

**UNIVERSITY OF NATAL
DURBAN**

**AN INVESTIGATION INTO THE NEEDS ASSESSMENT PHASE OF
THE HEALTH EDUCATION PROCESS FOR SCHOOL CHILDREN.**

BY

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AN INVESTIGATION INTO THE NEEDS ASSESSMENT PHASE OF
THE HEALTH EDUCATION PROCESS FOR SCHOOL CHILDREN

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PREFACE

This is my own original work, sources referred to in this text have been acknowledged.


.....
T. T. TANGA

DEDICATION

I dedicate this study to my late father whose wish has at last come true, my mother and daughter, Tandisa who supported my efforts tirelessly.

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I acknowledge that a number of people/bodies contributed to the success of the study.

My sincere gratitude goes to the following:-

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- The Departments of Education and Culture and Health and Welfare who gave me the permission to conduct the study.
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- Lastly, my colleagues (PHC nurses) in the Health Centres who supported me not only with the information but encouraged me to proceed with my studies.

ABSTRACT

This study investigated the needs assessment phase of the health education process for school children. The objectives of the study were to identify health education needs of school children using three approaches, namely, the epidemiological, consumer and social science approaches. In the social science approach, a PRECEDE model has been used. Time taken in using each approach and the skills of PHC nurses necessary to use each, were investigated in order to determine the most effective and efficient approach.

A comparative case study design has been used, whereby each approach was considered as a case, hence, an embedded case study. One rural administrative area in the district of Umtata, which has a health centre in its catchment area, was selected. The population for the study were school children aged 12 to 16 years doing standard five. Four out of ten Junior Secondary schools in the area were randomly selected.

In the epidemiological approach, records from the health centre and three of the four selected schools were analysed. In the consumer approach, focus group interviews (two groups of boys and two groups of girls) were conducted. In the social science approach, focus group interviews of school children (four groups) from the other two remaining schools, focus group interviews of mothers as carers (four groups), and in-depth interviews of standard five teachers from each of the four schools were conducted. Data analysis was done using Tesch's method of qualitative data analysis. A time activity sheet was used to estimate time used in each approach. A questionnaire was distributed among PHC nurses to determine their skills in relation to the approaches used.

Results showed that the social science approach was the most comprehensive approach but used the longest time. The consumer was balanced and efficient though the least time was used. The epidemiological was found to have identified physical problems to the exclusion of the social and psychological problems.

ABBREVIATIONS USED IN THE STUDY

AAP	-	American Academy of Paediatrics
ANC	-	African National Congress
DHS	-	District Health System
ECDD	-	Early Childhood Care and Development
ECE	-	Early Childhood Educare
HIV	-	Human Immune Deficiency Syndrome
HBM	-	Health Belief Model
HPS	-	Health Promoting Schools
PHC	-	Primary Health Care
PRECEDE	-	Predisposing, Reinforcement and Enabling Cause in Educational Diagnosis and Evaluation
PROCEED	-	Policy, Regulatory and Organisational Constructs in Educational and Environmental Development
SBHC	-	School-based Health Care Centre
STD	-	Sexually Transmitted Diseases
SLHC	-	School-linked Health Care Centre
TBVC	-	Transkei, Bophuthatswana, Venda and Ciskei
TPB	-	Theory of Planned Action
TRA	-	Theory of Reasoned Action
UNICEF	-	United Nations Children's Fund
WHO	-	World Health Organisation

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND AND MOTIVATION TO THE STUDY

Health problems of school children, particularly in developing countries are immense and demand attention from both school and health authorities concerned. The extent of the problem can be attributed to the fact that developing countries are characterised by a population of "young" people. In South Africa for instance, 36% of the population surveyed in 1991 were children whose ages ranged between 0-4 years while those under 18 years were approximately 46% (ANC, 1994). Developing countries, too, though characterised by a population of "aged" people, have large numbers of children. Yates (1994) reported that in the United States of America, 95% of the 55 million children attending school were between the ages of 5 and 18 years. Hence, the school becomes a logical site for a health service. Pender (1996) cites that the majority of children are enrolled in school and spend thousands of hours in schools throughout their childhood and adolescence. Therefore, school based health education programmes can exert a major influence in enhancing health-promoting behaviours of school children.

The extent of school health problems among children worldwide led to international collaboration to reduce mortality and morbidity, as it was found that although 10% of the world's child population is found in Africa, one-third of the 40,000 children who die in the world are African. An agreement was thus made in the International Conference on Assistance of African Children held in 1992, that programmes which promote "Survival, protection and development" of children be implemented. (Dennill, King, Lock and Swanepoel, 1993). One such programme is the school health programme. School health services directly influence education by curtailing absenteeism and increasing productivity among children through an enhanced health status.

The overall goal of school programmes is health promotion in order to enhance the health of the school population through attendance to three basic components, namely, health service, health environment and health education. Hawes (1995) believes that although these elements are important, health education has been misinterpreted and neglected.

The transformation of health services in South Africa also puts emphasis on the preventive and promotive health care approach. The National Health Plan enlists child health as one of the principal priorities and that school health education programmes be developed and implemented at community level within the district health system (ANC, 1994:62). Such programmes should be based on the needs assessment of the school population. According to the National Health Plan (1994:44)." An investment in the health of children is an investment in the future of the nation."

However, Dines and Cribb (1993) explain that traditionally, school nurses gave little or no attention to the needs of school children as their role was routine and task-oriented. Nurses failed to differentiate between needs of school children in rural schools from those schooling in urban areas on one hand and the needs of younger children from those of adolescents on the other hand. Yet health education has to be based on the needs of school children as identified by the stakeholders in a particular community. Kunstel (in Green, Kreuter, Deeds & Partridge 1980) gives three reasons for assessing community needs in school health education, that needs assessment "... has to do with establishing appropriate goals and objectives.....has to do with programme specificity

Parents may be more supportive of the inclusion of controversial content when a need has been clearly established and communicated."

1.2 PROBLEM STATEMENT

In the background to the study, researchers cited that health education has been misinterpreted and neglected and that nurses gave little or no attention to the needs of school children (Dines & Cribb, 1993; Hawes, 1995), hence, there is a need to attend to the problem. Since there is a need to conduct needs assessment prior to the health education planning and intervention the problem is to find out what the needs of school children are and how best they can be assessed using minimal resources.

Researchers have used various approaches to assess needs either broadly or in limited ways. From the literature it would seem that there are three basic approaches that can be identified namely :

- . the epidemiological approach
- . the consumer survey approach
- . social science approach

The epidemiological approach focuses on statistical data (analysis of documents) as means of finding out the health problems. Health interventions are based on epidemiological data whereby routinely available data are commonly used. This approach is commonly used in community health programmes and is especially propagated in the medical literature in South Africa, for example, the high infant mortality rate led to placing maternal and child health as one of the principal priorities. Free health services for mothers and children under six years have been introduced (ANC, 1994).

