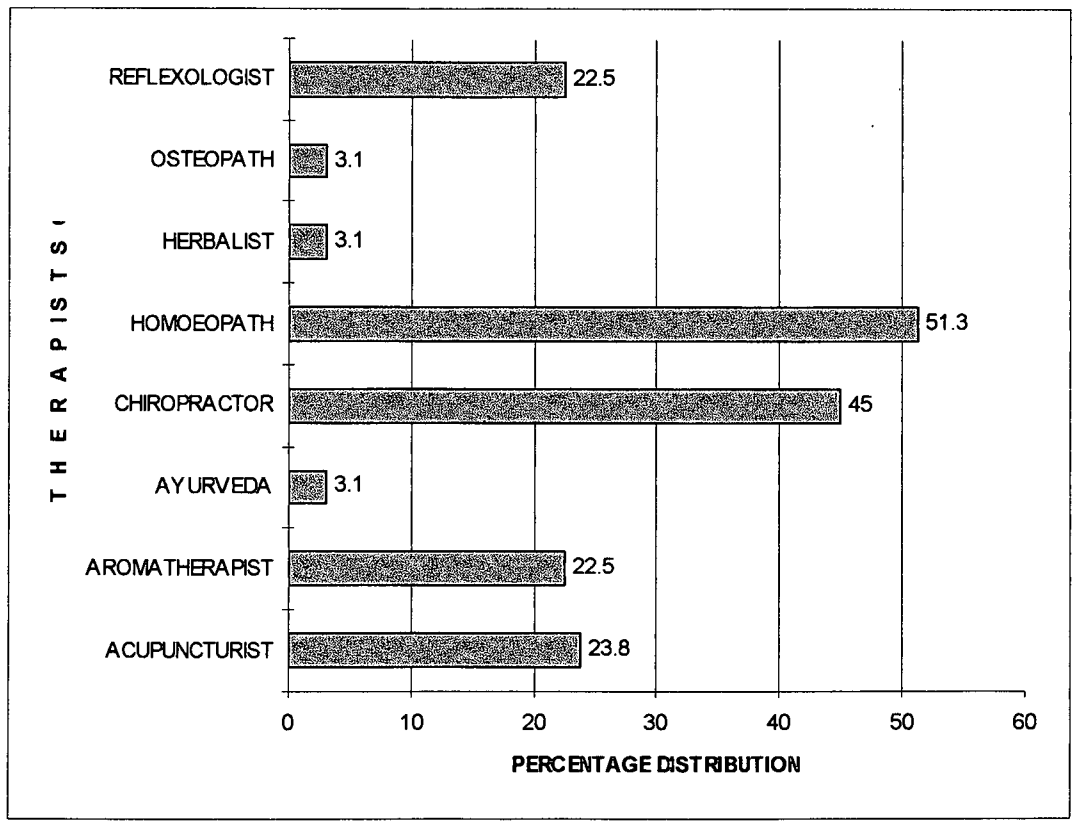
The Pearson Chisquare test showed that of the listed complementary therapies there was only a significant association between age the of pharmacists and whether they had consulted a chiropractor at a 5% level of significance.

Table 4.6 Number of pharmacists who had referred patients to complementary practitioners

	Frequency	Percentage
YES	118	73.75
NO	42	26.25
TOTAL	160	100

More pharmacist had referred patients to complementary medical practitioners than those that had not.

Figure 4.8 Percentage of referrals of patients to the following complementary medical practitioners by pharmacists



The graph indicates that more patients had been referred to homoeopaths and chiropractors than to the other complementary health practitioners. Very few patients had been referred to ayurvedic practitioners, herbalists and osteopaths.

The Pearson Chisquare test showed a strong significant association between pharmacists consulting complementary medical practitioners and pharmacists referring patients to homoeopaths, chiropractors, acupuncurists, reflexologists and aromatherapists at a 5% level of significance. There was no significant association between pharmacists consulting complementary medical practitioners and referring patients to ayurvedic practitioners, herbalists and osteopaths.

Table 4.7 Number of times pharmacists had referred patients to complementary practitioners

	Frequency	Percentage
never	42	26.3
once	10	6.3
2-3 times	38	23.8
4-5 times	21	13.1
6 or more	49	30.6
TOTAL	160	100

The table indicates that the number of times pharmacists most frequently referred patients to complementary medical practitioners was 6 or more times and 2-3 times.

Table 4.8. Pharmacies selling complementary medicines.

	Frequency	Percentage
Homoeopathic medicines	122	76.3
Herbal medicines	67	41.9
Aromatherapy products	75	46.9

About three quarters of pharmacists stocked homoeopathic medicines in their pharmacies, whereas herbal medicines and aromatherapy products were only stocked in under a half of the pharmacies.

Table 4.9 Complementary medicines most commonly requested by the patient

	Frequency	Percentage
Homoeopathy	121	75.6
Herbalism	17	10.6
Aromatherapy	14	8.8

The table indicates that homoeopathic medicines were by far the most commonly requested complementary medicines in pharmacies.

Table 4.10 Complementary medicines recommended by the pharmacist

	Frequency	Percentage
Homoeopathic	97	60.6
Herbal	16	10
Aromatherapy	11	6.9

Homoeopathic medicines were recommended most often by pharmacists.

Table 4.11 Reasons pharmacists prescribe or recommend complementary medicine

	Frequency	Percentage
Conventional medicine has failed	45	28.1
Lack of side effects	67	41.9
Patient's request	93	58.1
Last resort	22	13.8
Other	16	10

Pharmacists prescribed or recommended complementary medicine mainly because patients requested them and because of the lack of side effects. A few pharmacists said they used it as a last resort.

Table 4.12 Rating of pharmacists' knowledge of preparing complementary medicine

	Know nothing %	**Know a little %**	**Average %**	**Know quite a lot %**	**Know everything %**
Homoeopathic	56.9	19.4	15.6	4.4	3.8
Herbal	73.1	14.4	6.9	3.8	1.9

