AN INVESTIGATION INTO CONSUMER ATTITUDES TOWARDS SELF-MEDICATION AND THE RESULTANT IMPACT ON THE COMMUNITY PHARMACIST.

SUBMITTED IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTERS IN BUSINESS ADMINISTRATION

BY

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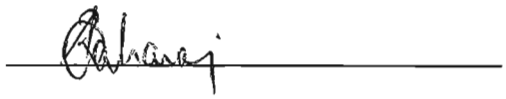
DECLARATION

This serves to confirm that this research study is an original effort undertaken by the author. All material that was used as sources of secondary data have been appropriately referenced, both in the text and in the bibliography.

Mr. R.L Maharaj : 

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ABSTRACT

Self-medication is a practice that can contribute significantly towards reducing total healthcare expenditure in South Africa. It empowers people to treat themselves in a responsible and cost effective manner. Pharmacists are in an ideal position to implement, monitor and contribute to the success of the concept of self-medication in South Africa.

This study will attempt to analyse the acceptance and success of this concept in South Africa. The study will examine the impact of demographic variables, attitudes of both pharmacists and consumers towards self-medication, and views of the government and pharmaceutical organisations. An attempt will be made to obtain viewpoints of other healthcare workers, such as doctors, on the implementation and acceptance of self-medication.

The information obtained from structured questionnaires to both pharmacists and consumers will be analysed to arrive at conclusions and recommendations on the concept of self-medication. These conclusions and recommendations will be used to create a conceptual framework for consumers and pharmacists.

It is hoped that findings from this empirical study will contribute to the body of knowledge and shed new insights into responsible self-medication in South Africa.

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CHAPTER 1 INTRODUCTION

1.1 INTRODUCTION

Community pharmacists and the pharmacy profession have always been an under-utilised part of the healthcare team, both locally and in South Africa (Essack *et al*). Yet, these professionals can play a significant role in improving the health status of the nation, reducing total healthcare expenditure, and providing a large pool of healthy individuals to positively contribute to the economy of the country. The benefits of tapping into this pool of knowledge and expertise can have far reaching implications.

Worldwide, there exists a trend for people to take responsibility for their own health (Anon, 1993). This trend is also evident in South Africa. However, education and societal issues impact on the successful, rational use of self-medication. Economic and financial constraints are forcing people to make use of cost effective treatments for their minor illnesses. Utilisation of the community pharmacist in light of these trends will help educate people on rational self-medication, thereby shifting some of the responsibility from the state to the private sector.

These current issues provide the impetus for undertaking this research study. Although previous research has focused on some of the issues, this research study will attempt to show that people are willing to self-medicate and have favourable attitudes towards this. The research will also aim to prove that pharmacists play a significant role in assisting consumers to make informed decisions regarding self-medication. The resulting situation should then provide benefits to community pharmacists.

The consumer and pharmacy perspectives that are obtained will be used to develop a conceptual framework of self-medication for the most common ailments.

1.2 RESEARCH OBJECTIVES

- To identify consumer perceptions towards self-medication as opposed to prescribed medication

- To identify consumer perceptions towards self-medication for minor medical conditions as opposed to major medical conditions

- To determine the benefits of self medication to community pharmacies

- To determine the role that community pharmacists play in assisting consumers to make informed decisions regarding self medication

- The creation of a framework of self medication for common consumer ailments

1.3 CONTRIBUTION OF THE STUDY

The growing trend of self-medication poses considerable challenges to South Africa (Blenkinsopp, 1996). Although rational self-medication has many advantages, irrational self-medication can have a devastating effect on the lives of consumers and the government. The cost of treating patients post irrational self-medication will cause a huge financial drain on the state. This research will attempt to determine consumers' attitude towards self-medication and their ability to do so rationally. It will highlight the increased role of the community pharmacist to ensure rational self-medication for consumers. This new insight from the research will then help to contain government healthcare expenditure.

It is hoped that information from this research will compliment other research in ensuring that the benefits of responsible, rational self-medication will indeed be realised by pharmacists, consumers and the government. The conceptual framework will contribute to improved quality of life for consumers, who will be able to self-medicate economically. Pharmacists will actively contribute to a healthier, more productive nation, as well as realise the rewards of self-medication. The results from this study may allow the government to shift some of the burden of healthcare to the private sector, without compromising the health of its people.

The pharmacy profession has undergone significant infringements by other healthcare professionals over the last few decades (McCarthy, 1985). One result of this is the proliferation of the dispensing doctor, which has impacted negatively on the pharmacy profession. This has also resulted in increased healthcare expenditure by the state and the patient.

The pharmacy profession has responded by a movement towards a patient-oriented, clinical role for the pharmacist. The pharmacist's role has changed from dispenser to a drug and patient counsellor and a primary healthcare professional. The down scheduling of medication to over-the-counter status will further expand this role.

It is hoped that results of this study will assist pharmacists to reposition themselves strategically, and to counter the threat of further infringements from other healthcare professionals into the pharmacy profession.

CHAPTER 2 LITERATURE REVIEW

2.1 INTRODUCTION

The South African population represents a very diverse mix of people with regard to culture, language, education, income level and degree of urbanisation. These factors affect their level of health knowledge, and their ability to self-medicate successfully. Western trends are quickly adopted due to the barrage of media influences in local communities. This chapter provides some insights regarding self-medication in South Africa and the factors that affect its successful implementation. In addition local and international trends are also discussed. The chapter also discusses potential risks and benefits of self-medication.

2.2 THE CURRENT SITUATION

Consumers are increasingly being exposed to information about medication (Anon, 1993). Television, radio and print advertisements constantly depict minor medical conditions, which can be successfully treated by the consumer. These readily available sources of information, combined with access to the internet, and experience with medication previously prescribed, makes consumers feel empowered to treat themselves.

This empowerment, in the context of the high cost of healthcare in South Africa, urbanisation, and lack of confidence in medical service providers, influences consumers to assume responsibility for their own health. This responsibility has both desired effects and undesired effects. If performed by well-informed consumers, under the supervision of a health professional, then a positive outcome will be highly probable.

However, if this responsibility leads to negative outcomes such as hospitalisation, or exacerbation of the condition, or further deterioration of health, then the entire purpose of self-medicating will be forfeited or nullified. This purpose being to successfully treat minor conditions cost effectively.

2.3 THE IMPACT OF ESCALATING HEALTHCARE COSTS

There are serious concerns about escalating healthcare costs. Consumers are realising that they ultimately pay for these escalating costs. They now wish to be more active, informed and involved in considering alternatives to healthcare. Health promotion and health maintenance are becoming high priorities for all South Africans. Every person should be responsible for his/her own physical, mental and social well-being. One of the national health goals in the National Health Policy is to promote self-care including self-medication for all the people of South Africa.

2.4 THE VIEW OF GOVERNMENT

In South Africa, the Commission of Inquiry into Health Services, The Browne Commission, recommended that responsible self-medication be encouraged as an essential component of health care and as a cost containment measure. Self-medication is defined by the Browne Commission as "the use of proprietary medicine without medical supervision for the treatment of minor, usually self- limiting illnesses" (Browne Report, 1988).

The State together with the health professions and the pharmaceutical manufacturing industry were encouraged to promote this concept. The National Drug Policy recognises the expertise of all healthcare professionals, but mentions specifically the special role of the pharmacist. Their functions and areas of expertise are in the quality assurance of medicines and the safe and effective administration of drugs.

The National Drug Policy also mentions the educational role, in which all health care workers and the population in general, should be educated and trained in the correct and rational use of drugs.

The government of South Africa has a restricted ability to meet the health needs of the population. This is, in part, due to past inequalities with regard to healthcare. The community pharmacist is a very under-utilised health professional, and can make a significant contribution in meeting the healthcare needs of the population. This could be accomplished by greater involvement with the patient, integrative multi-disciplinary teamwork, counselling and education.

The South African Pharmacy Council supports the recommendations of the Browne Commission where the Medicines Control Council should consider the rescheduling of medicines from schedule 3 and 4 to schedule 1 and 2 (Essack *et al* 1998). These medicines would then become available for self-medication and address the under-utilisation of the pharmacist as an indispensable member of the healthcare team. The recommendation was further substantiated by the following factors:

- Pharmacist are qualified by virtue of his/her training and knowledge, in their role as a diagnostician and prescriber,

- Pharmacists are highly accessible and are usually the first point of contact for the public,

- Pharmacists are usually knowledgeable of the community members it serves.

These sentiments are also echoed by Dr C.F. Slabber, Director-General of the Department of National Health and Population Development. Dr Slabber also mentions certain preconditions must exist if the benefits of self-medication is to be fully realized. These preconditions include:

- General acceptance of the right to self-medicate

- These rights should be the right to be informed, the right to safety, the right to efficacy, and the right to wide availability.

In addition Dr. Slabber summarizes the role of medicine for self-care as follows:

- To provide quick and effective relief of symptoms that do not require medical consultation

- To reduce the increasing pressure on medical services for the relief of minor symptoms especially when and where resources and manpower are limited

- To increase the availability of health care to populations living in rural or remote areas.

Dr Slabber has identified that patients have a desire to actively participate and become involved in their own health care. Although self-medication is widely practiced in South Africa and is medically safe and effective, the uses of self-medication can be expanded even further.

Guidelines should be developed and adopted to ensure that there is careful selection of drugs that are allowed to be sold without a prescription. These guidelines should include criteria for selection that are based on efficacy, cost, and evidence of a wide margin of safety. Health education is also critical in this regard.

2.5 THE VIEW OF PHARMACEUTICAL ORGANISATIONS

In a joint statement released by the International Pharmaceutical Federation and the World Self Medication Industry (WSMI) nowadays people are keen to accept more personal responsibility for their health status, and to obtain as much sound information as possible from expert sources in order to help them make appropriate decisions in health care (Anon, 1999). Pharmacists are advisors to the public on everyday health care and key figures in the supply of medicines. The statement goes on to mention that pharmacists have a professional obligation to:

- Provide sound, objective advice about self-medication and the medicinal products available for self-medication

- Report to the regulatory authorities, and to inform the manufacturer, of any adverse event encountered by an individual, which may be associated with the use of a medicine purchased without a prescription

- Recommend that medical advice should be sought where it is recognised that self-medication is not appropriate

- Encourage members of the public to treat medicines as special products to be stored and used with care and, to that end, not to take any action, which could encourage people to buy excessive quantities of a medicine.

The World Health Organisation and the International Pharmacy Federation (FIP) both set international standards that govern the practice of healthcare and pharmacists. The important views of these organizations on the roles of pharmacists are expressed below. Conformance of pharmacists to these roles, especially in South Africa, will allow internationally acceptable standards to be maintained.

The World Health Organisation (WHO) identified the following criteria as being important roles for pharmacists in self-care and self-medication (*South African Pharmaceutical Journal*, 1999):

- As a communicator and problem solver
- As quality supplier
- As trainer and supervisor
- As collaborator
- As health promoter

In terms of the guidelines of the International Pharmacy Federation (FIP), pharmacists are required to promote and develop the concept of pharmaceutical care, including advice to the public (The Tokyo Declaration, 1993). The World Health Organisation (WHO) recently endorsed the role of the pharmacist by the adoption of a resolution by the World Health Assembly (WHA) in Geneva, where member states were urged to make full use of the expertise of the pharmacist at all levels of the health care system (World Health Organisation, 1994).

2.6. THE PERCEPTIONS OF THE PHARMACIST

The perception of the pharmacist by patients and other healthcare professionals affects the success of self-medication. It is important for pharmacists to be perceived positively by both patients and other healthcare professionals. The pharmacists' knowledge and expertise can then be tapped to improve the healthcare system in South Africa. The resultant situation will provide benefits to community pharmacies as well.

2.6.1 The consumer's perception of the pharmacist

A positive perception of the pharmacist by the consumer is an important prerequisite for successful adoption of self-medication. Consumers need to be aware that the pharmacist is offering quality healthcare. Patients generally do have a positive perception of the role of the pharmacist (Visagie, 1994). The majority of the patients would utilise the pharmacy for over-the-counter medication for minor illness. According to the results of the survey there would be a 20% healthcare cost saving to Bonitas members by implementation of an over-the–counter scheme.

Pharmacists also express the positive perception that consumers have of them. The general view among pharmacists is that patients generally ask for a recommendation of a specific brand name. The majority of the patients usually purchase the recommended product..

Consumers value the free, professional advice that pharmacists give to them. This advice may or may not be accompanied by a sale. Sometimes this advice stresses only lifestyle changes as a treatment method, with no resultant cost to the patient. The members of the public hold pharmacists in high regard. 'Professional advice' is the biggest perceived advantage to consumers. Pharmacists are regarded as the most ethical, honest and trustworthy of all professionals (Lyne, 1992, p185).