In the consumer approach, the consumers themselves as adults or children participate in needs assessment by giving an account of their own problems. This approach encourages community participation and is a recommended approach in Primary Health Care.

The third approach makes use of social science approach which describe comprehensive theories on the health education process. Literature describes a number of such theories such as the PRECEDE (Predisposing, Reinforcing and Enabling Causes in the Educational Diagnosis and Evaluation), the Health Belief model and Ewles and Simnett Planning model to mention just a few. Although the theoretical approaches are comprehensive with clear concepts in practice they are rarely used compared to the consumer approach which is commonly used in the Primary Health Care settings. This study used the PRECEDE model as a social science approach..

It is, however not clear which of the three methods is the most efficient and effective to assess the needs of school children so that the relevant information is obtained as health education should be based on the identified needs and whether various approaches deliver the same outcome in identifying needs.

1.3 AIM OF THE STUDY

The aim of the study is to investigate the needs assessment phase of the health education process for school children. The objectives are:-

- . to identify the nature of the health education needs of school children
- . to analyse the inputs and outputs of different approaches of health education among school children in order to determine the effectiveness and efficiency of the various approaches.

Pertinent research questions in this regard are as follows:

- 1.3.1 What are the health education needs of school children as identified by:
 - a) the epidemiological approach?
 - b) consumer approach and ?
 - c) social science approach?
- 1.3.2 What are the differences in inputs necessary to be implemented by health

professionals when using the 3 approaches in terms of:-

time of professionals?

skills of professionals?

1.3.2 What are the differences in outputs of the needs assessment phase in terms of:

health education needs of school children identified?

1.4 SIGNIFICANCE OF THE STUDY

A number of needs assessment models exists. Different authors try to market their approaches often basing them on certain philosophies. This leads to confusion among community health practitioners about how to choose an appropriate approach as no comparative studies have been conducted. The relevant approach is meant to help health personnel obtain reliable information from the stakeholders about the needs assessment phase of the health education process. Communities need to take responsibility for their own health. It is difficult for them to do so when the health professionals are perceived as the sole determinants of the process, hence the need for their participation and empowerment.

A model which capitalises on the strengths of the traditional medical epidemiological approach as well as the "socially" acceptable approaches that place emphasis on participatory intervention in the health care is urgently needed. Such an approach would exploit the precision in data collection processes associated with the epidemiological approach, while gaining necessary co-operation from stakeholders for a successful health programme.

Each of the three approaches has its strengths and weaknesses. These are fully discussed in chapter 2. It is, therefore, essential to do a comparative study of these approaches in order to optimise this phase of the health education process. The relevant approach should be able to identify the most important needs rather than the one that is demanding but rarely used because of its demand.

Further, nursing is an evolving discipline. This study aims at contributing to the knowledge base in community health nursing practice, education and research.

1.5 TERMINOLOGY

Need: "A need is something people could benefit from. It should be distinguished from a demand which is something people ask for, and supply which is what is provided" (Naidoo & Willis, 1996).

Needs assessment phase: is the first step of the health education process. Assessment is "the act of reviewing a human situation from a data base in order to affirm an illness state, diagnosing the client's problems..." (Yura & Walsh, in Clark, 1992:80).

Health Education: is " the use of a variety of learning experiences to facilitate changes to more healthful behaviour and as a process that frees people to make health-related decisions based upon full knowledge of the consequences of their choices (Clark, 1992:127).

Health promotion: " covers all aspects of activities that seek to improve the health status of individuals and communities" (Dines & Cribb, 1993).

Model: "provides a schematic representation of some relationships among phenomena and uses symbols or diagrams to present an idea (Brink, 1996).

Theory: "is an internally consistent group of relational statements that present a systematic view about a phenomenon and that is useful for description, explanation and prediction and/or control" (Walker and Avant, 1995:26)

School children: refers to children between the ages of six and 21 years who attend school.

Efficient: "producing the results with little waste of effort (Oxford Paper Dictionary, 1982:188).

Effective: refers to something that has desired effect. In this study, this means that the assessment produces valid results.

1.6 CONCEPTUAL FRAMEWORK

The conceptual framework for this study is derived from the systems approach. Churchman (1968) describes a system as a set of parts which are coordinated in order to accomplish a set of goals. The system is complete only when its objectives, environment and support of its parts are described. In this study, the process of needs assessment is the system under study. A system has five basic parts namely, the objectives, the environment with its constraints, the resources, the components with their goals and activities and management.

1.6.1 Objectives

The main objectives of a system are the measurement of its performance. The objectives of the needs assessment system is to identified health need school children in the Eastern Cape Province. "Real" needs can be defined as those needs which are validated by more than one assessment source.

1.6.2 Environment

The environment of a system is difficult to determine as it lies "outside" the system. The environment refers to all the conditions most of which cannot be controlled by managers including things and people who are seen by the system as "fixed" or "given" for example budgetary constraints. The environment partly determines how the system works. In this case the health and education

can be seen as the environment within which the needs assessment is embaded.

1.6.3 Resources

Unlike the environment, the resources are "inside" the system. They are the means used by the system to do its job. Resources can be changed by the system unlike the environment.

Input includes all types of resources used within a system namely personnel, equipment and money which make it possible for the system to bring about a good service or product. Managers of a system can control the resources in a system through budgeting. In this case, the nurses doing the needs assessment is part of the resources. The equipment they use as well as the information they obtain are part of the resources.

Output is what the system produces both the planned and the unplanned results.

In this system, the output is the health education diagnosis made by the researcher. Other output might include attitude change in staff and/or respondents.

1.6.4 Components

The components of a system refers to the "jobs" or "activities" undertaken within a system. The activities are broken down into tasks which the system must perform.

1.6.5 Management of a system

Management of a system has to ensure that the system functions according to plans. The management deals with the four aspects described above namely, the objectives, environment, resources and components. Management lays down the goals, then allocates resources and controls the process (systems' performance). In a system a measure of performance has to be maximized, hence the cost of the input and the quality of output are essential.

In summary, although there are several systems approaches, this study uses an approach whereby a system constitutes four main ideas and focuses on three as follows:-

- (i) efficiency - problem areas have to be identified especially where there is waste in terms of cost so that inefficiency is eliminated.
- (ii) use of humanists - the claim is that people are part of the system and their values should be considered. The systems approach should not impose any plans on people, for example, any kind of intervention.
- (iii) The antiplanners - Antiplanners believe that there is no need to describe specific plans as they consider such as "foolish or dangerous". They believe that experience is the necessary element for good management. This idea is not used in this study as already indicated.

1.6.6 Application to the study

Needs assessment process may be considered as a system according to the framework described. The objectives of performing needs assessment is efficiency, that is, making a diagnosis in the best way but with minimum costs. The resources are, therefore, measured in terms of input and output. Input in this study is measured in terms of professional's time and skills used when conducting needs assessment. Output measures the effectiveness with which the needs are assessed.