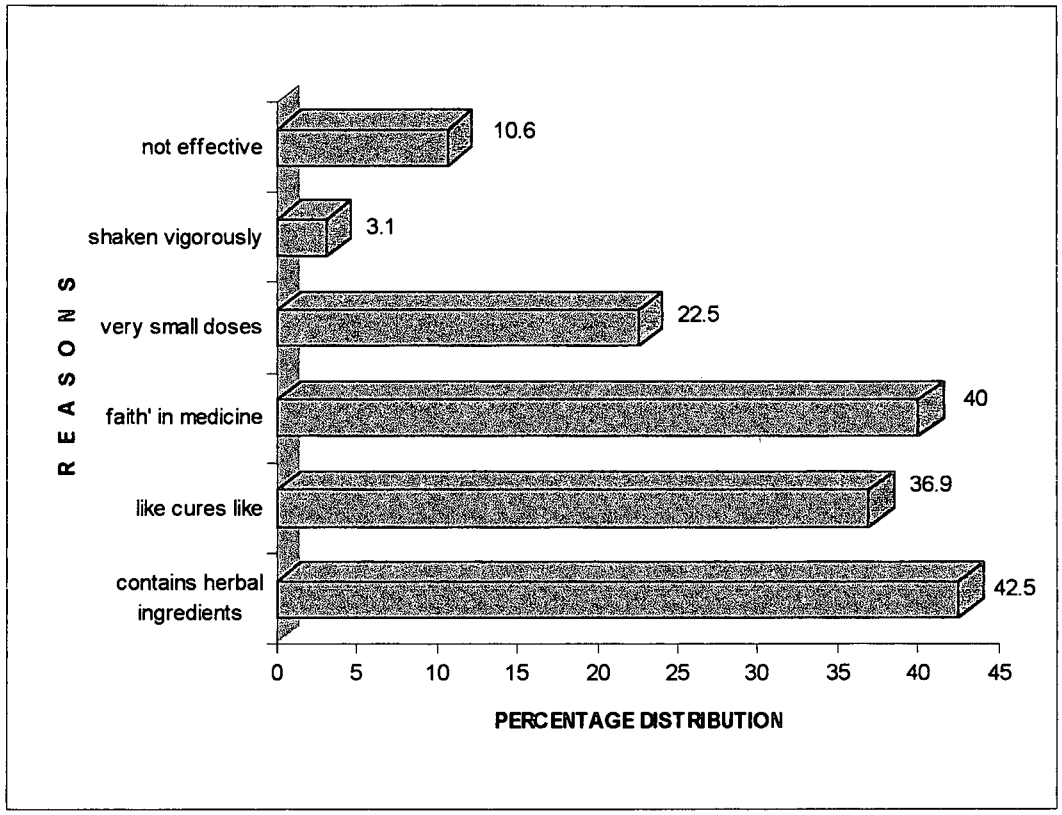
Over half the pharmacists knew nothing about preparing homoeopathic medicines. A few pharmacists knew a little to an average amount about preparing homoeopathic medicines. The majority of pharmacists knew nothing about preparing herbal medicine.

Table 4.13 Pharmacists preparing their own complementary medicines

	YES %	NO %
Homoeopathic	4.4	95.6
Herbal	3.8	96.3

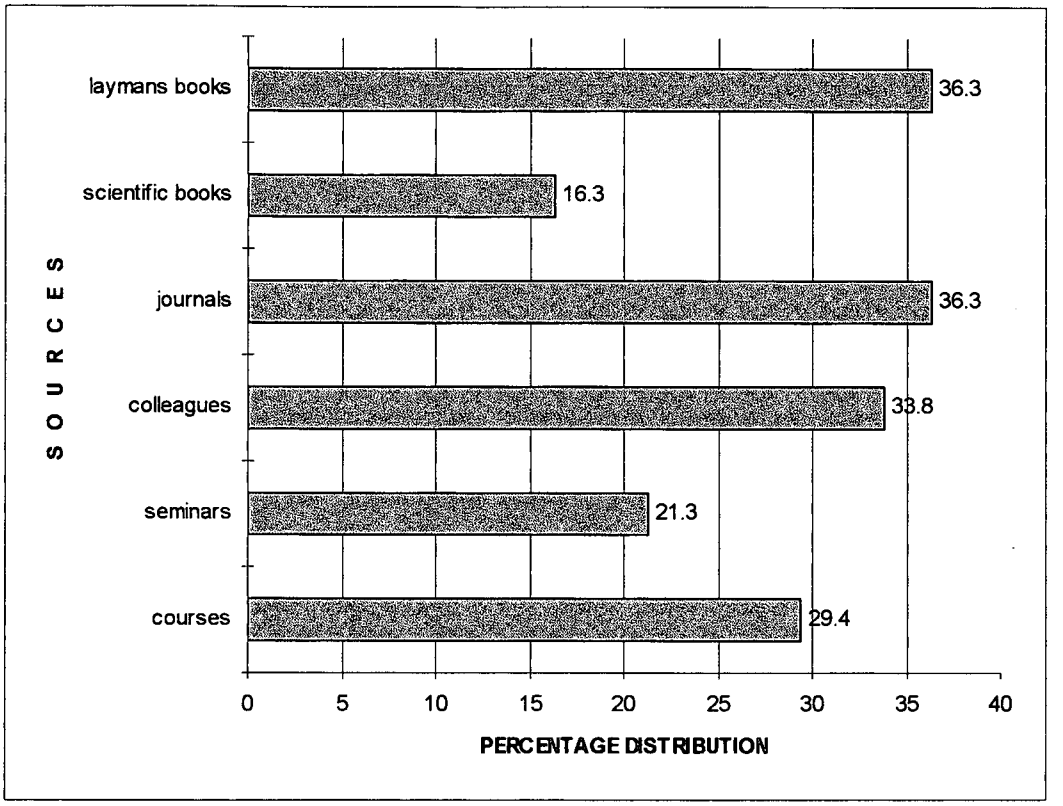
Almost none of the pharmacists questioned prepared their own homoeopathic or herbal medicines.

Figure 4.9 Reasons for perceived effectiveness of homoeopathic medicines



Homoeopathy was perceived to be an effective form of treatment mainly because it contains herbal ingredients; 'faith' in the medicine; and because like cures like. A few pharmacists did not think it was effective at all.

Figure 4.10 Source of information of complementary medicine



The main source of information about complementary medicine was from layman's books and journals. The second major source of information was from colleagues.

Table 4.14 Reasons why pharmacists do not incorporate complementary medicine into their pharmaceutical practice

	Frequency	Percentage
Lack of confidence in complementary medicine	19	11.9
Lack of confidence in application	14	8.8
Have never heard of them	6	3.8
Lack of knowledge of complementary medicine	72	45
Lack of time	17	10.6
Lack of opportunity	11	6.9
Lack of opportunity due to patient resistance	7	4.4
Feel it is of no value	8	5
Feel it could be dangerous to the patient	6	3.8

If pharmacists did not include complementary medicine into their practice it was largely due to their lack of confidence in complementary medicine and the lack of time. A small percentage said that they had never heard of some complementary therapies and felt complementary medicine could be dangerous to the patient.

Table 4.15 Factors encouraging the demand for and use of complementary medicine

	Frequency	Percentage
More knowledge	135	84.4
Patient demand	103	64.4
Proof of efficacy	108	67.5
Nothing will encourage it	3	1.9
Other	6	3.8

Most pharmacists thought that more knowledge of complementary medicine, proof of efficacy and patient demand would encourage the use of complementary medicine. A small percentage of pharmacists thought nothing would encourage the use of complementary medicine.