Treatment regimens and dosages vary significantly for the different types of medication. This area presents the consumer with uncertainty when it pertains to self-medication. The pharmacist is the link to allow the patient to take the correct dose of medicines. Consumers are generally in favour of community pharmacists advising them on the correct use of medicine. There is a clear public demand for easier access to and direct contact with pharmacists for both prescription and over-the-counter medicines. The pharmacist's role extends beyond self-medication. He serves as the custodian of both prescription and non-prescription medicine.

Consumers can benefit from the pharmacist's expertise. Patients are willing to accept advice from the pharmacist for both prescription and non-prescription medicine (Riley, Baldwin, 1980). According to the results of the study, there is also a strong interrelationship between professional and personal trust dimensions and since both are related to willingness to accept advice, the pharmacists were encouraged to get to know and become friendly with their clientele.

2.6.2 The medical profession's perception of the pharmacist

General practitioners acknowledge the invaluable contribution pharmacists make in treating minor ailments and, in general, favour the extension of this role into specific areas (Morley *et al*). These "very desirable" areas include coughs, colds and flu, mouth ulcers, and muscular aches and pains. The results of this research are important since all healthcare workers would be required to be part of the primary healthcare team, and the favourable viewpoint held by general practitioners towards the pharmacist's counter-prescribing role would ensure synergy in reducing healthcare costs.

There has been an overall increase in the level of approval among general practitioners for the provision of a range of medications by community pharmacists. In Erwin *et al* comparisons were made between fund holding and non-fund holding practices. General practitioners from fund holding practices agreed to a slighter wider range of drugs being made available over-the-counter. Fund holding practices have subsequently been shown to achieve significantly greater success in curbing increases in drug costs than non-fund holding practices. These findings further support the cost benefits of self-medication.

2.7 THE RISKS ASSOCIATED WITH SELF-MEDICATION

Self-medication, although beneficial to all role players, can have the potential to deviate from its objectives. Irresponsible self-medication can result in excessive healthcare expenditure and deterioration in the health of the patient. Sometimes these risks are due to ignorance on the part of the consumer. The consumers may not be aware that medicines, when taken in combination with other medicines, can have untoward effects.

Incorrect combinations of medicine expose the patient to negative drug-drug interactions (Van der Walt, 1993). Negative drug-drug interactions manifest as:

- Exaggerated effect of the medicine and possible overdose effect of the medication
- Reduced effect of the medicine resulting in prolonged disease states

Other risks associated with self-medication are abuse, treatment delays and overdosing.

Most of these risks can be addressed by the intervention of the community pharmacist. Patients need more information about medication, which is freely available from the pharmacist. By asking questions about other medication, allergies, side effects etc, the pharmacist can assist the patient in selecting the most appropriate medicine for over-the-counter use. These, together with an emphasis on issues such as duration, dosage and precautions will ensure responsible self-medication and desired consequences thereof.

Excessive healthcare expenditure results when patients have to resort to added treatment regimens after self-medicating incorrectly. This inappropriate self-medication may also result in drug related admissions to hospital. The cost saving benefit from responsible self-medication will be nullified if these were to result in hospitalisation. This will also prejudice favourable patient outcomes. The role of the community pharmacist is crucial to minimizing risks associated with self-medication.

Pharmaceutical organizations are aware of the risks associated with self-medication. Some of these organizations are active in attempting to reduce these risks. The South African Pharmacy Council has embarked on a public information campaign to inform the public of the possible dangers of taking medicines incorrectly, what information the pharmacist should be given, and what information should be asked of him.

2.8 THE PHARMACIST'S ROLE

The pharmacist plays a watchdog role to prevent or reduce the risks mentioned above from occurring. The pharmacists' product knowledge is vital in these situations, especially when large numbers of people are taking combinations of medicines for conditions such as asthma, diabetes, high blood pressure, high cholesterol, pregnancy, and so on. The pharmacist's role increases when promoting self-medication among these patients. Patient-initiated self-medication also requires active intervention by the pharmacist to prevent a possible negative drug-drug interaction.

The direct patient contact, historically enjoyed by pharmacists, places them in a unique position with regard to disease management (Munroe, Dalmady-Israel, 1998). Disease management focuses on services to improve clinical outcomes. It includes adherence monitoring, patient education, drug therapy management, and other patient focused services. Pharmacists can intervene with physicians to ensure proper prescribing and with patients to ensure adherence and positive outcomes with resultant reductions in healthcare expenditure.

The increase in the importance attached to self-medication both in developed and developing countries requires proper role fulfilment from the pharmacists. The transfer of drugs from prescription to non-prescription status, a new health paradigm that places greater responsibility on the individual, and ambitions of governments and third party payers to transfer escalating healthcare costs to patients, provides an even greater platform for pharmacists to be part of this bigger initiative. Pharmacists performing their roles ethically and responsibly can accomplish this initiative.

2.9 THE EFFECT OF DEMOGRAPHIC VARIABLES ON SELF-MEDICATION

Gender, age, education, income levels, and population group play important roles in the adoption of self-medication as a preferred treatment method.

2.9.1 The effect of gender

The role of health worker in the home is traditionally that of the mother. Females take more responsibility for the health of their families. As a result females patronise pharmacies more than males (Wagner, 1997). Pharmacists need to be aware of this as medication purchased by females may be for a third party. Only by asking meaningful questions, will pharmacists be able to properly prescribe for the patient's self-medication needs, and achieve positive outcomes.

The increase public awareness being created for the adoption of self-medication will result in males patronizing the pharmacy for their self-medication needs. This will be a desirable situation since direct patient-pharmacist contact reduces some of the risks associated with third party prescribing.

These risks include breakdown in transfer of information from the pharmacist to the third party, with resultant compromise in treatment.

2.9.2 The effect of education on self-medication

Education plays an important role in the adoption of self-medication as a treatment method. The South African population is made up of literate and illiterate people. Literate and illiterate people show differences in the adoption of self-medication.

In a Sri-Lankan study, Abosede (1984) found that literate people self-medicate far more than those that are illiterate. The results of this study can be extrapolated to the South African situation for the following reason. The sample population spoke a language different to English, but Western influence resulted in medicines being sold in the English medium, a situation similar to what exists in South Africa.

The above study revealed that most literates (62.5%) knew the names of their drugs but like the illiterates did not know their side effects, expiry dates, usefulness, and storage methods. These results are important since literacy, which enhances the practice of self-medication, is increasing worldwide. This increase in literacy exists in South Africa as well. The right to education for the entire population is entrenched in the constitution of South Africa. As the percentage of the literate population increases so we can expect an increase in the practice of self-medication. This will be due to the confidence that people develop, by being exposed to literature about treating themselves. The resultant situation will be in keeping with the transition from a healthcare giver centred service to self-reliance.

For self-medication to take its rightful position in health care, the public would have to be educated about medicine (Department of Health, 1997). If people were properly educated about medicines, self-medication could become an important part of preventative health care. It could help stem the tide of spiralling medical costs and contribute greatly to primary health care.

Education of the public on drugs implies eradication of widely held erroneous beliefs in favour of some basic knowledge. Providing the public with adequate information and education on drug usage contributes to the successful adoption of self-medication as a treatment method. This requires the supervision and advisory roles of the pharmacist.

2.9.3 The role of income on self-medication

The disparity in the South African population with regard to income levels provides even greater challenges to the success of self-medication in the country. Poor people tend to self-medicate more than affluent people due to the high cost of healthcare in the country. The poor do not have access to a medical aid and as such are forced to pay for their own healthcare expenses. They are disillusioned with public healthcare facilities, and resort to the private sector for their healthcare needs. The pharmacist needs to provide a quality, cost effective healthcare service to these people.

The very turbulent economic situation in South Africa is also resulting in a redistribution of wealth status. Many affluent people are becoming part of the unemployed sector, and as such cannot afford medical aids. These people, too, resort to self-medication as a cost effective treatment method.

The pharmacist must ensure that the disparities in income do not compromise the health of the people.

2.9.4 The effect of population group on self-medication

South Africa has many different population groups. These population groups vary in their adoption of self-medication as a treatment method. Reasons for this include differences in their level of knowledge, as well as preconceived beliefs about medication.

In the Coloured community the level of knowledge of medicines and of disease is relatively good. However, unacceptable and even dangerous practices occur (Colombo, 1997). In the study misconceptions and ignorance emerged as contributing factors. These findings further highlighted the role of the pharmacist as information broker for responsible self-medication.

Van Zyl-Schalekamp (1993) found that Blacks use fewer non-prescribed medicines than Whites. However, the largest proportion of the Black groups medicine was non-prescribed. The survey also found differences in the types of medicines most commonly used by the different population groups. All population groups commonly used painkillers, laxatives, and vitamin preparations.

The study found very little use of home, folk or kitchen remedies. Respondents in all three groups indicated that self-medication was practiced mainly when conditions were regarded as not serious or in cases where people had knowledge or experience of the condition. Financial reasons were quoted in all three groups for self-medication behaviour.

Medicine advertisements and friends' recommendations influenced Black respondents' decision for self-medication. An interesting finding of the study was the positive correlation between the use of prescribed and non-prescribed medicines. A greater use of prescribed medicines is therefore associated with a greater use of over-the-counter medicines. The overall finding of the study was the consistent manner in which cultural differences, education, health knowledge and income played important roles.

Knowledge of disease and medicine in Blacks was still insufficient to ensure responsible self-medication. Unacceptable and even dangerous treatments were offered for some conditions.

It also emerged in the study that pharmacists involved in the study were advising Black patients daily on issues concerning self-medication. This is important to increase this groups' level of knowledge in health matters. The increased knowledge will empower the Black population to self-medicate responsibly, and to take more responsibility for their own health, ultimately reduce healthcare expenditure.

2.9.5 The effect of language on self medication

South Africa has eleven official languages and many more unofficial languages. There are also people who do not speak English. This situation poses a problem for successful self-medication, as the literature for medicines are in the English language. Advertisements generally use the English medium. The high proportion of the non-English speaking population in South Africa further reinforces the important need and role of the community pharmacist in addressing the healthcare needs of the people.

People who do not speak fluent English have an increased reliance on community pharmacy as a place for seeking advice (Linn, Lawrence, 1978). This could probably be due to the non-exposure of these people to advertisements that increase awareness about medicine use. Although this study was conducted in America, the diversity of language in that country allows the findings to be extrapolated to the South African context. Pharmaceutical organisations are encouraging public awareness of medicines in local languages. There is also continuous training of pharmacists from the different population groups. Nurses act as translators in community pharmacies. These efforts contribute to reducing communication barriers and ensuring that self-medication is practised successfully.

2.10 THE SITUATION INTERNATIONALLY

There is a global shift towards self-medication with patients making their own medical decisions. The government view in the United Kingdom is that patients, especially those with chronic conditions, do not want to spend any more time than is necessary visiting general practitioners. Many of these patients are experts in their own conditions. Enabling these patients to make a choice of how they access such medicines empowers such patients to help them manage their own care, with the help of skilled staff, like the pharmacist. A survey published by the Proprietary Association of Great Britain in 1987 demonstrates that self-care is the largest component of health care in Britain. Although the study is not applicable to South Africa, it does indicate that people can use self-medication responsibly.

The typical pharmacist holds on average about 250 discussions about over-the-counter medication with patients (Nicholas *et al*, 1992). An American survey reported that 3 out of every 4 pharmacists experienced an increase in patient counselling concerning non-prescription drugs.

Several studies in the United Kingdom and the United States show that non-prescription medicines are the most common response to symptoms. Healthcare and public policy experts view prescription to non-prescription switches as one means of reducing escalating healthcare costs. They believe that the availability of safe and effective drug products on a non-prescription basis would promote self-medication among consumers, which in turn would bring about a reduction in healthcare costs because fewer consumers would visit physicians for minor disease states.

Table 1 below, self-medication cost implications, compares the cost between self-medicating (non-prescription drugs), and visiting the doctor (no non-prescription drugs). The figures represent costs in 1987, and these figures are extrapolated to the year 2000. The cost benefit shows the cost saving enjoyed when self-medication is practiced. In 1987 the cost benefit of self-medicating is $10.4 trillion, and this figure increases to $34 trillion in the year 2000. Thus, we see the significant effect self-medication has on reducing healthcare expenditure.