1.7 CONCLUSION

In summary, this introductory chapter explains the background and motivation to the study, problem statement, aim and significance of the study, definition of terms and the conceptual framework. In particular, the nature of the health education needs for school children will be sought using three approaches and the effectiveness and efficiency of the approaches.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In the introductory paragraph in chapter 1, it has been reported that school health problems are immense worldwide demanding the attention of health and education departments to deal with. The problems tend to be more demanding in developing countries because they are characterised by the "young" population according to the ANC (1994) though, developed countries too, have large numbers of school children according to Yates (1994).

The large numbers of children in all countries indicate the importance of child health in general and school health service in particular as one of the means to attain and maintain the health of the population. It has been found that factors such as "disintegrating social conditions, altered family structures and arising medical costs have left many children at risk" (Yates, 1994:11), because they live in poverty with inadequate or sometimes unavailable health care service.

The review of literature in this chapter will cover a brief historical background of school health service, theoretical analysis of common health problems affecting school children and the various forms of school health service that have been used in order to eradicate such problems. The concept health promoting schools (HPS) is also discussed.

2.2 BRIEF HISTORICAL BACKGROUND OF SCHOOL NURSING SERVICES

2.2.1 School Health Service - The International View

School nursing services originated in Britain in the late nineteenth century. Thereafter, it developed in Europe, France, Belgium and other countries. In London, Amy Hughes, the first school nurse, was due to unhealthly conditions in one of the poorest schools in Dury Lane district appointed in 1893. The first

school nurse in the United states, Lina Rogers, was also appointed in New York city in 1902.

In South Africa, school health problems were identified in the early twentieth century, during the First World War (1914), when the young men who joined the army were found to have serious handicaps that might have been avoided if they had been treated during their school years. The discovery led to the appointment of the first school nurse, Frances Hassall, through the endeavour of Dr Louis Leipoldt (Searle, Brink & Grobbelaar, 1989; Hawkins, Hayes & Corliss, 1994). According to Searle et al, school nurses were then appointed in Natal, Cape Province and Transvaal in 1916, 1918 and 1920 respectively.

The basic school health programmes then dealt with problems such as malnutrition, sanitation and infectious diseases, such as scabies, ringworm and impetigo. They also included treating discharges from eyes, ears and some minor ailments. With time, the service evolved and expanded to include the core interrelated components namely, individual child health, school environment and health education and counselling which formed the backbone of the service. In some areas among certain races, part-time doctors were also employed (Searle, Brink & Grobbelaar, 1989).

2.2.2 School Health Service in South Africa during the past decade.

School health service in South Africa were run by various departments along racial lines of "Own Affairs" prior to the 27th of April 1994, namely, the Department of Health and Population Development for Blacks and separate departments for Whites, Coloureds and Indians (Tricameral Constitutions, in Vlok 1991). Furthermore the Transkei, Bophuthatswana, Venda and Ciskei (TBVC) states each had its own school health service. In the TBVC states, school health services were run as part of the comprehensive health service with a school nurse operating from a hospital base visiting all the schools in a district

at least twice annually. In other areas school nurses operated as employees of the local authorities, particularly in the urban areas.

The resultant provision of school health service in South Africa was fragmentation, inequity, with poor provision to almost non-existence in some areas in the rural and/or farm areas. Those that existed lacked uniformity and left much to be desired.

The government of National Unity committed itself "to promotion of health through prevention and education. The Primary Health Care Approach is the underlying philosophy for the restructuring of the health system...aims to reduce inequalities in access to health services, especially in the rural areas and deprived communities" (ANC, 1994:9). According to the National Health Plan, school health service provision is the function of the District Health Authorities which are entrusted with the responsibility of "management and co-ordination of health promotion activities and of all different elements of comprehensive health care ..." (ANC, 1994:64). The plan also advocates that at community level there should be "outreach education and health promotion and prevention programmes which will be in schools and workplaces" (p. 62). Such programmes, however, would depend on the needs of the local people. It is this view that made the researcher to investigate the needs of school children before a health promotion programme can be planned and implemented.

2.2.3 School health service in the Eastern Cape Province

School health services in the Eastern Cape Province were mainly under the separate health departments of Transkei, Ciskei and South Africa which are now brought together by the boundaries of the new South Africa to form one province with five (5) regions, A-E. Each area had its own problems and formulating a model that would provide uniform services is the ideal but may be rather difficult to achieve. At the present moment it is not yet clear under

which department school health services will fall: Health & Welfare or Education and Culture.

The Eastern Cape Province, is the second poorest region in South Africa predominantly rural and most of its communities are under privileged. The nature of its poverty, rurality and the health care provided affect the health status of its citizens, including children, in the same way as other health care provisions in other countries are influenced by the countries' economies.

In some areas of the Eastern Cape Province, School health services are either poorly rendered or almost non-existent, for example, in the Umtata district, of the 231 schools only 25% were visited in 1995. For schools which are lucky enough to be visited, follow up visits are almost impossible and work is done haphazardly as nurses usually arrive late due to long distances they have to travel (Williams, 1995). Consequently, the health education component, the identified area of interest of the researcher, also suffers.

The Department of Education and Culture has planned to incorporate the school health services under it. It has provided proposals of the structure and functions of Specialist Services of which school health services are part, under a Sub-Directorate of Para-Educational Services. Other professionals forming the speech; language and hearing), School Social Workers and Psychologists.

The mission statement of the Department of Education and Culture in the Eastern Cape Province on Specialists Services is as follows: "To render a quality, equitable, accessible para-educational service to the school population within the framework of a multi-disciplinary team consisting of: School Health Nurses, Therapists and School Social Workers and those functionaries" (Department of Education and Culture, 1994:1).

The proposed outline for Para-educational Services' intervention include among other duties screening of school children on regular basis by the members of the multi-disciplinary team referred to above. The duties of the school nurse in particular are outlined and the nurse should visit the schools once a year and make follow-up visits 3 to 6 months thereafter. She is also expected to give health education on a variety of subjects and do home visits "to inform parents/guardians about problems, give advice, obtain information assess home and school environment" (p.3) She should also be involved in the school nutritional scheme.

The Department of education and Culture has also highlighted problems that may be encountered in rendering the proposed service such as the present fragmentation as these services are currently offered by different departments such as Health, Welfare and Education; poorly serviced rural areas, poor transport facilities and shortages of material and human resources.

The proposal include setting up "an office, which can serve as a central point of departure from where Para-Educational Services are coordinated, should be established at District level. This will be known as the Educational Support Centre." (p.3)

Other issues include availing transport to facilitate staff movement and appointment of administrative staff at district level 'to free professionals from the administrative duties that are time-consuming'.

The educational authorities conclude their explanation of Para-Educational Services by stating that if these services would operate "from a Specialist Service Centre at District level they would be the most effective way to render a comprehensive and multidisciplinary service to all school-going children, their parents and the community at large" (p.9). This could be centred at the District

Hospital. They further point out that school children make a large percentage of the population in the Eastern Cape Province as education is compulsory and , therefore, children are a captive audience.