Table 4.16 The effectiveness of complementary therapies treating specific conditions

	Homoeo pathy %	Chiro practic %	Ayur veda %	Herba lism %	Reflex ology %	Aroma therapy %	Acupu ncture %	Do not know %
Obesity	32.5	2.5	4.4	20	6.9	4.4	16.3	50
High Blood Pressure	27.5	1.9	4.4	8.8	5	5.6	4.4	64.4
Rheumatoid Arthritis	38.1	8.1	5.6	16.3	11.9	6.3	15	46.6
Allergies	54.4	2.5	6.9	14.4	5.6	6.9	7.5	39.4
Eczema	47.5	1.3	8.1	16.3	3.8	6.9	2.5	47.5
Headaches/ migraines	33.8	16.9	3.1	14.4	25.6	21.3	24.4	38.1
Burns	31.9	1.9	4.4	14.4	1.9	5.6	0	58.1
Acne	33.1	1.9	5.6	15.6	1.9	5.6	1.9	59.4
Back pain	23.1	43.8	2.5	6.3	19.4	7.5	21.3	40.6
Depression	28.8	1.9	5	8.1	13.1	16.9	6.9	58.1
Insomnia	39.4	3.8	6.3	15.6	16.3	22.5	6.3	46.9
Stress	39.4	8.8	5.6	15	25	30.6	12.5	41.3
Menstrual problems	36.3	3.1	2.5	11.3	8.8	8.8	8.1	53.1
Hay fever	50.6	3.8	3.8	14.4	4.4	6.3	5.6	43.4
Childhood diseases (mumps, measles,etc)	18.1	1.3	1.9	5	0.6	3.1	0	77.5
Common cold	55	1.9	5	16.3	2.5	13.1	0.6	43.1

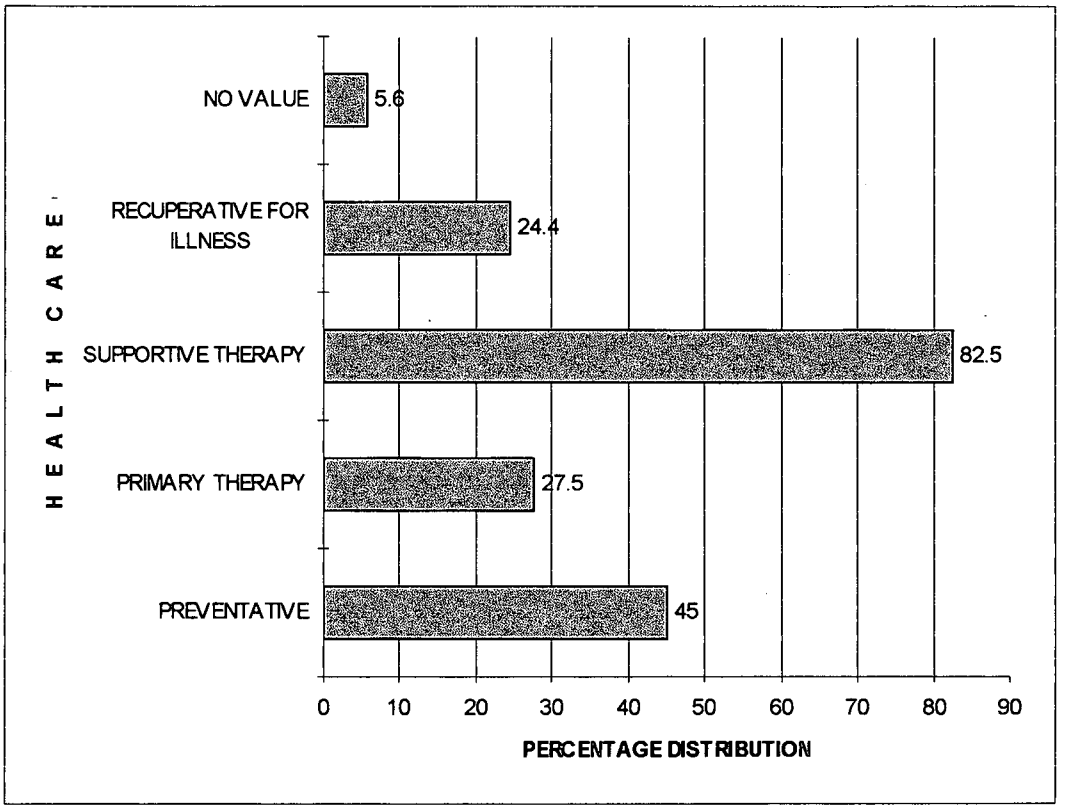
The table indicates that pharmacists perceived homoeopathy to be more effective in treating obesity, high blood pressure, rheumatoid arthritis, allergies, eczema, headaches, burns, acne, depression, insomnia, stress, menstrual problems, hayfever, childhood diseases and the common cold than any other complementary therapy.

Back pain was perceived to be treated most effectively by chiropractic.

Over half of the pharmacists did not know if complementary medicine treated obesity, high blood pressure, burns, acne, depression and menstrual problems effectively. Very

few pharmacists thought ayurveda treated the above conditions effectively. Over half of the pharmacists thought homoeopathy treated allergies, the common cold and hayfever effectively

Figure 4.11 Complementary medicine in the health care system



The graph indicates that the majority of pharmacists saw complementary medicine as supportive therapy in the health care system. Complementary medicine was seen as preventative by almost half of the pharmacists. A small percentage thought complementary medicine was of no value.

The Pearson Chisquare test showed there was a significant association between the gender of the pharmacists and whether they thought complementary medicine effective as preventative therapy and recuperative for illness at a 5% level of significance. There

was no significant association between the gender of the pharmacists and whether they thought complementary medicine as primary therapy, supportive therapy or of no value.

The Pearson Chisquare test showed there was a significant difference between age of pharmacists and whether they thought complementary medicine as recuperative for illness at a 10% level of significance. There was no significant association between age of pharmacists and whether they considered complementary medicine as preventative, primary or supportive therapy, or of no value at all.

The Pearson Chisquare test showed a strong significant association between whether pharmacists thought complementary medicine should be included into the pharmaceutical curriculum and whether complementary medicine was preventative or of no value at a 5% level of significance. There was a significant association between whether pharmacisits thought complementary medicine should be included into the pharmaceutical curriculum and whether complementary medicine was considered primary or supportive therapy at a 5% level of significance.

The Pearson Chisquare test showed a significant association between pharmacists consulting complementary medical practitioners and whether they considered complementary medicine as preventative or supportive therapy, or of no value at a 5% level of significance. There was no significant association between pharmacists consulting complementary medical practitioners and whether they considered complementary therapy as primary or recuperative therapy.

Table 4.17 Pharmacists' perception of health care

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Basic health care is a right	5	8.1	7.5	18.1	61.3
Basic health care is a privilege	36.3	23.1	15	16.3	9.4
Comprehensive health care is a right	10	18.1	33.1	24.4	14.4
Complementary medicine should play an active role in the health care of South Africa	4.4	6.3	29.4	34.4	25.6

The table indicates that most pharmacists agreed or strongly agreed that basic health care is a right. They disagreed or strongly disagreed that basic health care is a privilege. Pharmacists were mostly neutral or agreed that comprehensive health care is a right.

Most pharmacists' opinions ranged from neutral to strongly agreeing that complementary medicine should play an active role in the health care system of South Africa.

The Pearson Chisquare test showed there was no significant association between the gender of the pharmacists and their perception of health care.

The Pearson Chisquare test showed significant association between the age of the pharmacist and whether they thought that complementary medicine should play an active role in the health care system in South Africa at a 5% level of significance. There was no significant association between the age of the pharmacists and whether they thought basic health care is a privilege; basic health care is a right; and comprehensive health care is a right.