Table 1 Self-medication cost implications

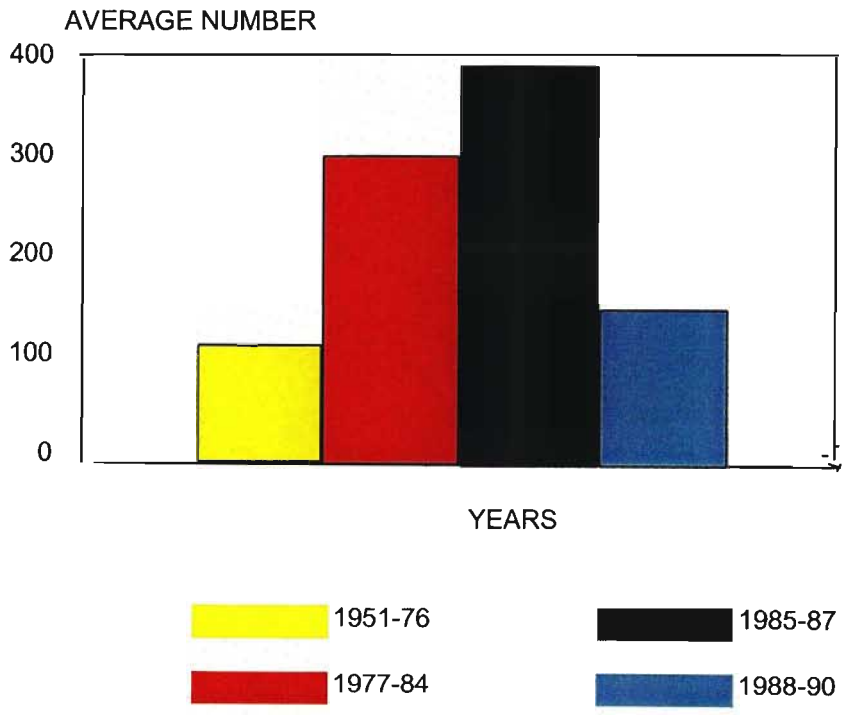
COST IMPLICATIONS		YEAR 1987 MILLIONS		YEAR 200(MILLIONS
LOST TIME FROM WORK AND TRAVEL	$	10700	$	30900
DRUGS AND PROFESSIONAL VISIT		11400		36600
INSURANCE SERVICES		1600		5200
TOTAL ADDED COST IF NO NONPRESCRIPTIONS WERE AVAILABLE		23700		72700
WITH NONPRESCRIPTION DRUGS AVAILABLE AT RETAIL LEVEL, INCLUDING VITAMIN AND NUTRITIONAL SUPPLEMENTS, CONSUMER SPENT		13300		38700
COST BENEFIT		10400		34000

Fassihi and Osman, 1992

Governments are aware of the cost saving benefit of self-medication. They actively encourage prescription to non-prescription switches. This has the effect of making these non-prescription medicines available for self-medication. Figure 1 below shows the prescription to non-prescription switches over a forty-year period from 1950 to 1990. Evident is the significant increase in the rate at which these switches have been occurring.

Figure 1: Prescription to over-the-counter switches

Rate Analysis



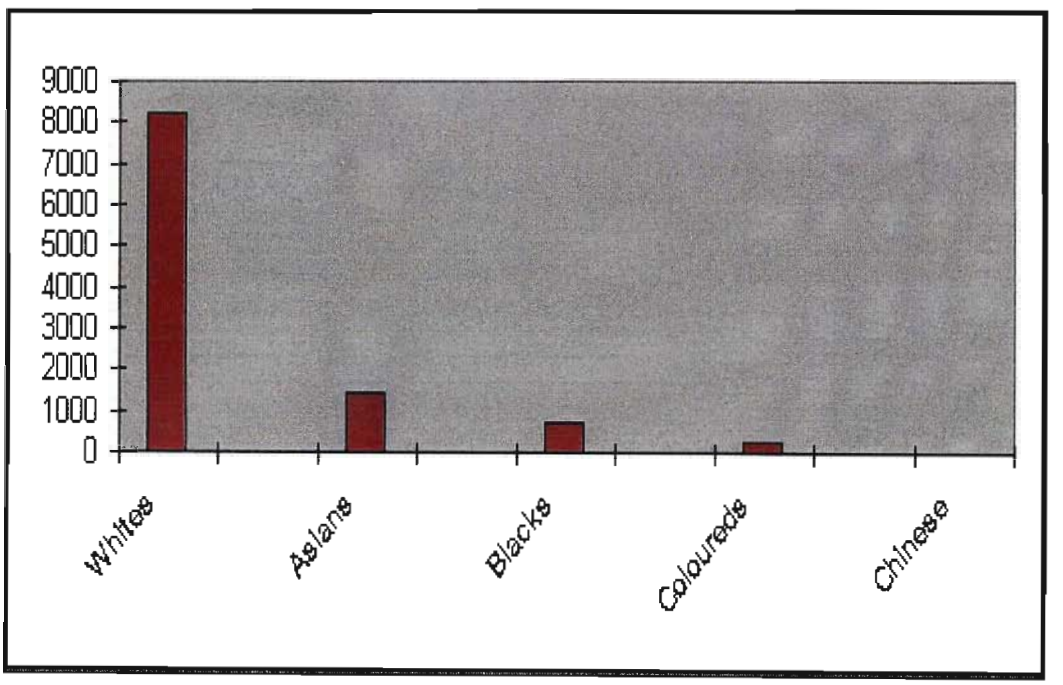
Soller, 1991

2.11 THE SITUATION IN SOUTH AFRICA

The pharmacist to population ratio in South Africa is 1:4499. This is well below 1:2300 as set out by the World Health Organisation (South African Pharmacy Council Annual Report, 1998, pp 8-9).

The population distribution of pharmacists in South Africa is shown below in Figure 2.

Figure 2 Population Distribution of pharmacists in South Africa



(*South African Pharmaceutical Journal*, Vol. 69, Issue 6, p.18)

Poor quality health service provision would impact negatively on the health status of the population causing deterioration in their social and economic well-being. This shortage of pharmacists again poses challenges to the success of self-medication in South Africa. Pharmacists are the only professional healthcare worker who is well placed and has the skill and ability for improving health service provision.

South African healthcare inflation for 2001 was approximately 15% compared to the consumer price index of six percent (6%). This situation necessitates an effort to reduce the overall cost per patient. One way of achieving this is by the active promotion of responsible self-medication. This will require effort by both the community pharmacist and the patient. This reduction in long-term healthcare expenditures will also impact positively on the economic situation of the country.

In South Africa DSI (Decision Surveys International) has monitored the self-medication market. In 1990, almost forty six percent (46%) of the total private sector health expenditure was for over-the-counter medication. This figure was expected to reach more than double by 1995.

2.12 INEFFICIENCIES IN COMMUNITY PHARMACY

The general public is actively being encouraged to consult the pharmacist about symptoms. The essential requirement is that the advice should be safe, effective and suited to the patient's particular condition. However, Mobey *et al* (1986) found that both groups of advisors, the counter assistant and the pharmacist, were not asking pertinent questions. Pharmacists relied too heavily on counter assistants, who were not trained to diagnose symptoms. The researchers concluded that if the public is to be directed to the pharmacy for advice on symptoms, the pharmacist or his staff must be seen to be capable of detecting that small proportion of serious pathology, if the pharmacist is to retain the credibility he deserves in his professional area.

2.13 OPPORTUNITY TO COMMUNITY PHARMACY

Coughs, colds and influenza are very common ailments, which affect the entire population of a country. These conditions impact negatively on both the healthcare budget and the economically active population. However, the community pharmacist, using the principles of self-medication, can effectively and economically treat these conditions. The pharmacist can provide an indispensable health service in utilizing the concept of self-medication. Pharmacists can also take advantage of the opportunities to interact with and assist the self-medicating patient in proper product selection and administration. The pharmacist has an important role to play in helping the patient to understand and correctly implement the treatment plan, as well as referring appropriately.

Self-medication provides an important opportunity to community pharmacy. As demographic variables change to provide an atmosphere conducive to adoption of self-medication, so will pharmacists' roles be expanded to contribute to health and wellness .

Pharmacists can reposition community pharmacy as a significant contributor to improved quality of life for patients, reducing state healthcare expenditure and promoting lifestyle changes. This can be achieved by keeping abreast of the health situation in the country.

There is a definite scope and a need for a pharmacist who adapts to the needs of the public and takes responsibility for the status of his/her profession. No advertising material or package insert, no matter how objective and comprehensive, can serve as a substitute for counseling by an informed health professional (De Wit, 1994). Pharmacists need to take advantage of the opportunity that self-medication presents. Self-medication is a means to a profitable, professional business service. The conclusion is supported by Fassihi and Osman in their study done in 1992.

2.14 THE FUTURE ROLE OF THE PHARMACIST

The role of the pharmacist has changed gradually over a number of years due to economic reasons, the communities' interest in self-medication, and new policies adopted by medical aid schemes, as well as re-scheduling of medication from prescription-only to non-prescription status (Fassihi and Osman, 1992, Siegelman, 1990).

The pattern of causes of death has shifted dramatically from the predominance of infectious diseases in the nineteenth century to that of chronic diseases today (Gilbert, 1997). Most of these diseases are incurable, and the role of health professionals is in assisting the patient in the 'management of the disease' so they continue to live a normal life for as long as possible. This role can be regarded as one of taking care of the patient rather than curing the disease. Community pharmacy is then a profession in transition operating in a society in transition and has to adopt a more societal role.

The role of the pharmacist in self-medication will encompass health promotion, disease prevention, treatment of minor disease states and injuries, and management of chronic diseases and rehabilitation (Visagie, 1994). This involves a variety of medicines with great personal responsibility.

2.15 ETHICAL CONCERNS FOR THE COMMUNITY PHARMACIST

The business environment that community pharmacies operate in, raises concerns about the profit motive. However, if the profit motive predominated, pharmacists would be expected always to sell a medicine in response to a request for advice. Research shows however, that in about a quarter of cases no sale is made, and customers are often recommended to see their general practitioner instead.

In addition to professional ethics, the pharmacist also has a legal responsibility to provide adequate and appropriate information to patients. If the pharmacist fails in this responsibility to provide information for the safe and effective use of medicine supplied by him, he renders himself liable to a disciplinary trial before the South African Pharmacy Council. Ethical rule number One states:

" Failure to furnish advice or information for the safe and effective use of medicines supplied by him is an omission in terms of which disciplinary action may be taken against the pharmacist".

Discussion of the above insights into self-medication in South Africa, and local and international trends, concludes the chapter on the literature review. It is hoped that this chapter has served to enlighten the reader on the factors that affect successful self-medication.

The following chapter will discuss the research methodology of this study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the overall research methodology for proving or disproving the hypotheses as stated below. It attempts to answer the research questions that emanate from the problem statements. These problem questions being:

- How can the pharmacist assist the community with their self-medication needs?
- What risks does self-medication pose to consumers?
- Are consumers making informed decisions with regard to self-medication?
- How will the changing trends in self-medication affect the pharmacist?

The chapter further discusses the research design, sampling design, data collection, data analysis and limitations of the study. The hypotheses that are formulated will determine the method of analysis for the data in a later chapter.

3.2 HYPOTHESES STATEMENTS

3.2.1 Hypothesis 1

Consumers have a more positive attitude towards self-medication as opposed to prescribed medication.

3.2.2 Hypothesis 2

Consumers have a more positive attitude towards self-medication for minor medical conditions than for major medical conditions.

3.2.3 Hypothesis 3

Self-medication has perceived benefits to community pharmacists.

3.2.4 Hypothesis 4

Community pharmacists play a significant role in assisting consumers with making informed decisions regarding self-medication.

3.2.5 Hypothesis 5

Consumer perspectives and pharmacy perspectives provide an indication for a conceptual framework of self-medication for the most common ailments.

An appropriate research design was selected to obtain primary data which, when analysed, would prove or disprove the above-mentioned hypotheses.

3.3 RESEARCH DESIGN

This is a quantitative research study. The research design would attempt to collect primary data from both consumers and pharmacists. A self-administered questionnaire was chosen as the preferred design instrument for a variety of reasons. These reasons included:

- A high response rate for both consumers and pharmacists
- No time pressure on pharmacists to immediately respond to the survey
- Language and comprehension barriers would be overcome by explaining the questionnaire to consumers.

The consumer questionnaires were either filled in at the pharmacy, or collected by the messenger the following day. The questionnaires were also delivered to all pharmacists for collection the following day.

The questionnaires consisted of statements that expressed either a favourable or unfavourable attitude towards various issues relating to self-medication. The questionnaire was pre-tested with ten consumers and five pharmacists, to test suitability of questions, whether they were effective, easy to understand and unambiguous. Although most of the sample population was fluent in English, translators were required in a few cases. The translators were drawn from the sample population. They were informed in advance that their services might be required. The questionnaire was revised based on the results of the pilot study.

3.4 SAMPLING DESIGN

A convenience sample was used. An existing community pharmacy, President Pharmacy, was used to conduct the survey for consumers. This pharmacy has been in existence for the last 11 years. It serves the areas of Bluff, Wentworth, Merebank, Umlazi, Lamontville, Montclair, Woodlands, Fynnland, Clairwood, Austerville. These areas are representative of Asian, Black, Coloured and White communities. Data collected was thus representative of the population mix of South Africa. Consumer perceptions were representative of perceptions of the different communities.