2.3 COMMON HEALTH PROBLEMS AFFECTING SCHOOL CHILDREN

Common conditions affecting school children in most countries seem to be more or less the same though there seems to have been a change with time. It has been noted, for example, in the brief historical background in 2.2 that when the school health services were initiated in the nineteenth century the major problems were mainly infectious skin conditions due to poor hygienic conditions, namely, scabies, ringworm and impetigo as well as eye and ear infections. The problems recurred during the 20th century as Rogers (in Hawkins, Hayes, Corliss, 1993:46) found that common conditions in New York were "pediculosis, ringworm, scabies, inflamed eyes, discharging ears and infected wounds."

In South Africa, Searle, Brink & Grobbelaar (1989) found more or less the above conditions forming the basis of school health problems, namely the infectious skin conditions. In addition there was malnutrition, vision and hearing problems and minor ailments. As it has already been indicated that with time there has been additional problems. This review will focus on the studies conducted within the past five years.

Mooka (1993) conducted a study on school health programmes and their influence on the health of students in Botswana, gave a comprehensive summary of school health problems as follows:-

- (i) malnutrition
- (ii) alcohol use
- (iii) smoking
- (iv) personal and social development, for example behaviour problems,

- physical fitness, vision and hearing problems
- (v) sexual awareness, for example, adolescents' contraception, pregnancy and aids related conditions
 - (vi) drug and solvent use/abuse

On the other hand, in South Africa, the first workshop on Health Promoting Schools (HPS) held in October 1997 focused on the following problems: violence prevention, and helminthic control as an entry point to schools according to the World Health Organization (WHO). Other problems, however, were also discussed. Of the problems affecting school children only a few will be discussed in this study. The problems are not discussed in order of priority.

2.3.1 Injuries

Injuries among school children have emerged as a major health problem worldwide. In Ghana, Gyebu-Ofosu (1994) cites that injuries have become a recognised health problem and the eighth killer disease in Ghana. Moleleki (1997) reported for health link users in August 1997 that "childhood accidents is a major health problem in South Africa. Thousands of children in South Africa die under the age of 15 years of unnatural causes ..." The injuries listed were road accidents, drowning, burns, poisoning, falls, choking and suffocation. The report further mentioned that many children either died or remained permanently physically disabled.

2.3.2 Helminth Infection

Helminth (parasite) infections were also seen as "one of the leading causes of diseases among young people and adults in the world today" (WHO, 1997:1). The WHO series state that the highest rate of roundworms is found in the 5-9 years age group while the 10-14 years age group has the highest rate of whipworm infestation. WHO recommends that schools be used to reach the large portions of the population to prevent and reduce infections and re-

infections.

2.3.3 Violence

Violence is a world wide problem including South Africa. The rate of violence in South Africa is seen to be escalating. Soul City (1997:2) cited that "violence has become a part of everyday life in South Africa. It is often the poorest people who have to live with the most violence". Although there are many forms of violence the four forms mentioned, namely, physical, sexual, emotional violence and violence to property are the main ones. Gangsterism has hit schools very hard particularly in urban areas and some schools have been disrupted and violent deaths have also occurred (Mokate, 1997). Studies in some countries have been conducted in order to combat violence in schools. Some researchers cite that violence in schools can best be prevented by introducing violence prevention programmes, while others consider violence prevention to be an important component of a health promoting school (Farrell & Meyer, 1979; Mokate, 1997).

2.3.4 Poor Physical Growth and Development and Poor Nutrition

Physical growth and development of children is an essential indicator of health which is monitored from birth upwards. Although children's development is continuous, individual differences are also found. There may be a delay in milestones which, if it persists, may indicate many conditions, one of which may be mental retardation. Poor physical growth may be due to malnutrition (undernourishment) which is common in the developing countries. Corlet (in Mooka, 1993) conducted a study among 289 scholars aged 6-11 years in Gaberone primary schools in Botswana. The aim of the study was to determine minimum muscular fitness on urban Botswana children. The results showed that children failed one or more test items mainly those on abdominal strength and hamstring flexibility. Mooka also cited that protein energy malnutrition (PEM) was found to be three times as common in under fives as in school age children.

The low prevalence of PEM among the school age group was associated with the existence of the school feeding scheme.

2.3.5 Substance Use/Abuse

Substance use/abuse refers to tobacco, drugs and alcohol. One study conducted by Challener (in Mooka, 1993:102) looked into smoking, alcohol and drug use among students. The aim was to find out if the health education programme was effective. Twenty percent of students reported that the health education was not appropriate. The programme did not focus on what scholars perceived as the present consequences of substance use and abuse but rather on possible resultant harm. Substance abuse also includes sniffing of other substances such as glue, petrol and benzine (Researcher's experience).

2.3.6 Sexually Transmitted Diseases (STDs)

Sexually transmitted diseases including AIDS, though worth mentioning are not a very common condition among the group under study (12-16 years) staying in the rural areas though pupils begin to be sexually active during this period except in rare cases of children who have been sexually abused (researcher's opinion). However, the problem differs from place to place.

2.3.7 Mental Health Problems

Mental disorders among school children have been found to be common, as this aspect has been neglected earlier on. This was partly due to the fact that most school nurses in South Africa were trained as community health nurses but not as psychiatric nurses. Giel, Harding, Ten Horn, Ladrado-Ignacio, Srinivasa Murthy, Sirag, Suleiman and Wig (1988) found that mental health care was universally lacking in primary care, particularly in developing countries where it is usually rendered simply by trained community health workers who concentrated on prevalent conditions such as malnutrition and infections.

In a study conducted in Ethiopia, prevalence rates of mental disorders were 3 to

4% among children under 9 years and 6 to 10% among those of 10 to 19 years. In Sudan, a community study involving 1 716 children aged 3 to 15 years was also conducted. The results revealed that 63% appeared to be mentally healthy while about 37% showed symptoms ranging between 8% for mild symptoms, 20% for moderate and 8% for pronounced symptoms (Giel, Arango, Climent, Harding, Ladrido-Ignacio, Srinivasa Murthy, Salazar, Wig and Younis, 1981).

The researchers also reported on studies conducted on childhood mental disorders in primary health care in four areas, namely Union de Vivienda Popular in Columbia, Raipur Rani in India, Shagar Jebel Awlia in Sudan and Sampaloc in the Philippines. The studies revealed that the prevalence rates increased with age. It was found to be 5% among children of 3 to 6 years of age and 10% among the 7 to 15 year age group. Further, 80% to 90% of childhood mental disorders are "consistently missed at the primary health care level in the communities studied" (Giel, de Arango, Climent, et al, 1981:683).