The Pearson Chisquare test showed a significant association between whether pharmacists thought complementary medicine should be included in the pharmaceutical curriculum and whether they thought basic health care is a right; basic health care is a privilege; and whether they thought that complementary medicine should play an active role in the health care system in South Africa at a 5% level of significance. There was no significant association between whether they thought complementary medicine should be included into the pharmaceutical curriculum and whether pharmacist thought comprehensive health care is a right.

The Pearson Chisquare test showed no significant association between pharmacists consulting complementary practitioners and their perception of health care.

CHAPTER 5

DISCUSSION

5.1. Introduction

This study aimed at assessing pharmacists' perception of complementary medicine in the health care system in South Africa. Of the 725 questionnaires distributed to pharmacies in the Cape Town, Johannesburg, Bloemfontein, East London, Port Elizabeth and Pietermaritzburg areas, only 160 (21,9%) responded. A survey sent to 1000 United States (US) pharmacists reported a 19.7% response rate. This low response rate was thought to underestimate the lack of knowledge about complementary medicine. It also possibly underrated the proportion of pharmacists who may perceive complementary medicine as useless and not worthy of answering the questionnaire (Nelson et. al 1990).

When carrying out the pilot study it was found that a few pharmacists who were approached said they were to busy to answer questionnaires. This could have also been a contributing factor to the low response rate.

5.2 Demographic data

Although there were more male (65%) than female (35%) respondents, the gender of the pharmacists was not taken into account when the questionnaire was distributed, so it was not known if females had a poorer response rate or if more males than females were included into the study. It may indicate there are more male than female pharmacists.

It was found that the majority of pharmacists answering the questionnaire (40,6%) were between the ages of 22-35 years, and the number of respondents decreased as age increased. The age of the pharmacist was not taken into consideration when the questionnaire was distributed, so it was not known whether the younger pharmacists' response rate was higher because they were more interested in the questionnaire and eager to respond, or if more questionnaires were posted to the younger age group than the older age group.

Most respondents were from Cape Town (26,9%), Durban (22,5%) and Johannesburg (21,9%). This is not surprising as these cities are larger and have more pharmacies than the other cities included in the study.

5.3 Pharmaceutical Education

Very few of the pharmacists had any qualification in complementary medicine. Six pharmacists had a qualification in homoeopathy although it was not specified what qualification it was. It was found that three pharmacists had a qualification in aromatherapy, and two in reflexology.

It was found that very little time was spent teaching complementary therapies during pharmaceutical education. Only 23% (36) of pharmacists were taught any complementary medicine. Of the 36 pharmacists exposed to complementary medicine, 16 said the exposure time was 2-4 hours, and 11 of the respondents stated that 4-8 hours were spent being taught complementary medicine.

In the UK it was found that 56% of pharmaceutical schools exposed the undergraduate to complementary medicine but most stated that only 1-6 hours was spent teaching complementary medicine (Kayne 1993).

The complementary therapy undergraduate pharmacists were most frequently exposed to was homoeopathy (17,5%). Very few pharmacists had any coverage of ayurveda (1.3%), osteopathy (1.3%), chiropractic (2,5%) and acupuncture (4.4%).

A survey carried out to investigate whether British Schools of Pharmacy exposed undergraduates to complementary medicine found that acupuncture and chiropractic were ignored. It was concluded that these complementary therapies were ignored since a community pharmacist had very little opportunity to practice these professions (Kayne 1993). In this research carried out on South African pharmacists, osteopathy was included and carries the same implications as chiropractic and acupuncture.

The majority of pharmacists (84,4%) responding thought that complementary medicine should be included into the pharmaceutical curriculum. The chisquare test showed there was no significant association between the age and gender of the respondents and their perception whether complementary medicine should be included into the pharmaceutical curriculum.

Of the pharmacists who responded positively in this regard, 81.9% thought homoeopathy should be included into the curriculum. Half of the pharmacists thought aromatherapy (55.6%) and herbalism (50%) should be incorporated into the pharmaceutical curriculum. Homoeopathy, aromatherapy and herbalism are three complementary therapies that can be easily incorporated into a pharmaceutical practice. Homeopathic medicines, aromatherapy oils and herbal products can be sold over-the-counter without any formal consultation. These complementary therapies would appear more directly beneficial to the pharmacists' practice than osteopathy, acupuncture and chiropractic (Kayne 1993). Pharmacists had little knowledge about

ayurveda and its effectiveness and possibly therefore did not consider it as an important complementary therapy to learn (Table 4.3 and Table 4.4).

5.4 Views and Opinions

5.4.1 Perceived knowledge of complementary medicine

It was found that overall most pharmacists knew nothing or very little about ayurveda (96.2%), osteopathy (98.5%), chiropractic (91.9%), acupuncture (91.9%), reflexology (87.5%), herbalism(81.3%), aromatherapy (79.4%) and homoeopathy (66%). This may be attributed to the fact that 77% of pharmacists had not been exposed to any complementary medicine during training (Table 4.1).

More pharmacists knew an average to quite a lot about homoeopathy (28.6%), aromatherapy (20.6%) and herbalism (18.8%). Homoeopathy had been taught to more pharmacists than other complementary therapies during pharmaceutical education.

Almost nothing was known about ayurveda (85.6%) and osteopathy (83.1%).

There was a significant association between gender of pharmacists and their knowledge of homoeopathy and osteopathy at a 10% level of significance. At a 5% level of significance it was found that there was a significant association between the gender of the pharmacists and their knowledge of aromatherapy.

An association was found between the age of the pharmacist and their knowledge of acupuncture and aromatherapy at a 5% level of significance.

No association was found between whether pharmacists thought complementary medicine should be included into the pharmaceutical curriculum and their knowledge of the complementary therapies.

The chisquare test indicated that there was an association between pharmacists consulting a complementary practitioner and their knowledge of reflexology and aromatherapy at a 5% level of significance.

5.4.2 Perceived effectiveness of complementary medicine

Homoeopathy was considered an average to effective therapy by 71.2% of the pharmacists. There was no significant association between the age of the pharmacists and whether they had consulted a complementary therapist or the fact that they thought homoeopathy was an effective treatment. This finding contrasts with a study of attitudes and awareness of pharmacy staff in the Stoke-on-Trent area that found subjects over the age of 40 years seemed to accept the effectiveness of homoeopathy more readily than those subjects younger than 40 years of age. It is normally thought that homoeopathy appeals to people in the 35-44 age groups (Davies 1992).

The pharmacists thought chiropractic (59.4%), acupuncture (47,6%), reflexology (46.2%), herbalism (44.4%) and aromatherapy (40.1%) were average to effective forms of treatments.

Most pharmacists did not know if ayurveda (78.8%) and osteopathy (71.9%) were effective forms of treatments. This may be due to the lack of knowledge about these therapies (Table 4.3).

It was found that there was a significant association between pharmacists consulting complementary medical practitioners and whether they considered chiropractic, acupuncture, herbalism, reflexology, aromatherapy and osteopathy as effective forms of treatments at a 5% level of significance indicating that pharmacists who had consulted these complementary medical practitioners considered the therapies as effective forms of treatments.