The pharmacy is accessible to both rural and urban residents due to its location along a railway route. It also has a rural patient base. This is advantageous to investigate research issues of both rural and urban community pharmacies.

The sampling population comprised all the patients in the database. This database includes medical aid and non-medical aid patients, chronically and acutely ill patients. A simple random probability sample was taken, where every fifth patient was selected. The sample size was one hundred (100) respondents. This was adequate since the wide interval range obtained sufficient data across demographic variables.

The sampling population for the pharmacists included all pharmacists in the area. Since this number is only twenty, all these pharmacists constituted the sample.

3.5 DATA ANALYSIS

The data from both the consumer and the pharmacist questionnaires were analysed using the computer software programme, Statistical Package for the Social Sciences (SPSS). Each response from the questionnaires was given a numerical score to determine the degree of attitudinal favourableness. The scores were totalled to measure the respondents' attitude.

The computer analysis was used to extract frequency tables, one-sample chi-square tests, and cross tabulations for the data. These frequency tables, one-sample chi-square tests, and cross tabulations were used to analyse the data. Interpretations and conclusions were drawn from these analyses to prove/disprove the hypotheses.

The consumer and pharmacist questionnaires were analysed separately.

3.6 DATA PRESENTATION

The data is presented in the form of frequency tables, chi-square test tables, and cross tabulations. This presentation method was suitable for the interval data that the Likert scale produced. The tables also allow easy interpretation of the data.

3.7 LIMITATIONS

1. The study has been confined to the areas mentioned above. It may have been more representative had it been more geographically dispersed. However, the sample population contains a mix of respondents that is representative of the make up of the South African population in terms of demographic, social and economical attributes.

2. Services that may be identified as lacking may be area specific. These services may not apply to other areas in South Africa.

3. Consumers may feel obliged to respond favourably due to the questionnaire being filled in at the pharmacy. This will be likely to bias results. However, consumers were informed to fill in the questionnaires as objectively as possible. The consumers were also assured of confidentiality.

4. Although the pharmacists' responses may have been biased due to being colleagues, caution was taken to ensure an objective response. This was done by emphasising to the pharmacists that the questionnaire should be filled in from the actual circumstance that existed in their respective pharmacies.

5. There may have been differences in the interpretation of questions where translators were used.

The findings from the analysis of the primary data are discussed in the following chapter.

CHAPTER 4 RESEARCH FINDINGS

4.1 INTRODUCTION

Primary data obtained from the questionnaires will be explained in this chapter. The interpretations and conclusions will be discussed in the following chapter. The format for explaining the findings is based on the questionnaire for both the consumers and the pharmacists. The findings from the consumer questionnaire will be discussed first, followed by discussion of the findings from the pharmacist questionnaire.

4.2 CONSUMER QUESTIONNAIRE

One hundred questionnaires were designed. All the questionnaires were returned. This is due to the questionnaire being filled in the pharmacy, or being collected by the messenger the following day. The response rate validates the survey method chosen. Some of the questions were not filled. This could be due to patients not understanding the question, or simply not wanting to respond.

Discussion of the consumer questionnaire will begin with analysis of demographic variables.

4.2.1 DEMOGRAPHIC VARIABLE ANALYSIS

The findings for the demographic variables are presented in this section. Table 2 below shows the combined frequencies for all the demographic variables for the consumer questionnaire. There was one missing value for the medical aid field, hence the cumulative percent of ninety-nine.

Table 2 Combined frequency table for demographic data for the consumer questionnaire

	Sex		Medical Aid		Population Group			Education		
	M	F	Y	N	A	B	C	1	2	3.0
Frequency	39	61	93	6.0	51	44	5.0	6.0	52	41
Percent	39	61	93	6.0	51	44	5.0	6.0	52	41
Valid Percent	39	61	93	6.0	51	44	5.0	6.1	52.5	41.4
Cumulative Percent	39	100	93	99	51	95	100	6.1	58.6	100

The findings from the Table 2 are as follows.

Thirty nine percent (39%) of the respondents were male, while sixty one percent (61%) were female. Only two and a half (2.5%) of the respondents were in the 18-25 year age group. The majority of the respondents were in the 26-35 year age group (37.5%) and the 36-50 year age group (52.5%). The over 51-year age group was least represented (7.5%).

Ninety three percent (93%) of the respondents were on a medical aid.

There were no responses from White respondents. Indian (51%) and Black (44%) respondents made up the majority of responses. Coloured respondents were minimally represented (5%) in the sample population.

Some of the respondents did not complete the education field in the questionnaire. Of the ninety-nine (99) respondents that did complete this field, fifty two percent (52%) had a secondary education, forty one percent (41%) had a tertiary education, and only six percent (6%) had a primary education.

Frequency tables for the other data in the consumer questionnaire appear in the appendix section of the dissertation (Appendix D-J).

In addition to frequency tables, cross tabulations and chi-square tables were compiled only for demographic data (education and population group) that were significant in their proportionate representation in the various categories. These tables were used to interpret demographic data results. The cross tabulations and chi-square tables for the demographic data appears below.

4.2.1.1 Education and Consumer Question 3.5 (Self-medication is my first response to minor health problems).

In Table 3 the strongly agree and agree responses were combined, as well as the strongly disagree and disagree responses. This was done to improve interpretation of the cross tabulation.

Table 3 Cross tabulation for consumer question 3.5 (Self-medication is my first response to minor health problems).

Crosstab

			Q3.5			
			Strongl agree	Neutra	Strongl disagre	Total
EDUCA	Primar	Coun	4	2		6
		% of	4.0%	2.0%		6.1%
	Secondar	Coun	48		4	52
		% of	48.5%		4.0%	52.5%
	Tertiar	Coun	34	2	5	41
		% of	34.3%	2.0%	5.1%	41.4%
Total		Coun	86	4	9	99
		% of	86.9%	4.0%	9.1%	100.0

Results of the cross tabulation show that respondents from all levels of education agreed that self-medication is their first response to minor health problems.

The chi-square test results for Table 3 appear below in Table 4.

Table 4 Chi-square results for Table 3

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.539[a]	4	.002
Likelihood Ratio	11.350	4	.023
Linear-by-Linear Association	.398	1	.528
N of Valid Cases	99		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .24.

Asymptotic Significance values (p values) from the chi square table larger than 0.05 show that there is no relationship between the rows and the column categories. The results from Table 4 above shows that there is a relationship between education and response to self-medication.

4.2.1.2 Population group and Consumer Question 3.2 (I would most likely consult a pharmacist for advice on self-medication).

The cross tabulation below (Table 5) represents the differences between the different population groups and their likelihood to consult a pharmacist for advice on self-medication.

Table 5 **Cross tabulation for consumer question 3.2 (I would most likely consult a pharmacist for advice on self-medication).**

Crosstab

			Q3.2_			
			Strongly agree	Neutral	Strongly disagree	Total
POPGRP	Asian	Count	45		6	51
		% of Total	45.0%		6.0%	51.0%
	Black	Count	41	3		44
		% of Total	41.0%	3.0%		44.0%
	Coloured	Count	5			5
		% of Total	5.0%			5.0%
Total		Count	91	3	6	100
		% of Total	91.0%	3.0%	6.0%	100.0%

Results of the cross tabulation show that all Asian, Black, and Coloured respondents included in the study strongly agreed that they would likely consult a pharmacist for advice on self-medication. This finding is consistent with the pharmacists' views that cultural differences do not significantly impact on self-medication.

The chi-square results for Table 5 appears below in Table 6. This test statistic shows that there is a relationship between population groups and likelihood of consulting a pharmacist for advice on self-medication

Table 6 Chi-square results for Table 5

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.693[a]	4	.046
Likelihood Ratio	13.115	4	.011
Linear-by-Linear Association	2.986	1	.084
N of Valid Cases	100		

a. 7 cells (77.8%) have expected count less than 5. The minimum expected count is .15.

4.2.1.3 Population group and Consumer Question 3.3 (Pharmacists are not the most trustworthy source for information regarding self-medication).

Table 7 below shows a cross tabulation between the different population groups and their impression about the trustworthiness of the pharmacist regarding information provided for self-medication.

Table 7 **Cross tabulation for consumer question 3.3 (Pharmacists are not the most trustworthy source for information regarding self-medication).**

Crosstab

			Q3.3_		
			Strongly agree	Strongly disagree	Total
POPGRP	Asian	Count	11	40	51
		% of Total	11.0%	40.0%	51.0%
	Black	Count		44	44
		% of Total		44.0%	44.0%
	Coloured	Count		5	5
		% of Total		5.0%	5.0%
Total		Count	11	89	100
		% of Total	11.0%	89.0%	100.0%

The results of the cross tabulation (Table 7) shows that all population groups, Asians, Blacks, and Coloureds strongly disagreed that pharmacists are not the most trustworthy source for information regarding self-medication

The chi-square results Table 7 above appears below in Table 8.

Table 8 **Chi-square results for Table 7**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.875[a]	2	.003
Likelihood Ratio	16.121	2	.000
Linear-by-Linear Association	10.241	1	.001
N of Valid Cases	100		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .55.

The p value from the Table 8 above shows that there is a relationship between population group and the opinion that pharmacists are not the trustworthiest source for information regarding self-medication. This finding further reinforces the view that cultural differences do not impact on self-medication.

4.2.1.4 Population group and consumer question 3.5 (Self-medication is my first response to minor health problems).

Table 9 below shows a cross tabulation between the different population groups and their response to self-medication.

Table 9 Cross tabulation for consumer question 3.5 (Self-medication is my first response to minor health problems).

Crosstab

			Q3.5_			
			Strongly agree	Neutral	Strongly disagree	Total
POPGRP	Asian	Count	45	4	2	51
		% of Total	45.0%	4.0%	2.0%	51.0%
	Black	Count	39		5	44
		% of Total	39.0%		5.0%	44.0%
	Coloured	Count	3		2	5
		% of Total	3.0%		2.0%	5.0%
Total		Count	87	4	9	100
		% of Total	87.0%	4.0%	9.0%	100.0%

The results of the cross tabulation show that all population groups, Asians, Blacks, and Coloureds strongly agreed that self-medication would be their first response to minor health problems.

The Chi-square results for Table 9 above appears below in Table 10.

Table 10 Chi-square results for Table 9

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.358[a]	4	.023
Likelihood Ratio	10.855	4	.028
Linear-by-Linear Association	3.027	1	.082
N of Valid Cases	100		

a. 7 cells (77.8%) have expected count less than 5. The minimum expected count is .20.

The p value from Table 10 shows that there is a relationship between population group and the intention to self-medicate as a first response to minor health problems.

4.2.1.5 Population group and consumer question 3.6 (I would not utilize self-medication for major/severe health problems).

Table 11 below shows a cross tabulation between the different population groups and their intention not to self-medicate for major/severe health problems.

Table 11 **Cross tabulation for consumer question 3.6 (I would not utilize self-medication for major/severe health problems).**

Crosstab

			Q3.6_			
			Strongly agree	Neutral	Strongly disagree	Total
POPGRP	Asian	Count	31	2	17	50
		% of Total	31.3%	2.0%	17.2%	50.5%
	Black	Count	34		10	44
		% of Total	34.3%		10.1%	44.4%
	Coloured	Count	2		3	5
		% of Total	2.0%		3.0%	5.1%
Total		Count	67	2	30	99
		% of Total	67.7%	2.0%	30.3%	100.0%

The results of Table 11above show that almost sixty eight percent (68%) of the population, Asians, Blacks, and Coloureds, strongly agree that they would not utilize self-medication for major/severe health problems.

The Chi-square results for Table 11 appear below in Table 12.

Table 12 **Chi-square results for Table 11**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.877[a]	4	.209
Likelihood Ratio	6.473	4	.167
Linear-by-Linear Association	.113	1	.737
N of Valid Cases	99		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .10.

The p value from Table 12 indicates that there is no relationship between population group and the intention not to utilize self-medication for major/severe health problems. This is an important finding since self-medicating for major/severe health problems may contribute to excessive healthcare expenditure due to incorrect treatment.

4.2.1.6 Population group and consumer question 3.8 (I usually visit the pharmacy for advice)

Table 13 below shows a cross tabulation between the different population groups and their intention to visit the pharmacy.

Table 13 Cross tabulation for consumer question 3.8 (I usually visit the pharmacy for advice).

Crosstab

			Q3.8_			
			Strongly agree	Neutral	Strongly disagree	Total
POPGRP	Asian	Count	27	19	4	50
		% of Total	27.3%	19.2%	4.0%	50.5%
	Black	Count	34	5	5	44
		% of Total	34.3%	5.1%	5.1%	44.4%
	Coloured	Count	5			5
		% of Total	5.1%			5.1%
Total		Count	66	24	9	99
		% of Total	66.7%	24.2%	9.1%	100.0%

The results of Table 13 indicate that almost sixty seven percent (67%) of the population, Asians, Blacks and Coloureds, do visit the pharmacy for advice.