The researchers, therefore, concluded that the results of the study were significant for the effective functioning of primary health workers in the provision of child health care in particular. In South Africa, Subedar (1994) found that depression and anxiety are common psychiatric disorders generally and cites that her findings were consistent with similar studies conducted in other countries. Therefore, studies undertaken on mental health among children reveal a dire need that school health services should pay attention to the mental health of school children. In summary common health problems in South Africa according to literature reviewed are injuries, helminth infection, violence, poor physical growth and development, poor nutrition, substance use/abuse, STDs and mental health problems.

2.4 CHILDREN IN NEED OF HEALTH SERVICES

2.4.1 The Early Childhood Educare (ECE)

Although this study is on school health services, that is, focusing on children of 6 years of age up to as long as that child is at the primary school, Silver (in Joubert, 1987) cites that school health services cannot be considered in a vacuum, as they must be seen as part of the care of the child. It is in this light that the educare movement is referred to in this study as it forms the precursor to school health services.

Internationally, the concept Early Childhood Care and Development (ECDD) is used "to describe the process by which children grow and thrive physically, mentally and socially" (ANC (b), 1994:91). In South Africa, it is called the Early Childhood Educare (ECE). It deals with the care of children from birth up to 6 years and sometimes extends up to 9 years of age. Hence, pre-school programmes fall under ECE programme, as, according to the draft on Policy Framework for Education and Training in South Africa, "The care and development of infants and young children must be the foundation of our new society and the starting point for our human resources development strategy" (ANC (b), 1994:11).

In 1994, it was recorded that there were 6,5 million infants and children under the age of 6 years who were under the ECE, which is about 17% of the total population. Of this number, about 5,5 million were Africans and it was also observed that more than half of these children showed signs of poor nutrition. They also lacked resistance to a variety of childhood illnesses which led to premature deaths. On the other hand, although these ECE services were greatly in demand, they were found to be "grossly inadequate, fragmented, uncoordinated, unequal and generally lacking in educational value" (ANC (b), 1994:11).

School health services, therefore, inherit the problems of children who failed to get adequate care during their pre-school years. Jinabhai and Khumalo (1994) observed that children of 2 years of age up to school entry, that is, pre-school children, had limited access to health services. Jinabhai and Khumalo conducted a study and one of its objectives was to describe the health component of the educare training organisations. They recommended that educare centres in South Africa "should be linked to the District Health System (DHS) The DHS offers a framework for building partnerships between workers in the educare centres, PHC centres and schools, between local governments and the NGO's in the educare, health and welfare sectors" (Jinabhai & Khumalo, 1994:13). They also reported that the Community Health Worker or Primary Health Care Nurse could contribute by (among other duties):-

- "(a) training educare teachers in child health monitoring ...
 - (b) provide periodic health visits to educare centres
 - (c) stimulate parental involvement in the health of pre-school children"
- (Jinabhai and Khumalo, 1994:13)."

Jinabhai and Khumalo also recommended that outreach programmes by Community Health Workers and Community Health/Primary Health Care Nurses should be established in local clinics or local authority health departments. They also believed that the Department of Early Childhood Educare could function well under the Ministry of Health and Welfare by facilitating services of the pre-schools.

Yates (1994) pointed to yet another important aspect of ECE, which is early intervention for pre-school children with handicaps. In the United States of America (USA) at the end of 1990, there were more than 6 million children with special needs due to various forms of handicaps. These handicapped children's needs demanded the nurses' intervention.

In South Africa children's health is, indeed, a priority as Dr Zuma, the Minister of Health and Welfare stated in her first publicized interview in 1994 "I feel very strongly that child health is very critical, especially from conception to around 5 years old" (Christianson, Gericke, Venter & Du Toit, 1995:6). Hence, according to the National Health Plan (1994), provision of free health services to children under 6 years of age is among principal health priorities (Maternal and Child Health). Though this programme is being implemented, it had its own teething problems.

2.4.2 The Not-In-School Children

Although school health services focus on school children, there is a concern for children who are not-in-school. In some countries only school-going children benefit from the school health services while other communities believe that all children should be consumers irrespective of whether they are in or out of schools. It may be that this aspect also depends on whether the service is based at school or in the community.

Nakajima (1992/3) explained that although there are about 1 000 million children and adolescents in the world today, hundreds of millions are not attending school. The statement emphasizes that the majority of children of school-going age who are supposed to be benefiting from the school health service are not in school, hence, the services provide for only a small fraction of the target population. Dhillon and Philip (1992/3:23) cite that in 1985, according to the UNESCO estimates, "105 million school-age children (aged 6-11 years) did not receive formal education. Of the number 70% were in the least developed countries and 60% of these were girls". The fear is that, should the trend be allowed to continue, the number will almost double up by the year 2000 to approximately 200 million.

In South Africa the education system also failed to provide and enforce compulsory primary education. As a result there are many children who do not attend school and many of them are street children (Researcher's opinion).

2.4.3 The Children as Consumers of the School Health Service

The acceptance of the necessity of school health services is based on the following set of facts as revealed by the literature reviewed:-

- * All countries value child health
- * Early Childhood Educare is a foundation of school health services yet they were found to be inefficient and inadequate leading to many disabled school children.
- * There are immense physical and psycho-social conditions among school children.
- * Prevalence rates of childhood mental disorders are rife among the 7 to 15 year age group.
- * Therefore school health services become one of the priority components of the health care delivery system of any country.

This is especially true since every individual has the right to health and health care, and children are no exception. One of the means of obtaining their rights to health care is through school health services. They are at school for most hours during the day and some of their problems are related to their learning experiences. Therefore, there is a demand for school health services in any society.

To support the findings stated above, Jones and Clark (1993) conducted a study in a large metropolitan school district in South Western America to find out the functions of 12 school nurses pertaining to their utilisation and student time lost from school using health problems categories. The results showed, among other issues that, of the 23 262 schools' enrolment, 2 300 visited the nurses' offices

during a period of one week. 68% of the 2 300 visits were done by elementary school children, 12% were from middle school and 20% were from high school. It was also noted that the median age for the elementary school children was 8 years, 13 years for middle age school and 16 years for high school. The results showed that primary school children demanded more health care from the school nurses followed by the high school ones.

Van der Vynckt (1992/93) also reported that primary school children in the Third World are at greatest risk of mortality and morbidity due to malaria, malnutrition, respiratory infections and diarrhoeal diseases.

In conclusion, though school health services focus on children of 6 years to high or even tertiary education age, primary school children place more demand on the service. Services should not only cover in-school children but even those who are not-in-school in order to reduce morbidity and mortality although such attempts may not always be possible.

2.5 SCHOOL HEALTH SERVICES IN THE 1990'S

The 1990's are perceived by the international world as the period of "reform" in the delivery of health care. The Nursing's Agenda for Health Care Reform (in Hawkins, Hayes and Corliss, 1994:423) stated that "the corner-stone of the nursing's plan for reform is the delivery of primary health care services to households and individuals in convenient, familiar places." School health services, therefore, have to change with time so as to keep up with the changing health care delivery system.