There was a significant association between the age of the pharmacists and whether they thought of reflexology and aromatherapy were effective forms of treatments at a 5% level of significance. This indicates that more pharmacists over the age of 46 years thought reflexology and aromatherapy as effective forms of treatments than pharmacists between the age of 22-25 years.

In comparison, a survey carried out to compare US and UK pharmacists found that pharmacists of both these nationalities thought acupuncture to be the most useful alternative health approach. Chiropractic and osteopathy were included as the most useful complementary therapies by the US pharmacists, while UK pharmacists thought chiropractic, homoeopathy and herbalism to be the most effective (Nelson et. al 1990). South African pharmacist found homoeopathy and chiropractic to be the most effective complementary medicines. Nelson et. al (1990) stated that that these differences may be expected to exist both intra- and internationally, depending on the predominant health practices and ethnic variables of a specific location.

A fairly large percentage of pharmacists did not know if herbalism (32.5%), aromatherapy (30.6%), reflexology (30%), acupuncture (26.9%) and chiropractic (24.4%) were effective treatments. This may be associated with the very little time spent on teaching complementary therapies during pharmaceutical training and the lack of knowledge on these subjects (Table 4.1 and Table 4.3). Reasons for pharmacists not perceiving the complementary therapies as effective may be due to the nature of the pharmaceutical education in that there is a need for scientific evidence of the complementary therapies' efficacy. Scientific evidence relating to complementary medicine is often unavailable or difficult to obtain (Davies et. al 1992).

5.4.3 Pharmacists consulting complementary medical practitioners

It was found that almost half the pharmacists (49.4%) had consulted a complementary medical practitioner.

The most frequently utilized complementary therapies were chiropractic (30.6%) and homoeopathy (27.5%). Very few pharmacists had ever consulted an osteopath (3.1%), herbalist (4.4%) or an ayurvedic practitioner (3.1%). A survey comparing US and UK pharmacists found that osteopathy and chiropractic were most often used by US pharmacists, while homoeopathy and herbalism were most often used by UK pharmacists (Nelson et. al 1990).

It was found from the results of the questionnaire that pharmacists have a better knowledge of homeopathy and therefore may tend to use it more frequently.

5.4.4 Pharmacists referring patients to complementary practitioners

Almost three quarters (73.5%) of pharmacists had referred a patient to a complementary medical practitioner. It was found that more pharmacists made referrals to homoeopaths (51.3%) and chiropractors (45%) than to any other complementary therapy. Very few referrals were ever made to ayurvedic practitioners(3.1%), herbalists (3.1%) and osteopaths (3.1%). A survey carried out by Nelson et. al (1990) found that US pharmacists made referrals most often to osteopaths and chiropractors, whereas UK pharmacists made referrals most often to homoeopaths and osteopaths. These results differ from South African pharmacists who had almost never referred a patient to an osteopath. These differences can again be explained by the expected differences that exist both within a country and between countries depending on the predominant health practices and ethnic variables of a specific location (Nelson et. al 1990).

The Pearsons Chisquare test showed a strongly significant association between pharmacists who themselves consulted complementary practitioners and pharmacists referring patients to those practitioners at a 5% level of significance. This indicates that those pharmacists who consulted a complementary practitioner were more likely to refer a patient to that particular complementary therapist. A survey carried out on pharmacy staff showed that 60% responded that a homoeopathic remedy had been recommended by a user (Davies et. al 1992).

Most pharmacists who referred patients to a complementary practitioner did so more than once. Of these pharmacists who referred patients to a complementary practitioner, 30% referred patients six or more times. This may indicate that the pharmacist was satisfied enough with the previous treatment by the complementary practitioner to refer patients again.

5.4.5 Pharmacies selling complementary medicines

It was found that about three quarters (76.3%) of pharmacies sold homoeopathic medicine. In the US 69% of chain drugstores and 3000 independent pharmacies stock homoeopathic medicine (Mc Dermott et. al 1995).

Under half the pharmacies stocked aromatherapy products (46.9%) and herbal medicines (41.9%). Increased coverage of non-conventional forms of medical care in the press, on television and on local radio has increased the demand for complementary medicine (Alton et. al 1992). There was a 50% increase in the over-the-counter demand for homoeopathic medicine from 1988-1991 in the UK (Davies 1992). The pharmacist has adopted a reactive approach to the public's demand for over-the-counter homoeopathic medicines (Kayne 1993).

The reason for homoeopathic medicine to be stocked in more pharmacies than aromatherapy and herbal medicine may be because pharmacists have more knowledge of homoeopathy and have more confidence in prescribing it.

5.4.6 Complementary medicines requested by the patient

It was noted that 76.6% of pharmacists said homoeopathic medicine was most commonly requested by the patient. Very few patients requested herbal medicine (10.6%) and aromatherapy products (8.8%). The demand for complementary medicine is possibly being generated by fear of conventional drugs side effects, general dissatisfaction of existing therapies and low cost of complementary medicine (Kayne 1993).

5.4.7 Complementary medicines recommended by pharmacists

Results showed that homoeopathic medicine was recommended most often by 60.6% of the pharmacists. Herbal medicines were recommended by 10% of the pharmacists and aromatherapy products were recommended by 6.9% of the pharmacists. These figures are less than the amount of pharmacies selling homoeopathic medicines. Pharmacists have been trained in allopathic medicines with very little complementary medical training and it is therefore not surprising that they do not recommend homoeopathic medicines first, as they will prescribe treatments of which they have more knowledge.

5.4.8 Reasons pharmacists prescribe or recommend complementary medicine

Over half of the pharmacists (58.1%) who prescribed or recommended complementary medicine said they did so because the patient requested it. This can be expected as pharmacists are not trained in complementary therapies but in conventional medicines and therefore will first recommend what they know best, which are conventional drugs. Complementary medicine was reportedly recommended by 28.1% of the pharmacists as orthodox medicine had failed. A study carried out by the Centre of the Study of Complementary Medicine found that the main reason patients chose complementary medicine (45%) was due to the failure of orthodox medicine (Finnigan 1991).

The lack of side effects was the main reason 41.9% of the pharmacists prescribed or recommended complementary medicine. If a drug could prove harmful to a patient, it is the pharmacist's responsibility to intervene for the safety of the patient, providing a remedy poses no danger to the patient through direct toxicity (Kaatz et. al 1995).

The percentage of pharmacists prescribing or recommending complementary medicine as a last resort was 13.8%.

5.4.9 Pharmacists knowledge of preparing complementary medicines

Most pharmacists knew nothing or little about preparing herbal (87.5%) and homoeopathic medicines (75.3%) . This may explain why pharmacist had little understanding of the importance of the principle of small doses and succussion (shaking the remedy vigorously) (Figure 4.9). The lack of education with regard to complementary medicine during pharmaceutical training may also be a contributing factor (Figure 4.5.).

5.4.10 **Pharmacists preparing their own complementary medicines**

Very few pharmacists prepared their own homoeopathic (4.4%) and herbal remedies (3.8%). The reason for this is that most pharmacists have either very little or no knowledge at all in preparing these medicines (Table 4.12). Most over-the-counter remedies are made by homoeopathic pharmaceutical companies and are easily and readily available. A busy pharmacy may not have the time to spend making homoeopathic or herbal medicines.