The Chi-square results for Table 13 appears below in Table 14.

Table 14 Chi-square results for Table 13

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.675[a]	4	.020
Likelihood Ratio	13.427	4	.009
Linear-by-Linear Association	4.207	1	.040
N of Valid Cases	99		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .45.

The p value from Table 14 above indicates that there is a relationship between population group and their intention to visit the pharmacy for advice.

4.2.2 OTHER VARIABLE ANALYSIS

An interesting finding is that, of the sixty six percent (66%) of consumers who always or usually self-medicated for colds/flu (Appendix D), eighty nine percent (89%) found the treatment very effective or effective (Appendix E).

Of the twenty percent (20%) of the consumers always or usually self-medicated for allergies (Appendix D), only twenty four percent (24%) found the treatment very effective or effective (Appendix E).

The majority of the consumers (89%) strongly agreed or agreed that the pharmacist provides valuable advice regarding self-medication (Appendix F). Ninety one percent (91%) strongly agreed or agreed that they would most likely consult a pharmacist for advice on self-medication (Appendix F). The findings revealed a different viewpoint concerning major/severe health problems. Sixty seven percent (67%) of the consumers indicated that they would not utilise self-medication for major/severe health problems (Appendix F).

Most of the sample population (78%) indicated that pharmacists provided the best source of information on self-medication compared to doctors, nurses, herbalists and sangomas, and friends and family members (Appendix G).

The sample population ranked advisory services (79%) as the most important service offered by the pharmacist (Appendix H). The other services included dispensing, education and health promotion.

All of the above findings appear in the frequency tables in the appendix.

In addition to frequency tables and chi-square tests, the one-sample chi-square test was conducted for the consumer questionnaire. This test result appears in Table 15 below.

4.2.2.1 Table 15 One-sample Chi-Square Test for Consumer Questionnaire

Test Statistics

	Chi-Square[a,b,c]	df	Asymp. Sig.
Q3.1_	143.091	2	.000
Q3.2_	149.780	2	.000
Q3.3_	60.840	1	.000
Q3.4_	86.180	2	.000
Q3.5_	129.980	2	.000
Q3.6_	64.424	2	.000
Q3.7_	85.940	2	.000
Q3.8_	52.909	2	.000
Q3.9_	5.420	2	.067

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.0.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.3.

c. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 50.0.

The p values (Asymp. Sig) from Table 15 will be used in chapter five to accept or reject the null hypotheses.

The above findings are derived from the consumer questionnaire. This brings to a close the first part of this chapter. The following section mentions findings from the pharmacist questionnaire.

4.3 PHARMACIST QUESTIONNAIRE

Twenty questionnaires were delivered to pharmacists. This figure represented all the pharmacies in the area. All the questionnaires were collected, some after a few calls. This further supports the choice of research instrument, with a hundred percent response rate being achieved. The results appear in the appendix (Appendix K-Q) in the form of frequency tables. Some of these results are discussed.

All the pharmacists (100%) strongly agreed or agreed that self-medication is a cost effective treatment method (Appendix K). There was consensus between the pharmacists' views and those of the consumers'; with ninety five percent (95%) of the pharmacists strongly agreeing or agreeing that self-medication is an effective treatment method for colds and flu. This is shown in the frequency table that appears below (Table 16).

Table 16 **Frequency table for pharmacist question 2.1 (For which of the following conditions do you think self-medication is the most effective/ineffective?).**

Q2.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	14	70.0	70.0	70.0
	B	5	25.0	25.0	95.0
	C	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

The point of departure between these two viewpoints pertains to allergies. While only twenty four percent of the consumer population who self-medicated for allergies, found that the treatment is effective, the majority of pharmacists (95%) indicated that self-

medication is an effective treatment method for allergies. This finding is indicated in the frequency table that appears below (Table 17).

Table 17 **Frequency table for pharmacist question 2.5 (For which of the following conditions do you think self-medication is the most effective/ineffective?).**

Q2.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	10	50.0	50.0	50.0
	B	9	45.0	45.0	95.0
	C	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

Only thirty percent (30%) of pharmacists indicated that the patient would be referred to doctor only if treatment failed in a given time (Appendix M). There were two viewpoints on whether pharmacists generally followed up with patients whom they had referred to the doctor. There was an almost equal (50%) difference in opinion on pharmacists' views (Appendix M).

The pharmacists indicated that the seriousness of the condition was the most important factor (70%) that contributed to the selection of self-medication as a treatment method (Appendix N). Brand name was considered the least (55%) important factor (Appendix N)). These findings are summarised in the combined frequency table that appears below (Table 18).

Table 18 Combined frequency table for Brand Name and Seriousness of Condition for the pharmacist questionnaire

	Brand Name			Seriousness of Condition			
	1	2	3	2	3	4	5
Frequency	11	6.0	3.0	1.0	2.0	3.0	14
Percent	55	30	15	5.0	10	15	70
Valid Percent	55	30	15	5.0	10	15	70
Cumulative Percent	55	85	100	5.0	15	30	100

Income and health knowledge were the most significant factors impacting on self-medication, as indicated by the pharmacists (Appendix O). The pharmacists indicated that cultural differences did not significantly impact on self-medication.

There was consensus between the views expressed by the pharmacists and the consumers regarding advisory services offered by the pharmacy. The pharmacists ranked advisory services as the most important service compared to dispensing, education and health promotion (Appendix P). This was in keeping with the consumers' views where the majority of consumers (79%) ranked advisory services as the most important service offered by the pharmacy.

The pharmacists also indicated that Indians made the most requests (90%) for self-medication (Appendix Q). However, the Black population also made significant requests (65%) for self-medication (Appendix Q).

In addition to frequency tables, the one-sample chi-square test was performed for the pharmacist questionnaire. These test results are presented in Table 19 below.

4.3.1 Table 19 One sample Chi-Square Test for the Pharmacist Questionnaire

Test Statistics

	Chi-Square	df	Asymp. Sig.
Q1.1	3.200	1	.074
Q1.2	7.600	2	.022
Q1.3	3.200	1	.074
Q1.4	5.000	1	.025
Q1.5	5.200	2	.074
Q3.1	12.400	2	.002
Q3.2	9.100	2	.011
Q3.3	1.600	2	.449
Q3.4	6.895	3	.075
Q3.5	10.000	4	.040
Q3.6	9.200	3	.027
Q3.7	5.200	2	.074
Q3.8	.200	1	.655
Q3.9	.000	1	1.000
Q3.10	.800	1	.371
Q3.11	6.700	2	.035

The frequency tables for the pharmacist questionnaire appear in the appendix section of the dissertation (Appendix K-Q).

Pharmacists views that self-medication is a cost effective treatment method for certain conditions such as colds and flu, will influence them to actively promote self-medication. This is a desirable starting point for reducing overall healthcare expenditure.

Pharmacists also agree that they would refer the patient to the doctor for major/severe health problems. They reinforce this view by their adoption of the seriousness of the condition as the most important factor in selecting self-medication. This finding coincides with patients views that they would not self-medicate for major/severe health problems.

Pharmacists also expressed their concern that income and health knowledge were important factors to consider when selecting self-medication as a treatment method. This concern is especially important in the South African context, where poverty and lack of education are rife. Pharmacists can make a significant contribution towards educating the public on health matters, and providing a cost effective treatment method in the form of self-medication.

Pharmacists also agree that cultural differences do not impact on self-medication. This is interesting because certain cultural groups are more likely to self-medicate than others. This finding coincides with the findings of the consumer questionnaire, where all cultural groups accepted the concept of self-medication. In the multicultural South African scenario, this is indeed an ideal situation to contribute towards reducing healthcare expenditure.

Advisory services were ranked as the most important service offered, by both pharmacists and consumers. Pharmacists are in a position to offer a service, which is freely and willingly given and received. This consensus of pharmacist and consumer viewpoints also contributes to the success of self-medication in South Africa.

The findings presented in this chapter represent the most important results from the study. The interpretations and conclusions will be drawn in the following chapter, followed by recommendations.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter inference will be drawn from the findings mentioned in chapter four. These inferences will be used to make recommendations in the latter half of the chapter. The chapter will first discuss the consumer questionnaire, followed by the pharmacist questionnaire.

5.2 CONSUMER QUESTIONNAIRE

5.2.1 Testing of hypotheses

The hypotheses were tested using the one-sample chi-square test. This non-parametric test is used to test for significance by comparing the observed distribution to the hypothesised distribution (Cooper, 2001). There are also sufficient observations in the study to carry out this test. Null hypotheses were established and the deviations of the actual frequencies in each category were compared to the hypothesised frequencies. The calculated value was compared to the critical value, and this was used to accept or reject the null hypothesis.

The one sample Chi-square test was performed for both the consumer and the pharmacist questionnaires. These test results for the consumer questionnaire are presented below.

The p values from the above test statistics were used to accept or reject the null hypotheses as stated below.

5.2.1.1 Hypothesis 1

Ho: Consumers have an indifferent attitude towards self-medication as opposed to prescribed medication.

HA: Consumers have a more positive attitude towards self-medication as opposed to prescribed medication.

From question 3.5 of the consumer questionnaire, $p<0.05$. This indicates a significant difference in the number of responses for each category. From the frequencies for question 3.5 of the consumer questionnaire, 19% strongly agreed and 68% agreed. This p-value indicates that this result is significant. These results are used to reject the null hypothesis.

5.2.1.2 Hypothesis 2

Ho: Consumers have an indifferent attitude towards self-medication for minor medical than for major medical conditions.

HA: Consumers have a more positive attitude towards self-medication for minor medical than for major medical conditions.

From question 3.6 of the consumer questionnaire, $p<0.05$. This indicates a significant difference in the number of responses for each category. From the frequencies for question 3.6 of the consumer questionnaire, 36% strongly agreed and 31% agreed. This p-value indicates that this result is significant. These results are used to reject the null hypothesis.

5.2.1.3 Hypothesis 3

Ho: Self-medication offers no benefits to community pharmacists.

HA: Self-medication has perceived benefits to community pharmacists

From question 3.4 of the consumer questionnaire, $p<0.05$. This indicates a significant difference in the number of responses for each category. From the frequencies for question 3.4 of the consumer questionnaire, 42% strongly disagreed and 35% disagreed. This p-value indicates that this result is significant. These results are used to reject the null hypothesis.

5.2.1.4 Hypothesis 4

Ho: Community pharmacists do not assist consumers with making informed decisions regarding self-medication.

HA: Community pharmacists play a significant role in assisting consumers with making informed decisions regarding self-medication.

From question 3.1 of the consumer questionnaire, $p<0.05$. This indicates a significant difference in the number of responses for each category. From the frequencies for question 3.1 of the consumer questionnaire, 47% strongly agreed and 42% agreed. This p-value indicates that this result is significant. These results are used to reject the null hypothesis.

The following conclusions can be drawn from the testing of the hypotheses:

- Consumers have a more positive attitude towards self-medication as opposed to prescribed medication
- Consumers have a more positive attitude towards self-medication for minor medical than for major medical conditions
- Self-medication has perceived benefits to community pharmacists
- Community pharmacists play a significant role in assisting consumers with making informed decisions regarding self-medication

In addition to the above testing of hypotheses, interpretation of the demographic data revealed important test results. This interpretation is done next.

5.2.2 INTERPRETATION OF DEMOGRAPHIC DATA

5.2.2.1 Education

The findings in chapter four indicate that the level of education of consumers does not affect their attitude to self-medication. All consumers, regardless of their level of education, agreed that self-medication is their first response to minor medical conditions. The p value from the chi-square test shows that there is a relationship between education and the response to self-medication. The results of the cross tabulation show that consumers with secondary and tertiary levels of education were more inclined to use self-medication as a first response to treatment than consumers with a primary education. As consumers place more emphasis on education, we can expect an increase in the number of consumers with secondary and tertiary qualifications. This situation should then lead to an increase in the number of consumers who make self-medication their first response to minor medical conditions.

5.2.2.2 Population Group

Consumers from all three population groups agreed that they would most likely consult a pharmacist for advice on self-medication. Although the different population groups constituted different percentages of the sample, the percentage of agreement among them was consistent with their representation in the sample. This lends support to the conclusion that the findings can be generalised to any area, irrespective of population group.

The various population groups also indicated that they considered the pharmacist to be the most trustworthy source for information regarding self-medication. Standard protocols for self-medication can thus be implemented, regardless of area, and the various population groups will display the same attitude towards the pharmacist.

The different cultures also indicated that self-medication is their first response to minor medical conditions. There was only a small percentage (9%) that did not agree with this statement. This indicates the huge demand for self-medication in South Africa, as well as the importance of the service that the pharmacist offers. This situation also presents an opportunity for pharmacists to establish themselves as important members of the healthcare team.