There are many models of school health services that correspond with all forms of health services. These include "school-based centres, school-based clinics, family health centres, paediatric extension clinics, integrated services and comprehensive school programmes" (Passarelli, 1993:4) It has been cited by

Terwilliger (1994:284) that "school-based centres and school-linked health services represent a relatively new model of health care." Some models of school health services, will be discussed in the following sub-sections.

2.5.1 School-Based Health Care Centres (SBHCs)

The American Academy Task Force (1993-1994) on "Integrated school Health Services" explains that SBHC refers to services delivered within the school premises. The centre for Population Options in America compiled the analysis of school-based and school-linked health care services bi-annually, hence, in 1992, the services of school-based and school-linked health clinics in Puerto Rico and Guam were compared, where 510 health centres functioned. Of the number, 415 were school-based centres while 95 were school-linked. It was found that most school-based centres (75%) served only one school population, mainly high schools (51%) while the rest served a combination of all types of schools, that is, senior, middle, junior and elementary schools. These centres could not offer services to children who were out-of-school. They also had limited access to students as nurses could not be available after hours, at night, during weekends and even during holidays as schools were closed. School-based centres provided more outreach services in their school programmes and they were also found to have had more classroom activities with their students compared to school linked health care centres. SBHCs were located mainly in urban areas serving mainly adolescents.

Terwilliger (1994) conducted a case study on a rural school-based health centre in Towanda Area School District, assessing four criteria of accessibility, namely availability, affordability, community-based and cultural acceptability. The research found that "all essential services were available except for dispensing medication and on-site treatment for children who were sexually abused" (p. 287). However, SBHC opened from 08h30 to 17h00 for 5 days a week and 17h00 to 20h00 for one day a week for sick child and well-child visits. Among

the activities undertaken was giving classroom health education to various scholars and parents were also invited to attend health talks on a monthly basis during evenings. A social worker was also involved in the provision of health services (Yates, 1994).

Communication between SBHC staff and the teaching personnel was good while the social worker and the school counselling staff, other members of the health and teaching staff met regularly and as needed. The SBHC was also affordable as 49% of the children got free or reduced breakfast and lunch, 39% and 14% were covered through medical and managed care programmes respectively, while 4% were not covered for preventive health services except for immunisations. Of the 98% of students who enrolled with SBHC, 88% received well-child examinations which indicated cultural acceptability that parents willingly brought children who are well to the clinics. Therefore, Terwilliger concluded that the SBHC was accessible to children and their families as far as availability, affordability and cultural acceptability was concerned and was also community-based. It is not clear, though, why the researcher says it was available to families as well because, much as parental involvement was promoted and parents participated in the programme, they were not consumers of the programme as they were only invited for health talks.

2.5.2 The School-linked Health Care Centres (SLHCs)

The American Academy Task Force (1993-94) on "Integrated school Health Services" explain that SLHC refers to services delivered out of school. This model is seen as the preferred approach because services are community-based and community-oriented. The centre for Population Options in America found that school-linked health centres had to plan accessibility to students all the time and were also able to accommodate the drop-outs, the suspended and students who were truants. Although the school-linked centres were located out of the school grounds, 67% of them were within walking distance of one or more

schools. Each served, on the average, about 6 schools. The SLHC had more staff available to attend to psycho-social needs of students compared to school-based centres. They also served a larger number of consumers. However, of the numbers served, very few were their target population. They enrolled about 22% of the students and 85% of them used the clinic compared to the 98% enrolment mentioned for SBHC by Terwilliger. Students who were to be seen in the SLHC were only referrals from the schools served. Services also provided for the siblings and children of students.

Gender and ethnicity were also problematic issues, as more females enrolled in SLHC and Hispanics used it far less compared to Whites. Counselling on substance abuse and other problems were found in many of the SHLCs. Reproductive health care was given more often in these centres compared to SBHCs.

Common features between the SBHCs and SLHCs have also been described. Yates (1994), for example, found that the financial status of both was unstable, because SLHCs were funded by non-profit agencies and community-based organisations. They both had physicians in almost 80% of the clinics who often worked on a part-time basis. They also had social workers in more than half of the clinics. Mixed health care services were offered including primary health care in general, diagnostic, laboratory and treatment services as well as referrals to their agencies.

The National Health Care Policy Forum (in Passarelli, 1993) posed the following questions which could be asked about any model of school health care: "Should they become the primary models of delivery of health care in schools? Will SBHC replace the need for additional school nurses? If not, what role will be carved out for school nurses and SBHCs in the provision of school health services?" The last questions can be asked using school-linked health

clinics instead of the school-based ones. However, Yates believes that the success of both school-based and school-linked centres lies in the "dynamic partnership between the community and the school" (1994:12).

2.5.3 Family Health Centres

According to Igoe (1995), many children in America live in poverty without adequate insurance coverage which led to little or no access to health care. As a result their health was threatened. The American Nurses Association found an alternative to the failing system by introducing the plan, "Expanding school Health Services to Serve Families in the 21st Century". The plan recommended that school health services should be extended into family health centres run by the nurses who render primary care in the communities (Igoe & Giordano in Igoe, 1993). The proposed new approach to health care delivery described family health centres as community oriented and suggested that the society should share responsibility in providing health care needs of the families. In this approach the site for primary health care delivery is located either in a school or school linked family health settings. "Through school-based or school-linked family health care centre, the ownership of information and technology of health care would be restored to the consumer, and the balance of the power in professional/consumer relationship would be tipped away from health care professional to those who have most at stake" (Igoe, 1993:68).

The advantage of family centres is the focus on well-oriented care. In Family Health Centres, the traditional role of the school nurse is expanded to include adult care, for example, the elderly are screened for chronic illnesses while parents, teachers and staff have access to diagnostic procedures such as mammography and pap smears. Igoe believes that family health centres create "a unified, consolidated, and cost-effective services ... easily accessible and consumer friendly ... also recognise the importance of the family as the primary social unit" (1993:68).

In Umlazi township situated in Durban, Bhekimpilo Trust Project is an example of a school-based family health centre which is run by a non-governmental organisation. "Bhekimpilo units are small, low cost buildings erected in the grounds of primary school areas, which offer free preventive and promotive health services to the communities within a walking distance... provided by a Neighbourhood Health Team" (Standing, 1990). The project was started in 1990. Its aim is to improve the health status of the residents of the informal areas around Durban. Statistical data of the centre showed a rapid increase in the number of clients treated by the neighbourhood teams among all age groups. Some information about the project are listed in the table below:-

TABLE 2.1 CLIENTS TREATED BETWEEN 1992-1994 AT BHEKIMPILO

CLIENTS TREATED	1992-93	1993-94
Immunizations	27 958	34 155
Well baby attenders	15 737	17 840
Family Planning	10 551	16 031
STDs	1 329	2 645
School clubs, groups	17 573	54 123
Preschoolers in care	2 999	3 214
School children	5 495	7 711
Total	81 642	128 008

By 1996, there were 11 units running (5 in the North and 6 in the South). Due to the demand in the services, a Health Education Team was introduced for all the units and a motivation for the second one was done in 1996. Kathide (1995) believed that the described primary health care service was appropriate, acceptable, affordable and accessible.