5.4.11 **Reasons for effectiveness of homoeopathic medicines**

It was found that the largest percentage of pharmacists attributed the effectiveness of homoeopathic remedies to the fact that they contain herbal ingredients (42.5%) and patients had 'faith' in the medicines (40%). A survey carried out in the UK by Davies et. al (1992) found similar results in that 47% of the pharmacists thought homoeopathic medicines were effective because they contained herbal ingredients and 50% thought they were effective because the patients had 'faith' in the medicine. It was deduced that homoeopathy was seen as a variant of herbalism as a large portion of homoeopathic remedies is derived from herbal sources. 'Faith' in medicine is regarded the same as placebo. This is one of the largest critisms against homoeopathy, even though a lot of research has been carried out on this form of therapy (Davies et. al 1992).

The basic principle of 'like cures like' was understood by 36.9% of the pharmacists but there was much less understanding of very small doses (22.5%) and the importance of the medicines being succussion (shaken vigorously) (3.1%) during preparation.

Complete ineffectiveness of homoeopathic medicines was perceived by 10.6% of the pharmacists. This may be explained by the nature of the pharmaceutical education in that it requires scientific evidence before acceptance (Davies et. al 1992).

5.4.12 Sources of knowledge of complementary medicine

The main source of information on complementary medicine for pharmacists was from laymans' books (36.3%), journals (36.3%) and colleagues (33.8%).

Courses and seminars were the source of complimentary medicine knowledge in 29.4% and 21.3% of the cases respectively

A few pharmacists' (16.3%) source of information was from scientific books. The reason for scientific books providing such a small percentage of the information is that up until recently there has been little or no scientific evidence available regarding complementary medicine (Davies et. al 1992).

5.4.13 Why complementary medicine is not incorporated into the pharmaceutical practice

A lack of knowledge (45%) is the main reason why pharmacist do not incorporate complementary medicine into their pharmaceutical practice. Lack of confidence in the application of complementary medicines was given by 8.8% of the pharmacists as the reason for not incorporating it into their pharmaceutical practices. These reasons could explain why a large percentage of pharmacists will only prescribe complementary medicine when a patient requests it (Table 4.11.).

Further reasons are the lack of confidence in complementary medicine (11.9%); lack of time (10.6%); lack of opportunity (6.9%); the perception that it is of no value (5%); lack of opportunity due to patient resistance (4.4%); the perception that it could be too dangerous to the patient (3.8%) and having never heard of some of the complementary therapies (3.8%).

5.4.14 Factors encouraging the demand and uses of complementary medicine

A large majority (84.4%) said that more knowledge of complementary medicine would encourage its demand and subsequent use.

Proof of efficacy is an issue a large percentage (67.5%) of the pharmacists agreed upon. Berman et. al (1994) reported a survey that established that scientific evaluation although difficult, is necessary. It was also found that older pharmacy colleagues whose continued insistence on scientific evidence of efficacy and mechanisms in the pharmaceutical press is preventing a wider distribution of homoeopathic and herbal medicines (Kayne 1993).

A larger demand for complementary medicine from patients was reported necessary by 64.4% of pharmacists. An increased coverage of complementary medicine by the media has led to an increased demand for complementary medicines (Alton et al 1992).

Very few pharmacists (1.9%) said nothing would encourage the demand for complementary medicine.

5.4.15 The effectiveness of complementary medicine treating specific conditions

Pharmacists perceived that homoeopathy treated obesity, high blood pressure, rheumatoid arthritis, allergies, eczema, headaches, burns, acne, depression, insomnia, stress, menstrual problems, hayfever, childhood diseases and the common cold, with the exception of back pain, more effectively than other complementary therapies. This may be due to the fact that they were exposed to more homoeopathy during pharmaceutical education and hence have more knowledge of this form of complementary medicine than any other form of complementary therapy (Figure 4.5.

and Table 4.3.). Back pain was thought to be treated most effectively by chiropractic manipulation (43.8%).

Although pharmacists thought homoeopathy treated childhood illnesses most effectively, the percentage with this perception was very low (18.1%). Three quarters of the pharmacists did not know if complementary medicine could treat childhood diseases effectively.

Over half of the pharmacists did not know if complementary medicine treated obesity (50%), high blood pressure (64.4%), burns (58.1%), acne (59.4%), depression (58.1%) and menstrual problems (53.1%) effectively.

About half of the pharmacists thought allergies (54.4%), hayfever (50.6%) and common colds (55%) were treated effectively by homoeopathy. Alton et. al (1992) found similar results and attributed it to the dissatisfaction with the side effects and non-efficacy of existing treatments.

It was found that very few pharmacists thought ayurveda treated any conditions effectively. This may be because they have little knowledge about ayurveda and its effectiveness (Table 4.3 and Table 4.4).

5.4.16 **Complementary medicine in the health care system**

It was found that the majority of pharmacists (82.5%) regarded complementary medicine as supportive therapy. Complementary medicine was perceived by 45% of pharmacists as preventative therapy, as a primary therapy by 27.5% and as a recuperative treatment from illness by 24.4% of the pharmacists. A small minority (5.6%) did not think complementary medicine was of any value in the health care system.

The chisquare test showed a significant association between gender of the pharmacist and whether they thought complementary medicine effective as recuperative for illness at a 5% level of significance.

There was a significant association between the age of the pharmacists and whether complementary medicine was considered recuperative for illness at a 10% level of significance.

A significant association was found between whether pharmacists thought complementary medicine should be included into the pharmaceutical curriculum and whether complementary medicine was preventative therapy, primary therapy, supportive therapy or of no value at a 5% level of significance.

There was a significant association between pharmacists consulting a complementary practitioners and whether complementary medicine was considered preventative or supportive therapy at a 5% level of significance.

5.4.17 Pharmacists' perception of health care

Most pharmacists agreed (18.1%) or strongly agreed (61.3%) that basic health care is a right. They disagreed (23.1%) or strongly disagreed (36.3%) that basic health care is a privilege. It was found that 16.3% agreed and 9.4% strongly agreed that basic health care is a privilege.

Most pharmacists were neutral (33.1%) or agreed (24.4%) that comprehensive health care is a right.

It was found that the more pharmacists were neutral (29.4%), agreed (34.4%) or strongly agreed (25.6%) that complementary medicine should play an active role in the health care system of South Africa. A significant association was found between the

age of the pharmacists and whether they thought complementary medicine should play an active role in the health care system of South Africa at a 5% level of significance.

No association was found between the gender of the pharmacists and their perception of health care.

The Pearson Chisquare test showed no significant association between pharmacists consulting complementary practitioners and their perception of health care.