The different population groups also indicated that they would not self-medicate for major/severe medical conditions (68%). However, thirty two percent (32%) of the consumers indicated that they would self-medicate for major/severe medical conditions. This figure represents a significant portion of the consumers who would not practice rational self-medication. This figure includes consumers from all three population groups. Active intervention by the pharmacist is therefore very important in discouraging irrational self-medication for all population groups

The majority of the consumers from the different population groups indicated that they would visit the pharmacy for advice. This is an indication of the importance that consumers attach to the pharmacist's advice.

5.2.3 INTERPRETATION OF OTHER VARIABLES

Consumers who always/usually self-medicate indicated that they found the treatment effective/very effective. This indicates that they are satisfied with the outcome of self-medication. This satisfaction will lead to further use of self-medication. This loyalty to self-medication is further enhanced by their indication that they are satisfied with the advice that the pharmacist provides regarding self-medication.

Consumers ranked pharmacists as best source of information for self-medication when compared to doctors, nurses, herbalists/ sangomas, friends and family. The pharmacists are thus, in the eyes of the consumer, the best person to render an effective self-medication service.

Consumers also indicated that advisory service was the most important service that is offered by the pharmacist. This supports the conclusion that consumers need guidance when they self-medicate. They regard the professional advice of the pharmacist as an important component of self-medication.

5.3 PHARMACIST QUESTIONNAIRE

Pharmacists also agreed that self-medication is a cost effective, as well as an effective treatment method. They expressed this viewpoint for all conditions, including allergies, for which the consumers indicated otherwise. Pharmacists and consumers thus differ in their attitude towards self-medication for different medical conditions. This situation needs to be addressed to ensure proper compliance for both pharmacists and consumers.

Pharmacists indicated that the seriousness of the condition was the most important factor that contributed to the selection of self-medication as a treatment method. Brand name was the least important factor. This supports the conclusion that pharmacists have no reservations about using generic medication to treat minor medical conditions. This is in line with the government's and medical aid administrator's initiatives to encourage generic substitution. This would have the effect of further reducing the cost of medication, and would be actively promoted by pharmacists.

The above conclusion also supports the pharmacist's view that income is an important factor in selecting self-medication as a treatment method. Generic substitution would ensure that only cost effective medicines are used. This is especially important in light of the high levels of unemployment and lack of disposable income among the people in South Africa.

Pharmacists ranked advisory services as the most important service offered by the pharmacy. The consumers reaffirmed this. Pharmacists, therefore, also place emphasis on ensuring correct use of medication, by offering advice.

The above conclusions bring to an end the first part of chapter five. The remainder of the chapter will discuss recommendations.

5.4 RECOMMENDATIONS

The recommendations are derived from the conclusions in the first half of the chapter. The format for this part of the chapter will be to first discuss the consumer questionnaire, followed by the pharmacist questionnaire.

5.4.1 CONSUMER QUESTIONNAIRE

Conclusions derived from the consumer questionnaire allow certain recommendations to be made.

5.4.1.1 Hypotheses Statements

Hypothesis one confirms that consumers have a more positive attitude towards self-medication as opposed to prescribed medication. The pharmacist needs to recommend medication that is both effective and efficient in relieving symptoms to help sustain this attitude. Incorrect prescribing by the pharmacist may lead to negative outcomes, with resultant negative attitudes being developed. This scenario obviously needs to be avoided.

Hypothesis two confirms that consumers have a more positive attitude towards self-medication for minor medical conditions as opposed to major medical conditions. The pharmacist needs to be aware that the consumer may be taking medication for major medical conditions, when they present at the pharmacy with their self-medication requests. He needs to exercise due diligence in these situations to prevent possible drug interactions from occurring. This can be achieved by asking the right questions about any other medication that the consumer may be taking.

Hypothesis three confirms that self-medication has perceived benefits to community pharmacists. These benefits can include financial benefits, as well as providing the pharmacist with the opportunity to establish himself/herself as an active member of the primary health care team. He can play a major role in reducing overall healthcare expenditure. His contribution to the well being of the population will provide new insights into the important role that the pharmacist plays.

Hypothesis four confirms that community pharmacists play a significant role in assisting consumers with making informed decisions regarding self-medication. This is especially important, particularly due to the rate at which new products are being launched. Pharmacists need to keep abreast of new products and developments to maintain his/her role as information broker. Attending continuing education courses will assist pharmacists to keep abreast of changes in the healthcare field.

5.4.1.2 Demographic Variables

Analysis of the consumer questionnaire confirmed that self-medication is the first response to minor medical conditions, regardless of level of education. The pharmacist needs to be aware that consumers with different levels of education will perceive and interpret information differently. He needs to vary his method of communication to ensure that the correct message is being relayed. This will also contribute to positive outcomes of self-medication.

All population groups indicated that they would consult a pharmacist for advice on self-medication. Fluency in at least two or three of the official languages will overcome language barriers when the pharmacist communicates with consumers. Pharmacists can also employ staffs that are fluent in different languages.

The different population groups also indicated that the pharmacist is the most trustworthy source of information for self-medication. The pharmacist must always be ethical and efficient in his prescribing. Improving quality of life for the patient should be a priority.

The majority of the consumers, irrespective of population group, indicated that self-medication is their first response to minor medical conditions. However, a significant proportion (32%) indicated that they would self-medicate for major medical conditions. The pharmacist needs to exercise care when dealing with this group of consumers. He needs to refer these consumers to the doctor, due to the seriousness of the condition. The pharmacist also needs to monitor the former groups self-medication treatment, as they would also have received prescribed medication. Drug interactions become a concern with this group of people. This further reinforces the watchdog/custodian role of the pharmacist

5.4.1.3 OTHER VARIABLES

Consumers have a positive attitude towards self-medication for minor medical conditions. They are also satisfied with the outcome of self-medication and rank pharmacists as the best source of information for self-medication. The pharmacist needs to keep abreast of new developments and products to maintain this position that consumers hold him in. He needs to always maintain his credibility.

The consumers ranked advisory services as the most important service that is offered by the pharmacist. Pharmacists can redesign their pharmacies to include easily accessible, clearly visible, private areas where advice can be given to consumers. This will lend support to pharmacists requesting reimbursement for advice given, rather than profit on medicines

5.4.2 PHARMACIST QUESTIONNAIRE

Pharmacists' views on self-medication for certain minor medical conditions differed from those of consumers. This is evident for allergies. The pharmacist needs to reverse consumers' reservations about not self-medicating for certain minor medical conditions, such as allergies. He should also address possible reasons as to why these reservations exist.

Follow up calls from the pharmacist for the conditions that consumers have reservations about treating, can be implemented. A framework for these conditions can be made available. This would also address the concern that only fifty percent of the pharmacists indicated that they followed up with patients

Pharmacists indicated that seriousness of condition was the most important factor that contributed to the selection of self-medication as a treatment method. They also indicated that income was an important consideration. This would require the prescribing of high quality, generic medication at pharmacies, a recommendation for pharmacists to continue with this practice.

Advisory services were ranked as the most important service offered by the pharmacist. This further supports the recommendation that pharmacies be redesigned to offer private areas, where advice can be given. The government and medical aid administrators should consider reimbursement to the pharmacist, for advice offered. This will motivate pharmacists to continue offering advice to the patients. A long-term effect would be overall healthcare cost reduction, since not all advisory sessions with patients will result in the sale of a medicine.

From the literature review, all role players, government, international and local pharmaceutical organisations, doctors, pharmacists and allied professional healthcare workers and consumers, accept that effective self-medication is of benefit to everybody. Further research needs to be conducted to ensure that self-medication objectives are being realised, and that all role players are contributing to these goals. Over time perceptions and attitudes may change, and these need to be monitored. Modern consumers are also resorting to alternate medicine treatments such Ayurvedic, natural and herbal treatments. Research needs to be conducted to ensure that these treatment methods play a contributory rather than a harmful role in maintaining overall health.

There is no doubt that the diverse South African situation is conducive to the active implementation of the concept of self-medication. Differences in population groups, language, education and income do not prejudice the acceptance of the concept self-medication.

All concerned parties, Government, pharmaceutical organisations, pharmacists and consumers must make a concerted effort to ensure that rational self-medication takes its rightful place as a significant contributor to the healthcare needs of the population of South Africa.

The above recommendations conclude chapter five. The next chapter will attempt to create a conceptual framework for self-medication.

CHAPTER 6: THE CONCEPTUAL FRAMEWORK

6.1 INTRODUCTION

The results of the study enable us to create a conceptual framework for self-medication. This framework will be created taking into consideration demographic variables, consumer attitudes, pharmacist viewpoints, and various medical conditions.

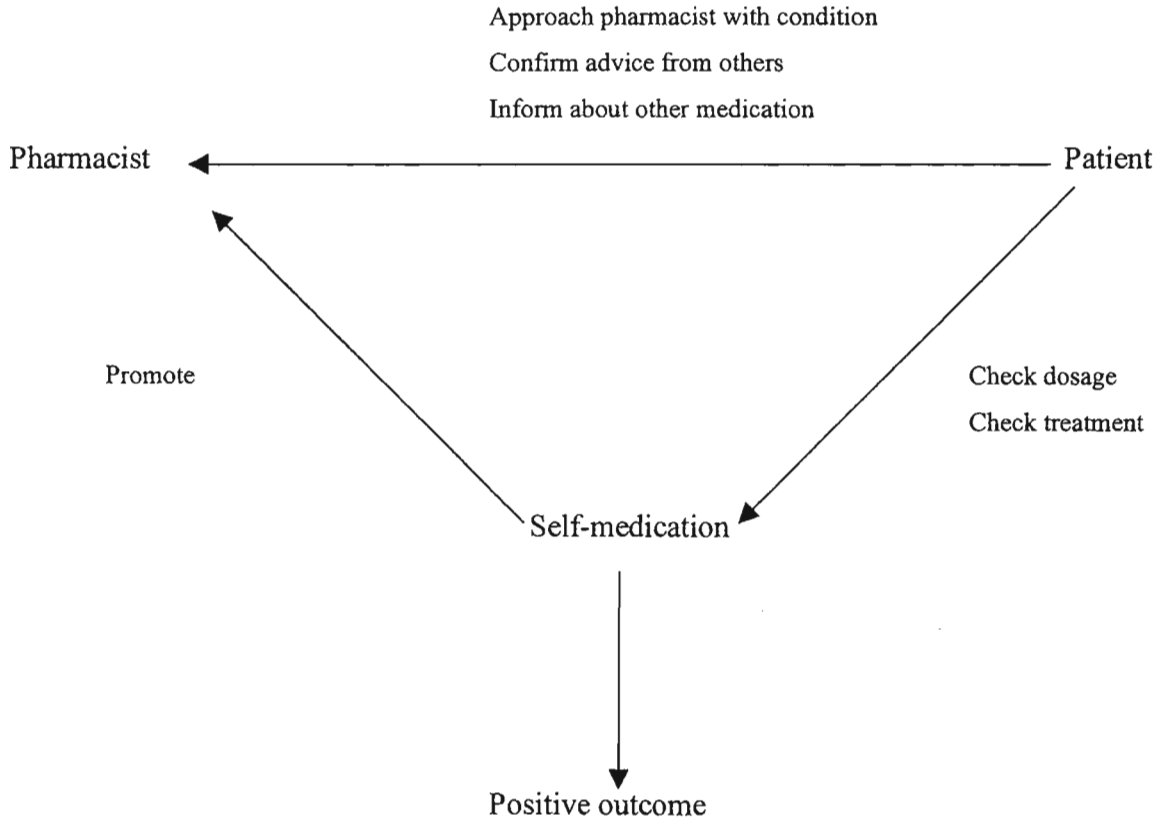
6.2 CONCEPTUAL FRAMEWORK FOR CONSUMERS

The conceptual framework for the consumers will be presented in the form of a list. This list is based on the results from analysis of the consumer questionnaire.

- Always approach your pharmacist if in doubt about whether your condition warrants self-medication or not. He will advise you whether to self-medicate or visit the doctor.
- If you find that your condition does not improve when you self-medicate, always approach your pharmacist to verify proper dosage and treatment before incurring more expenses.
- If advised by others about treatment, always confirm this with the pharmacist. Sometimes recommendations by non-qualified people may be incorrect/dangerous.
- Always inform the pharmacist about other medication that you may be taking.
- Always request further advice if you find that the advice given is insufficient.

The above list is summarised in Figure 3 below.