2.5.4 Integrated School Health Services

According to the Task Force on Integrated School Services (1994:400) Integrated School Health Services refer to "community based approach to identify the needs and resources in the educational, health care and social services areas and to develop a delivery system that may more effectively and efficiently meet these needs." The Task Force developed the approach because they found that morbidity and mortality among school age children and adolescents was high due to their complex, behavioural patterns and psychosocial risk factors. As a result, the American Academy of Paediatrics (AAP) selected the task force to work on integrated school health services.

The AAP suggested that every child should have a "medical home". This home was supposed to "provide health supervision and medical care that was continuous, comprehensive, family centred, culturally sensitive, compassionate, co-ordinated and provided by a paediatrician or the physician well trained in child and adolescent health" (1994:400). They also recommended a multidisciplinary approach whereby paediatricians, school nurses, community representatives and other health care providers, teachers and social workers would use collaborative efforts to plan and organise the services. The AAP proposed that the services may either be school-based or school linked. They emphasized the need for a comprehensive community needs assessment before the programme is planned.

De Graw (1994) also cited that "systems change" approach to prevention be applied towards the school-age population services. He affirmed the need for the service integration model. This model involves the enhancement of access to a variety of services at school such as social, mental health, recreational and vocational services. Such a service, therefore, should be community-based, student-focused and needs-driven. The service should be culturally sensitive culturally and use a comprehensive approach to health care with emphasis on

health education, and should be prevention orientated, flexible and programme accountable (De Graw, 1994).

Integrated school health services seem not to be a model on its own as stated by Passarelli (1993) but should be incorporated in any of the basic two models namely, SBHCs, and SLHCs. Comprehensive, integrated services whether school-based or school-linked seem to be the ideal to the school nurses who are usually frustrated because they are not satisfied with the services they have been offering. Hence, Yates (1994) believes that comprehensive, integrated school health services may provide satisfaction to the current provision of school services. The comprehensive nature of the services may be beneficial to the student and the families.

2.5.5 COMPREHENSIVE SCHOOL HEALTH EDUCATION

As the reform in the health care delivery system is focusing on a comprehensive and integrated approach, comprehensive school health education is an essential component of school nursing.

Hugh (1995:1) cites that though health education is the most important component of school health promotion, it is usually misinterpreted and neglected. The researcher further elaborates that most approaches define health education in a narrow sense or from the old concept as "the classroom based delivery of 'health factors'...". Hawes (1995:8) supports the above misconception and further defines the comprehensive view of health education as an 'area of experience' in the curriculum which has objectives, content and methodology, which is planned, coordinated, monitored and evaluated but which is not equitable merely with a series of classroom periods. Hugh reinforces that for the success of school health promotion, there should be a cooperative working partnership among all involved.

In November 1991, the WHO, UNICEF and the United Nations' Educational, Scientific and Cultural Organisation (UNESCO) convened a conference in Geneva, Switzerland involving 25 experts from 16 nations to discuss issues on the implementation of a comprehensive School Health Education/Promotion Programmes in their countries.

WHO/UNESCO/UNICEF (1992/3:10) describe such a programme as one which is holistic including a "broad spectrum of activities that take place within and out of schools in their surrounding communities ... designed to enable children and youth to enhance their health, and to develop their fullest potential by achieving health as well as by acquiring education".

Some countries reported to have embarked on implementing comprehensive health education programmes particularly the developing countries. Some examples given were those of the ministries of Asia and Pacific where ministries of Education and Health revised the curricula for different age groups. Other countries who were also involved were India, Indonesia, Malaysia, Papua New Guinea, Philippines, Sri Lanka and Thailand. Reports of progress from various European countries, Scotland, United States of America, England, Kenya and Namibia were also discussed. Of these countries, Namibia which had regained its democracy in 1990, reported very little progress compared to other countries as its services were, prior to 1990, based on apartheid policies. Namibia's school health services were rendered on racial grounds under the eleven ethnic administrations. These only paid attention to the school beginners and the school-leavers (Grade 1 and 6) and very little attention was paid to health education.

The National Centre for Health Education (NCHE), which is the USA's leading private organisation focusing solely on comprehensive health education, also developed a comprehensive curriculum on health education which is school-

based, called Growing Healthy, in 9 000 elementary schools in 42 states. Schall (1994:32) states that the school-based health education " must develop three factors: information, motivation and skills." It becomes apparent, therefore, that comprehensive health education should be a basic essential component of any model of a school health service.

South Africa was not represented in the 1991 Geneva Convention on comprehensive school health education because it was not a member state of the WHO due to its then apartheid policies. Its school health services differed slightly from those reported in Namibia as they were also fragmented in that they were provided by about 14 health authorities. The services lacked uniformity and equal distribution of health care among racial groups until 27 April 1994.

2.5.6 Health promotion and health education

The concepts health promotion and health education have been defined in chapter 1 and there is confusion among authors in differentiating between the two. Simnett and Ewles (1995:21) utter that there has been a debate on the use of the two concepts since the mid 1980s. Dennil, King & Swanepoel (1991) supports the notion and further state that health promotion built on health education in the 1960s, was conceived in the 1970s and matured in the 1990s.

Traditional health education is criticized that it is too narrow and focused as it deals with the individuals lifestyles and leads to 'victim blaming'. health promotion is seen as focusing on the entire life of an individual with the total population. Health promotion is also described as "a reform movement that advocates a shift of priorities and resources to align with a broader way of thinking about health and advocating new and broader social interventions" (Swanepoel in Dennill et al, 1995: 77).

The WHO, however distinguishes between the two terms stating that health education

is an intergral part of health promotion and prevention. Dennis (in Naidoo & Willis, 1996:77) also states that the two terms are not interchangeable. Health promotion covers all the aspects that seeks to improve the health status of individuals and communities and includes health education. Therefore, health promotion is positive health oriented-as it emphasizes wellness while health education, in most instances focuses on the ill, injured and disabled and is negative health oriented.

The different approaches used in health promotion are also applicable to health education namely, the medical or preventive approach behaviour change, educational, empowerment and social change approaches. The empowerment and social change approaches. The empowement approach helps the people to exercise their rights in identifying their needs, gain skills in making choices and in achieving the set goals (Dennill et al, 1999; Naidoo & Willis, 1996).

It is in the light of the above notions that the school children in this study were given the opportunity to identify their own needs (according to the consumer approach) upon which their health education could be based. Health education is seen as a tool for health promotion and it advocates " ongoing assessment of clients' attitudes, knowledge and skills because it occurs over a period of time" (Rankin & Stalling in Dennill et al: 1999).