A significant association between whether pharmacists thought complementary medicine should be included into the pharmaceutical curriculum and whether they thought basic health care is a privilege, basic health care is a right and if complementary medicine should play an active role in the health care system of South Africa was found at a 5% level of significance.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1. CONCLUSIONS

Pharmacists generally had a positive and accepting attitude towards complementary medicine, but lacked knowledge of these therapies. The main reason why pharmacists did not incorporate complementary medicine into their pharmaceutical practice was their lack of knowledge about these treatments. A large majority agreed that in order for complementary medicine to become more widely used, it is necessary to obtain more knowledge in the therapies. There is a need to expand awareness of complementary medicine and its potential usefulness. Most pharmacists thought that complementary medicine should be included into the pharmaceutical curriculum and agreed that complementary medicine should play and active role in the health care system of South Africa.

6.2 RECOMMENDATIONS

This study can be used as a comparative study for further investigations into the position of health care workers and their perception of complementary medicine in the health care system of South Africa.

Only 21.9% of pharmacists responded to the survey, thus the results may not be representative of the entire pharmacy profession. To obtain a better response and more accurate results other methods may be employed to ensure a larger sample group.

This study incorporated a number of complementary therapies to obtain pharmacists general perception of complementary medicine. A study carried out on only one complementary medicine would allow for a more thorough and accurate investigation into the pharmacists perception of each individual complementary therapy.

The study only incorporated pharmacists in urban areas. Future studies to include pharmacists' perceptions in rural areas will provide a more comprehensive picture of the need for complementary medicines in the health care system in South Africa.

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APPENDIX A

Dear Pharmacist

RESEARCH - POSTAL QUESTIONNAIRE

I am currently completing my Masters Diploma in Homoeopathy at Technikon Natal. In our fifth year it is a requirement of our course to carry out a research project. The topic I have chosen is to determine the perception or pharmacists regarding the role of complementary medicine in the context of health care in South Africa.

Pharmacists play a vital role in the health care system, and form a bridge between complementary and conventional medicine.
Little is known about how much understanding pharmacists have about complementary medicine as a survey of this nature directed to pharmacists has never been executed in South Africa. With the changing health care system in the new constitution of South Africa, complementary health practitioners are now able to communicate and work freely with other health practitioners. South Africa needs to form a comprehensive health care team to obtain maximum benefit for the community. The information obtained from this survey will assess the current trends regarding how pharmacists perceive the role of complementary medicine in the health care system of South Africa.

It would be greatly appreciated if you could complete this questionnaire to aid in this study. Your answers to the questionnaire will be regarded as strictly confidential.
Thank you for your assistance.

Yours faithfully

Antoinette Daphne(Miss)

Mrs H. Till
Head : Department of Homoeopathy

APPENDIX B

INSTRUCTIONS

QUESTIONNAIRE TO TEST PHARMACISTS' PERCEPTION OF COMPLEMENTARY MEDICINE

Department of Homoeopathy
Technikon Natal
Study conducted by Antoinette Daphne

INSTRUCTIONS

1. Please answer all questions.

2. Please circle the number corresponding to your answer or tick the appropriate box ([]).

3. Your answers in the questionnaire will be regarded as strictly confidential.

- Thank you for participating in this study -

APPENDIX C

QUESTIONNAIRE

DEMOGRAPHIC DATA

Q1. **SEX:** FEMALE [1]
MALE [2]

Q2. **AGE IN YEARS**:

22-35	36-45	46-55	56-65	66 and older
[1]	[2]	[3]	[4]	[5]

Q3. **CITY WHERE PHARMACY IS BASED** .....

Q4. **DO YOU HAVE QUALIFICATIONS IN ANY OF THE FOLLOWING COMPLEMENTARY THERAPIES?**

1. ACUPUNCTURE [ ]
2. AYURVEDA [ ]
3. AROMATHERAPY [ ]
4. CHIROPRACTIC [ ]
5. HERBALISM [ ]
6. HOMOEOPATHY [ ]
7. OSTEOPATHY [ ]
8. REFLEXOLOGY [ ]
9. NONE OF THE ABOVE [ ]

PHARMACEUTICAL EDUCATION

Q5. **WHICH OF THE FOLLWING SUBJECTS WERE TAUGHT DURING YOUR PHARMACEUTICAL EDUCATION?**

1. ACUPUNCTURE [ ]
2. AYURVEDA [ ]
3. AROMATHERAPY [ ]
4. CHIROPRACTIC [ ]
5. HERBALISM [ ]
6. HOMOEOPATHY [ ]
7. OSTEOPATHY [ ]
8. REFLEXOLOGY [ ]
9. NONE OF THE ABOVE [ ]

Q6. **APPROXIMATELY HOW MUCH TIME WAS SPENT ON THESE SUBJECTS**

2-4 HOURS [1]
4-8 HOURS [2]
8-15 HOURS [3]
MORE THAN 15 [4]

Q7. **DO YOU THINK COMPLEMENTARY MEDICINE SHOULD BE INCLUDED INTO THE PHARMACEUTICAL CURRICULUM?**

YES [1]
NO [2]

Q8. **IF YES TO Q7 WHICH SUBJECTS SHOULD BE INCLUDED?** (More than one box may be ticked)

HOMOEOPATHY	[ ]
CHIROPRACTIC	[ ]
ACUPUNCTURE	[ ]
AYURVEDA	[ ]
HERBALISM	[ ]
REFLEXOLOGY	[ ]
AROMATHERAPY	[ ]
OSTEOPATHY	[ ]

Q9. **HOW WOULD YOU RATE YOUR KNOWLEDGE ON THE FOLLOWING THERAPIES:**
(Please circle your answer)
1 - know nothing about it
5 - know everything about it

HOMOEOPATHY	[1]	[2]	[3]	[4]	[5]
CHIROPRACTIC	[1]	[2]	[3]	[4]	[5]
ACUPUNCTURE	[1]	[2]	[3]	[4]	[5]
AYURVEDA	[1]	[2]	[3]	[4]	[5]
HERBALISM	[1]	[2]	[3]	[4]	[5]
REFLEXOLOGY	[1]	[2]	[3]	[4]	[5]
AROMATHERAPY	[1]	[2]	[3]	[4]	[5]
OSTEOPATHY	[1]	[2]	[3]	[4]	[5]

Q10. **HOW WOULD YOU RATE THE FOLLOWING AS AN EFFECTIVE FORM OF TREATMENT**
(Please circle your answer)
1 - not at all effective
5 - very effective
6 - do not know

HOMOEOPATHY	[1]	[2]	[3]	[4]	[5]	[6]
CHIROPRACTIC	[1]	[2]	[3]	[4]	[5]	[6]
ACUPUNCTURE	[1]	[2]	[3]	[4]	[5]	[6]
AYURVEDA	[1]	[2]	[3]	[4]	[5]	[6]
HERBALISM	[1]	[2]	[3]	[4]	[5]	[6]
REFLEXOLOGY	[1]	[2]	[3]	[4]	[5]	[6]
AROMATHERAPY	[1]	[2]	[3]	[4]	[5]	[6]
OSTEOPATHY	[1]	[2]	[3]	[4]	[5]	[6]

Q11. **WHICH OF THE FOLLOWING COMPLEMENTARY HEALTH PRACTITIONERS HAVE YOU CONSULTED?**

1.	ACUPUNCTURIST	[ ]
2.	AROMATHERAPIST	[ ]
3.	AYURVEDIC PRACTITIONER	[ ]
4.	CHIROPRACTOR	[ ]
5.	HOMOEOPATH	[ ]
6.	HERBALIST	[ ]
7.	OSTEOPATH	[ ]
8.	REFLEXOLOGIST	[ ]
9.	NONE OF THE ABOVE	[ ]

Q12. **HAVE YOU EVER REFERRED A PATIENT TO A:**

1. HOMOEOPATH [ ]
2. CHIROPRACTOR [ ]
3. AYURVEDIC PRACTITIONER [ ]
4. ACUPUNCTURIST [ ]
5. HERBALIST [ ]
6. REFLEXOLOGIST [ ]
7. AROMATHERAPIST [ ]
8. OSTEOPATH [ ]
9. NONE OF THE ABOVE [ ]

Q13. **IF YES TO Q12, SPECIFY HOW OFTEN**.....