Figure 3 **Conceptual framework of self-medication for consumers**



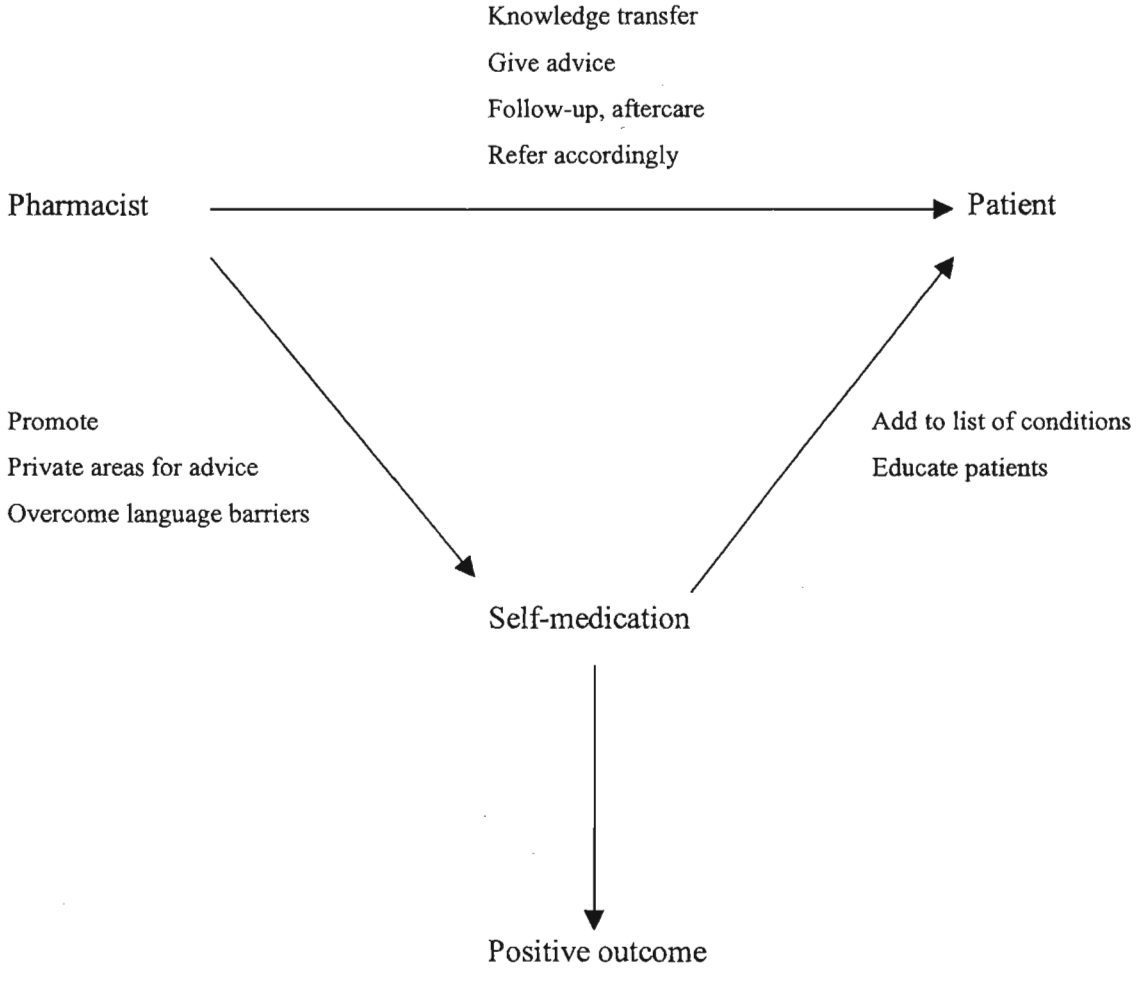
6.3 CONCEPTUAL FRAMEWORK FOR PHARMACISTS

The results from the analysis of the pharmacist questionnaire are used to create a conceptual framework for pharmacists.

- Always promote self-medication as a cost effective and successful treatment method.
- Continue to add to the list of conditions that can be successfully treated with self-medication.
- If advice given to a patient does not result in the sale of a medicine, you have contributed to building consumer knowledge about medicine. You will surely reap your reward.
- Always offer advice to patients. Do not wait for them to request it.
- Use your professional judgement to refer the patient accordingly.
- Follow up with patients who had reservations about self-medicating. Encourage them to come back.
- Use every opportunity to educate consumers about self-medication, and healthcare.
- Always prescribe the best product in terms of price, efficiency, and efficacy.
- Always ensure that language barriers have been overcome. You must be satisfied that the intended message has been accurately received, and interpreted.
- Provide easily accessible, clearly visible, private areas in the pharmacy where advice can be given.

The above list is summarised in Figure 4 below.

Figure 4 **Conceptual framework of self-medication for pharmacists**



The conceptual frameworks form the last part of chapter six, and the entire research study. The appendices follow chapter six.

CONCLUSION

This cross-sectional research study represents a snap shot of the consumer attitudes and pharmacist views on self-medication. These may very well change over time for various reasons. Longitudinal studies are required to ensure that positive outcomes of self-medication benefit all role players. These positive outcomes must be sustained. Further research will be required to monitor whether the conceptual framework for both consumers and pharmacists are being adhered to. The effectiveness of this conceptual framework needs to be researched and modified if necessary.

APPENDIX A: COVERING LETTER TO RESPONDENTS FOR CONSUMER AND PHARMACIST QUESTIONNAIRES.

RAVI MAHARAJ
PO BOX 12366
JACOBS 4026
PH 4690176

03-03-2003

Dear Sir / Madam

I am a registered student at the University of Natal-Durban. I am currently completing a dissertation for the Master of Business Administration (MBA) degree. Your cooperation in this regard will be highly appreciated.

Kindly complete the attached questionnaire as per instructions. It will take a few minutes of your time. All information provided will be treated with the strictest confidence and you are assured of anonymity.

If you have any queries, or require a summary of the results, kindly request them from me.

Thanking you for your support

Ravi Maharaj

APPENDIX B CONSUMER QUESTIONNAIRE

Sex	Male		Female		
Age	18-25	26-35	36-50	51 & over	
Medical Aid	Yes		No		
Household Income	under 2000	2001-4000	4001-6000	6001-8000	over 8000
Population Group	Asian	Black	Coloured	White	Other

1. From the list of conditions presented below, please indicate to what extent you would be likely to self-medicate.

	Always	Usually	Neutral	Sometimes	Never
1.1. Colds/Flu					
1.2. Gastric / stomach problems					
1.3 Aches and pains					
1.4 Minor injuries					
1.5 Allergies					

2. For which of the following conditions listed below do you think self-medication is considered the most effective/ineffective?

	Very effective	Effective	Neutral	Ineffective	Totally Ineffective
1.1. Colds/Flu					
1.2. Gastric / stomach problems					
1.3 Aches and pains					
1.4 Minor injuries					
1.5 Allergies					

3. To what extent do you agree/disagree with the following statements?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.1 Pharmacists provide valuable advice regarding self-medication.					
3.2 I would most likely consult a pharmacist for advice on self-medication.					
3.3 Pharmacists are not the most trustworthy source for information regarding self-medication.					
3.4 Doctors, sangomas, traditional healers offer more valuable information regarding self-medication than pharmacists.					
3.5 Self-medication is my first response to minor health problems.					
3.6 I would not utilize self-medication for major/severe health problems.					
3.7 I usually visit the pharmacy with a doctors prescription.					
3.8 I usually visit the pharmacy for advice.					
3.9 I usually buy medicine without a doctors prescription.					

4. Rank in order of advisory capability (1 being most useful and 5 being least useful) who would provide the best source of information on self-medication.

4.1. Pharmacists
4.2. Doctors
4.3. Nurses
4.4. Herbalists and Traditional Healers
4.5. Other, specify

5. How important is the following services offered by the pharmacist ?(1 being most important 5 being least important)

5.1. Dispensing
5.2. Advisory Services
5.3. Education
5.4. Health Promotion

6. How satisfied are you with the service from the pharmacy (1 being least satisfied 5 being most satisfied).

7. Do you (Please Tick)

7.1. Live in the area?
7.2. Work in the Area?
7.3. Shop in the Area?

APPENDIX C PHARMACIST QUESTIONNAIRE

1. To what extent do you agree/disagree with the following statements? Please tick off.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.1. Self-medication is a cost effective treatment method.					
1.2. Effective self-medication leads to loyal customers.					
1.3. Self-medication in community pharmacies is an integral part of primary health care.					
1.4. Improved quality of life is the primary motivating factor for promoting self-medication.					
1.5. There has not been a significant increase in the number of people resorting to self-medication in the past 5 years.					

2. For which of the following conditions do you think self-medication is the most effective / ineffective?

	Very Effective	Effective	Neutral	Ineffective	Very Ineffective
2.1. Colds / Flu					
2.2. Gastric / Stomach Problems					
2.3. Aches and Pains					
2.4. Minor Injuries					
2.5. Allergies					

3. How strongly do you agree/disagree with the following statements?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.1 Pharmacists do not make a valuable contribution in treating minor ailments.					
3.2 Pharmacists are capable of detecting the small proportion of serious pathology.					
3.3 All customer requests for medicine or advice results in the sale of a medicine.					
3.4 Most of the advice given to patients is unsolicited, rather than requested.					
3.5 Your code of ethics and the commercial environment of the pharmacy is a basis for conflict in practice.					
3.6 The patient would be referred to the doctor only if treatment failed in a given time.					
3.7 You generally follow up with patients whom you have referred to the doctor.					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.8 Although there may be no immediate financial gain, there may be a long-term gain as the pharmacy establishes a reputation for offering advice.					
3.9 Health education is central to the safe and effective use of drugs.					
3.10 Self-medication will improve the affordability and acceptability of health services.					
3.11 The public is unaware about the correct and responsible use of medicines.					

4. From the list of options presented below, rank in order of importance (1 being the least important and 5 being the most important), which factors contribute towards the selection of self-medication

4.1. Cost
4.2. Efficiency
4.3. Brand Name
4.4. Seriousness of Condition

5. On a scale from 1-5, with 5 being the highest, please indicate which factors impact most significantly on self-medication

5.1. Cultural Differences
5.2. Education
5.3. Health Knowledge
5.4. Income

6. Which of these roles are more important for a pharmacist to fulfill? Rank in order of importance with 5 being the least important and 1 being the most important

6.1. Dispensing
6.2. Advisory Service
6.3. Educating the Public
6.4. Health Promotion

7. In your opinion, which race group makes the most requests for self-medication? (1 being the least requests, and 5 being the most requests

7.1. Blacks
7.2. Coloureds
7.3. Indians
7.4. Whites
7.5. Other

APPENDIX D CONSUMER QUESTIONNAIRE

QUESTION 1 FREQUENCY TABLES

A - ALWAYS B - USUALLY C - NEUTRAL D - SOMETIMES E - NEVER

QUSETION 1.1 COLDS AND FLU

Colds/Flu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	47	47.0	47.0	47.0
	B	19	19.0	19.0	66.0
	D	30	30.0	30.0	96.0
	E	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

QUESTION 1.2 GASTRIC / STOMACH PROBLEMS

Gastric/Stomach problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.0	2.0	2.0
	A	14	14.0	14.0	16.0
	B	23	23.0	23.0	39.0
	C	24	24.0	24.0	63.0
	D	22	22.0	22.0	85.0
	E	15	15.0	15.0	100.0
	Total	100	100.0	100.0	

QUESTION 1.3 ACHES AND PAIN

Aches & Pains

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	22	22.0	22.0	23.0
	B	37	37.0	37.0	60.0
	C	5	5.0	5.0	65.0
	D	31	31.0	31.0	96.0
	E	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

QUESTION 1.4 MINOR INJURIES

Minor injuries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	21	21.0	21.0	22.0
	B	32	32.0	32.0	54.0
	C	10	10.0	10.0	64.0
	D	29	29.0	29.0	93.0
	E	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

QUESTION 1.5 ALLERGIES

Allergies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.0	2.0	2.0
	A	12	12.0	12.0	14.0
	B	8	8.0	8.0	22.0
	C	15	15.0	15.0	37.0
	D	35	35.0	35.0	72.0
	E	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

APPENDIX E CONSUMER QUESTIONNAIRE
QUESTION 2 FREQUENCY TABLES

QUESTION 2.1 COLDS AND FLU

Colds/Flu

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	42	42.0	42.0	42.0
	B	47	47.0	47.0	89.0
	C	2	2.0	2.0	91.0
	D	5	5.0	5.0	96.0
	E	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

QUESTION 2.2 GASTRIC / STOMACH PROBLEMS

Gastric/Stomach problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	7	7.0	7.0	8.0
	B	33	33.0	33.0	41.0
	C	35	35.0	35.0	76.0
	D	14	14.0	14.0	90.0
	E	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

QUESTION 2.3 ACHES AND PAINS

Aches & Pains

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	9	9.0	9.0	9.0
	B	69	69.0	69.0	78.0
	C	12	12.0	12.0	90.0
	D	6	6.0	6.0	96.0
	E	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

QUESTION 2.4 MINOR INJURIES

Minor injuries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	9	9.0	9.0	9.0
	B	60	60.0	60.0	69.0
	C	17	17.0	17.0	86.0
	D	6	6.0	6.0	92.0
	E	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

QUESTION 2.5 ALLERGIES

Allergies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.0	2.0	2.0
	A	7	7.0	7.0	9.0
	B	17	17.0	17.0	26.0
	C	25	25.0	25.0	51.0
	D	27	27.0	27.0	78.0
	E	22	22.0	22.0	100.0
	Total	100	100.0	100.0	

APPENDIX F CONSUMER QUESTIONNAIRE
QUESTION 3 FREQUENCY TABLES

QUESTION 3.1

Q3.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	47	47.0	47.0	48.0
	B	42	42.0	42.0	90.0
	C	2	2.0	2.0	92.0
	D	6	6.0	6.0	98.0
	E	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.2

Q3.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	55	55.0	55.0	55.0
	B	36	36.0	36.0	91.0
	C	3	3.0	3.0	94.0
	D	2	2.0	2.0	96.0
	E	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.3

Q3.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	4	4.0	4.0	4.0
	B	7	7.0	7.0	11.0
	D	52	52.0	52.0	63.0
	E	37	37.0	37.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.4

Q3.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	B	9	9.0	9.0	9.0
	C	14	14.0	14.0	23.0
	D	35	35.0	35.0	58.0
	E	42	42.0	42.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.5

Q3.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	19	19.0	19.0	19.0
	B	68	68.0	68.0	87.0
	C	4	4.0	4.0	91.0
	D	2	2.0	2.0	93.0
	E	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.6

Q3.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	36	36.0	36.0	37.0
	B	31	31.0	31.0	68.0
	C	2	2.0	2.0	70.0
	D	9	9.0	9.0	79.0
	E	21	21.0	21.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.7

Q3.7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	27	27.0	27.0	27.0
	B	50	50.0	50.0	77.0
	C	13	13.0	13.0	90.0
	D	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.8

Q3.8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.0	1.0	1.0
	A	16	16.0	16.0	17.0
	B	50	50.0	50.0	67.0
	C	24	24.0	24.0	91.0
	D	7	7.0	7.0	98.0
	E	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

QUESTION 3.9

Q3.9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	9	9.0	9.0	9.0
	B	24	24.0	24.0	33.0
	C	43	43.0	43.0	76.0
	D	14	14.0	14.0	90.0
	E	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

APPENDIX G CONSUMER QUESTIONNAIRE
QUESTION 4 FREQUENCY TABLES

QUESTION 4.1

Pharmacists

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	78	78.0	80.4	80.4
	2	12	12.0	12.4	92.8
	3	4	4.0	4.1	96.9
	4	3	3.0	3.1	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 4.2

Doctors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	76	76.0	78.4	78.4
	2	13	13.0	13.4	91.8
	3	3	3.0	3.1	94.8
	4	1	1.0	1.0	95.9
	5	4	4.0	4.1	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 4.3

Nurses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	50	50.0	52.1	52.1
	2	3	3.0	3.1	55.2
	3	26	26.0	27.1	82.3
	4	8	8.0	8.3	90.6
	5	9	9.0	9.4	100.0
	Total	96	96.0	100.0	
Missing	System	4	4.0		
Total		100	100.0		

QUESTION 4.4

Herbalists

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	7.0	7.2	7.2
	2	2	2.0	2.1	9.3
	3	3	3.0	3.1	12.4
	4	10	10.0	10.3	22.7
	5	75	75.0	77.3	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 4.5

Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	2.0	8.0	8.0
	2	3	3.0	12.0	20.0
	3	2	2.0	8.0	28.0
	4	3	3.0	12.0	40.0
	5	15	15.0	60.0	100.0
	Total	25	25.0	100.0	
Missing	System	75	75.0		
Total		100	100.0		

APPENDIX H CONSUMER QUESTIONNAIRE
QUESTION 5 FREQUENCY TABLES

QUESTION 5.1

Dispensing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	76	76.0	78.4	78.4
	2	12	12.0	12.4	90.7
	3	2	2.0	2.1	92.8
	4	3	3.0	3.1	95.9
	5	4	4.0	4.1	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 5.2

Advisory services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	79	79.0	81.4	81.4
	2	5	5.0	5.2	86.6
	3	7	7.0	7.2	93.8
	4	6	6.0	6.2	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 5.3

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	71	71.0	73.2	73.2
	2	13	13.0	13.4	86.6
	3	11	11.0	11.3	97.9
	5	2	2.0	2.1	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

QUESTION 5.4

Health Promotion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	65	65.0	68.4	68.4
	2	10	10.0	10.5	78.9
	3	5	5.0	5.3	84.2
	4	6	6.0	6.3	90.5
	5	9	9.0	9.5	100.0
	Total	95	95.0	100.0	
Missing	System	5	5.0		
Total		100	100.0		

APPENDIX I CONSUMER QUESTIONNAIRE

QUESTION 6 FREQUENCY TABLE

Q6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	13.0	13.0	13.0
	3	4	4.0	4.0	17.0
	5	83	83.0	83.0	100.0
	Total	100	100.0	100.0	

APPENDIX J CONSUMER QUESTIONNAIRE
QUESTION 7 FREQUENCY TABLES

QUESTION 7.1

Live in area

	Frequency	Percent	Valid Percent	Cumulative Percent
	46	46.0	46.0	46.0
Y	54	54.0	54.0	100.0
Total	100	100.0	100.0	

QUESTION 7.2

Work in area

	Frequenc	Percen	Valid	Cumulativ Percen
	73	73.0	73.0	73.0
Y	27	27.0	27.0	100.0
Total	100	100.0	100.0	

QUESTION 7.3

Shop in area

	Frequency	Percent	Valid Percent	Cumulative Percent
	46	46.0	46.0	46.0
Y	54	54.0	54.0	100.0
Total	100	100.0	100.0	

APPENDIX K PHARMACIST QUESTIONNAIRE

QUESTION 1 FREQUENCY TABLES

QUESTION 1.1

Q1.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	14	70.0	70.0	70.0
	Agree	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

QUESTION 1.2

Q1.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	12	60.0	60.0	60.0
	Agree	6	30.0	30.0	90.0
	Neutral	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 1.3

Q1.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	14	70.0	70.0	70.0
	Agree	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

QUESTION 1.4

Q1.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	25.0	25.0	25.0
	Agree	15	75.0	75.0	100.0
	Total	20	100.0	100.0	

QUESTION 1.5

Q1.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	10.0	10.0	10.0
	Disagree	8	40.0	40.0	50.0
	Strongly disagree	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

APPENDIX L PHARMACIST QUESTIONNAIRE

QUESTION 2 FREQUENCY TABLES

QUESTION 2.1

Q2.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	14	70.0	70.0	70.0
	B	5	25.0	25.0	95.0
	C	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

QUESTION 2.2

Q2.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	8	40.0	40.0	40.0
	B	10	50.0	50.0	90.0
	C	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 2.3

Q2.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	10	50.0	50.0	50.0
	B	8	40.0	40.0	90.0
	C	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 2.4

Q2.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	12	60.0	60.0	60.0
	B	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

QUESTION 2.5

Q2.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	10	50.0	50.0	50.0
	B	9	45.0	45.0	95.0
	C	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

APPENDIX M PHARMACIST QUESTIONNAIRE
QUESTION 3 FREQUENCY TABLES

QUESTION 3.1

Q3.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	2	10.0	10.0	10.0
	Disagree	4	20.0	20.0	30.0
	Strongly disagree	14	70.0	70.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.2

Q3.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	5.0	5.0	5.0
	Agree	12	60.0	60.0	65.0
	Neutral	7	35.0	35.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.3

Q3.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	20.0	20.0	20.0
	Disagree	8	40.0	40.0	60.0
	Strongly disagree	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.4

Q3.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	5.0	5.3	5.3
	Agree	8	40.0	42.1	47.4
	Neutral	7	35.0	36.8	84.2
	Disagree	3	15.0	15.8	100.0
	Total	19	95.0	100.0	
Missing	System	1	5.0		
Total		20	100.0		

QUESTION 3.5

Q3.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	5.0	5.0	5.0
	Agree	5	25.0	25.0	30.0
	Neutral	2	10.0	10.0	40.0
	Disagree	9	45.0	45.0	85.0
	Strongly disagree	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.6

Q3.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	6	30.0	30.0	30.0
	Neutral	1	5.0	5.0	35.0
	Disagree	10	50.0	50.0	85.0
	Strongly disagree	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.7

Q3.7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	8	40.0	40.0	40.0
	Neutral	2	10.0	10.0	50.0
	Disagree	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.8

Q3.8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	9	45.0	45.0	45.0
	Agree	11	55.0	55.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.9

Q3.9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	10	50.0	50.0	50.0
	Agree	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.10

Q3.10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	12	60.0	60.0	60.0
	Agree	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

QUESTION 3.11

Q3.11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	25.0	25.0	25.0
	Agree	12	60.0	60.0	85.0
	Disagree	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

APPENDIX N PHARMACIST QUESTIONNAIRE QUESTION 4 FREQUENCY TABLES

QUESTION 4.1

Q4.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	10.0	10.0	10.0
	2	1	5.0	5.0	15.0
	3	6	30.0	30.0	45.0
	4	9	45.0	45.0	90.0
	5	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 4.2

Q4.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	5.0	5.0	5.0
	3	4	20.0	20.0	25.0
	4	6	30.0	30.0	55.0
	5	9	45.0	45.0	100.0
	Total	20	100.0	100.0	

QUESTION 4.3

Q4.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	55.0	55.0	55.0
	2	6	30.0	30.0	85.0
	3	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

QUESTION 4.4

Q4.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	5.0	5.0	5.0
	3	2	10.0	10.0	15.0
	4	3	15.0	15.0	30.0
	5	14	70.0	70.0	100.0
	Total	20	100.0	100.0	

APPENDIX O PHARMACIST QUESTIONNAIRE
QUESTION 5 FREQUENCY TABLES

QUESTION 5.1

Q5.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	55.0	55.0	55.0
	2	3	15.0	15.0	70.0
	3	3	15.0	15.0	85.0
	4	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

QUESTION 5.2

Q5.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	2	10.0	10.0	15.0
	3	5	25.0	25.0	40.0
	4	5	25.0	25.0	65.0
	5	7	35.0	35.0	100.0
	Total	20	100.0	100.0	

QUESTION 5.3

Q5.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	5.0	5.0	5.0
	3	4	20.0	20.0	25.0
	4	9	45.0	45.0	70.0
	5	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

QUESTION 5.4

Q5.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	1	5.0	5.0	10.0
	3	2	10.0	10.0	20.0
	4	8	40.0	40.0	60.0
	5	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

APPENDIX P PHARMACIST QUESTIONNAIRE QUESTION 6 FREQUENCY TABLES

QUESTION 6.1

Q6.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	20.0	20.0	20.0
	2	7	35.0	35.0	55.0
	3	3	15.0	15.0	70.0
	4	4	20.0	20.0	90.0
	5	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 6.2

Q6.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	55.0	55.0	55.0
	2	1	5.0	5.0	60.0
	3	1	5.0	5.0	65.0
	4	1	5.0	5.0	70.0
	5	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

QUESTION 6.3

Q6.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	15.0	15.0	15.0
	2	3	15.0	15.0	30.0
	3	9	45.0	45.0	75.0
	4	4	20.0	20.0	95.0
	5	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

QUESTION 6.4

Q6.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	20.0	20.0	20.0
	2	4	20.0	20.0	40.0
	3	4	20.0	20.0	60.0
	4	3	15.0	15.0	75.0
	5	5	25.0	25.0	100.0
	Total	20	100.0	100.0	

APPENDIX Q PHARMACIST QUESTIONNAIRE

QUESTION 7 FREQUENCY TABLES

QUESTION 7.1

Q7.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	2	10.0	10.0	15.0
	3	4	20.0	20.0	35.0
	4	4	20.0	20.0	55.0
	5	9	45.0	45.0	100.0
	Total	20	100.0	100.0	

QUESTION 7.2

Q7.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	5	25.0	25.0	30.0
	3	8	40.0	40.0	70.0
	4	4	20.0	20.0	90.0
	5	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

QUESTION 7.3

Q7.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	5.0	5.0	5.0
	3	1	5.0	5.0	10.0
	4	10	50.0	50.0	60.0
	5	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

QUESTION 7.4

Q7.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	5	25.0	25.0	25.0
	3	5	25.0	25.0	50.0
	4	4	20.0	20.0	70.0
	5	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

QUESTION 7.5

Q7.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	30.0	75.0	75.0
	2	1	5.0	12.5	87.5
	5	1	5.0	12.5	100.0
	Total	8	40.0	100.0	
Missing	System	12	60.0		
Total		20	100.0		

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