ONCE [1]
2-3 TIMES [2]
4-5TIME [3]
6 MOR MORE TIMES [4]

Q14. **DO YOU SELL ANY OF THE FOLLOWING?**

1. HOMOEOPATHIC MEDICINE [ ]
2. HERBAL MEDICINE [ ]
3. AROMATHERAPY PRODUCTS [ ]
4. NONE OF THE ABOVE [ ]

Q15. **IF YES TO Q14:**
WHICH IS MOST COMMONLY REQUESTED BY PATIENTS?

1. HOMOEOPATHIC MEDICINES [ ]
2. HERBAL MEDICINES [ ]
3. AROMATHERAPY PRODUCTS [ ]
4. NONE OF THE ABOVE [ ]

WHICH IS MORE OFTEN RECOMMENDED BY YOU?

1. HOMOEOPATHIC MEDICINES [ ]
2. HERBAL MEDICINES [ ]
3. AROMATHERAPY PRODUCTS [ ]
4. NONE OF THE ABOVE [ ]

Q16. **IF COMPLEMENTARY MEDICINE HAS BEEN PRESCRIBED OR RECOMMENDED BY YOURSELF IS IT BECAUSE:**
(tick the appropriate answer/s)

1. CONVENTIONAL MEDICINE HAS FAILED [ ]
2. LACK OF SIDE EFFECTS [ ]
3. PATIENT'S REQUEST [ ]
4. LAST RESORT [ ]
5. OTHER [ ]

Q17. **WHAT IS YOUR KNOWLEDGE OF PREPARING THE FOLLOWING MEDICINES?**
1 - know nothing
5 - know everything

HOMOEOPATHIC	[1]	[2]	[3]	[4]	[5]
HERBAL	[1]	[2]	[3]	[4]	[5]

Q18. **DO YOU PREPARE YOUR OWN:**

	YES	NO
HOMOEOPATHIC MEDICINE?	[1]	[2]
HERBAL MEDICINES?	[1]	[2]

Q19. **DO YOU THINK HOMOEOPATHIC MEDICINE IS EFFECTIVE BECAUSE:**
(more than one answer may be ticked)

1. CONTAINS HERBAL INGREDIENTS [ ]
2. LIKE CURES LIKE IDEA [ ]
3. 'FAITH' IN MEDICINE [ ]
4. VERY SMALL DOSES INVOLVED [ ]
5. SHAKEN VIGOROUSLY [ ]
6. NOT EFFECTIVE AT ALL [ ]

Q20. **HOW WAS YOUR KNOWLEDGE OF COMPLEMENTARY MEDICINE OBTAINED?**
(more than one answer may be ticked)

1. COURSES [ ]
2. SEMINARS [ ]
3. COLLEAGUES [ ]
4. JOURNALS [ ]
5. SCIENTIFIC BOOKS [ ]
6. LAYMAN'S BOOKS AND MAGAZINES [ ]

Q21. **IF YOU DO NOT INCORPORATE COMPLEMENTARY MEDICINE INTO YOUR PHARMACY PRACTICE IS IT BECAUSE:**
(more than one answer may be ticked)

1. HAVE NO CONFIDENCE IN COMPLEMENTARY MEDICINE [ ]
2. LACK CONFIDENCE IN THE APPLICATION [ ]
3. HAVE NEVER HEARD OF THEM [ ]
4. LACK OF KNOWLEDGE IN COMPLEMENTARY MEDICINE [ ]
5. LACK OF TIME [ ]
6. LACK OF OPPURTUNITY [ ]
7. LACK OF OPPORTUNITY DUE TO PATIENT RESISTANCE [ ]
8. FEEL IT IS OF NO VALUE [ ]
9. FEEL IT COULD BE DANGEROUS TO THE PATIENT [ ]

Q22. **WHAT FACTORS WOULD YOU SAY WOULD ENCOURAGE THE DEMAND AND USES OF COMPLEMENTARY MEDICINE IN THE FUTURE:**
(more than one answer may be ticked)

1. MORE KNOWLEDGE [ ]
2. PATIENT DEMAND [ ]
3. PROOF OF EFFICACY [ ]
4. NOTHING WILL ENCOURAGE IT [ ]
5. OTHER (please state them)..... [ ]

Q23. **IN YOUR OPINION WHICH OF THE FOLLOWING DISCIPLINES TREAT THESE CONDITIONS EFFECTIVELY.**

(make a circle around the number in the appropriate column. More than one answer may be ticked for each condition).

H -Homoeopathy H2 - Herbalism D - Do not know
C -Chiropractic R - Reflexology A3 - Acupuncture
A -Ayurveda A2 - Aromatherapy

	H1	C	A1	H2	R	A2	A3	D
OBESITY	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
HIGH BLOOD PRESSURE	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
ARTHRITIS(RHEUMATOID)	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
ALLERGIES	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
ECZEMA	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
HEADACHES/MIGRAINES	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
BURNS	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
ACNE	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
BACKPAIN	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DEPRESSION	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
INSOMNIA	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
STRESS	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
MENSTRUAL PROBLEMS	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
HAYFEVER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
CHILDHOOD DISEASES(includes measles, mumps, chickenpox)	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
COMMON COLD	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]

Q24. **IN YOUR OPINION DO YOU SEE COMPLEMENTARY THERAPY AS:**

(more than one answer may be ticked)

1. PREVENTIVE [ ]
2. PRIMARY THERAPY [ ]
3. SUPPORTIVE THERAPY [ ]
4. RECUPERATIVE FOR ILLNESS [ ]
5. OF NO VALUE [ ]

Q25. **PERCEPTION OF HEALTH CARE** (circle your answer)

1. - Strongly agree
2. - Agree
3. - Neutral
4. - Disagree
5. - Strongly Disagree

BASIC HEALTH CARE IS A RIGHT	[1]	[2]	[3]	[4]	[5]
BASIC HEALTH CARE IS A PRIVILEGE	[1]	[2]	[3]	[4]	[5]
COMPREHENSIVE HEALTH CARE IS A RIGHT	[1]	[2]	[3]	[4]	[5]
COMPLEMENTARY MEDICINE SHOULD PLAY AN ACTIVE ROLE IN THE HEALTH CARE SYSTEM IN SOUTH AFRICA	[1]	[2]	[3]	[4]	[5]