2.5.7 The health promoting schools

A health promoting school (HPS) is a school, which does not only focus on the curriculum of school children but also includes health education. It considers means of conveying health messages to children by making use of their daily experiences, hence schools have "hidden curricula." The school focuses on health behaviours of the learners so that it enhances a health promoting environment and perceives the school as part of the wider community (Naidoo & Willis, 1996). Naidoo & Willis further illustrate that a health promoting

school should have the following six aspects: ethos, for example, positive attitudes to diversity; community links such as access for parents, visitors and guests; an environment with healthy catering, clean toilets and a playground layout and management; a curriculum with coordination and active learning methods; care and support with inservice education and training opportunities and relationships for all the stakeholders.

On the other hand, Dines & Cribb (1993) describe a health promoting school as the one that perceives health on a wider perspective basing a commitment health and perceives an interaction between the physical, mental and environmental aspects with teaching, health care and all other activities taking place in a school setting. Dines and Cribb put an emphasis on the fact that in a health promoting school pupils should be encouraged to participate actively in health promoting projects in a holistic manner. Such schools should aim at encouraging children to develop their potentials in exploring the cultural values, attitudes and beliefs and the skills to enhance their health.

The concept of health promoting schools in South Africa is new as it has just been introduced recently by the new government from 1994. In an introductory speech to the launch of health promoting schools in South Africa held in Cape Town in October 1997, the Director General, Dr Shisana, clearly motivated the need for such schools due to the following: a growing population of young people in South Africa, the consequence of such on the health indicators with particular reference to the escalating rate of HIV positive pregnant women, injury from violence and death due to smoking-related diseases. Shisana (1997:3) defines a health promoting school as a "a place where all members of the school community work together to provide students with integrated and positive experiences and structures which promote and protect their health".

In the description of the concept, the authors put emphasis on the needs of the school children, their experiences and involvement of both teachers, learners and the families and the wider community (Dines & Cribb, 1993; Naidoo & Willis, 1994; Shisana, 1997). The overall goal is prevention of absenteeism and promotion of attendance of children at schools with resultant productivity on school and enhancement and maintenance of health. Such a school, therefore, boosts the morale of the learners and staff members as the environment conducive to teaching-learning is acquired and maintained.

2.6 NEEDS ASSESSMENT FOR HEALTH PROMOTION ✓

2.6.1 The concept 'need'

The concept 'need' has been described in chapter 1, according to Naidoo and Willis (1996) as something which individuals can benefit from and that a need is different from demand and supply which are what people ask for and are provided with, respectively. Ward (1987) cites the views of various authors who argue that there are many interpretations to the concept as it has a wide variety of uses to such an extent that the concept itself creates confusion among people. However, four types of needs will be discussed in this chapter as used by Coutts and Hardy (1991), Ewles and Simnett (1995) and Naidoo and Willis (1996).

2.6.1.1 *Normative needs*

Normative needs are needs that have been identified within any setting such as the community or organisation by the professionals or experts. The professionals usually judge something to be a need in relation to the services the professionals are capable of rendering. These may sometimes not be objective facts as they are based on the required standards of professionals. Normative needs present two problems that make them unreliable. Firstly they are based on the opinions of the professionals, yet the opinions of professionals may differ depending on the services they are capable of providing. Secondly,

the accepted standards and values of the professionals may differ from those of the clients.

2.6.1.2 *Felt needs*

Felt needs, as opposed to normative needs, are subjective needs identified by clients themselves. Armstrong (in Naidoo and Willis, 1996) describe felt needs as needs coming from "within" clients and not from "without" and thus refer to them as "perceived needs". Felt needs present problems, too, in that clients may not be aware of what their needs are unless they have been made aware of what services are available. However, felt needs are the most accepted in the health services today because the "top-down" approach is being discouraged.

2.6.1.3 *Expressed needs*

Expressed needs are felt needs which are communicated by clients to the professionals either in words or actions. Unfortunately clients may not always express their needs due to lack of motivation or assertiveness (Ewles and Simnett, 1995). As clients differ, only the expressed needs of those who are powerful can be heard and attended to. In practice, expressed needs of clients and normative needs of experts may be contradictory (Researcher's experience).

2.6.1.4 *Comparative needs*

The comparative needs arise when groups of people usually with the same background are compared. Some groups may be in need of service while others may not. The comparative needs may be identified among localities or even districts.

The above definitions on needs assessment leads to the question of: who decides whether something is a need to a particular setting, community or organisation or not and therefore, whose views should be taken? The trend is that a balance should be struck between consumers' and providers' needs taking into

consideration a number of aspects such as the number of people in need of a particular service, their age group, occupation, the extent of the risk, and other concerns. While the consumers' needs should be put first, a partnership approach between consumers and providers is essential because clients contribute the expressed needs while providers bring in their expertise. Usually, in real practice, this question brings a lot of argument from both consumers and professionals (Coutts & Hardy, 1991; Naidoo & Willis, 1996).

Ward (1987) enlists a number of issues that may determine how needs assessment may be determined, for example, the purposes, the target population and resources to undertake the process which include the costs, personnel and the time available. The major problem is the cost, though other additional problems concern the validity and reliability of the methods used and political issues influencing it.

Ewles and Simnett (1995) advise that for needs assessment to be approached systematically the researcher needs to ask questions, three of which are the following - what the needs are, who decided on them and on what grounds?

2.6.2 Purposes of need assessment *

Ward (1987:43) describes four purposes of needs assessment derived from various authors as, to:

- "(1) insure that an education intervention is an appropriate approach;
- (2) determine the nature, extent and priority of educational needs;
- (3) provide a rational basis for decisions; and
- (4) develop continuing education projects that address the identified needs thereby increasing the likelihood that the project will be successful".

In addition, Naidoo and Willis (1996) describe the other two purposes as means of targeting the risk groups and allocation of resources. Targeting of risk

groups is said to be done by the health professionals because some illnesses which are common among certain segments of the population may be unknown to others. Thus, health professionals identify comparative needs while the clients may not even be aware of. In resource allocation, the purpose of needs assessment is based on the fact that resources are scarce, therefore, although needs should be identified, prioritization may be essential.

Kunstel (in Green, Kreuter, Deeds and Partridge, 1980) offers another reason for assessing community needs in school health programmes stating that if a controversial topic has to be included, parents may become more supportive if they were consulted. Lorig and Gonzalez (1992:35) cite that good programme planning forms a basis for needs assessment which is a guiding principle of health education.

2.6.3 Guidelines in needs assessment

Needs assessment has been found to be a process that is not only complex but also difficult as expressed by some researchers (Ewles & Simnett, 1995; Naidoo & Willis, 1996), hence a challenge to all health workers. The former researchers describe key areas which assist in needs assessment as the scope of work of the health workers, reactivity versus proactivity, adopting a marketing approach and putting users needs first. The first three will be discussed in this work as the last one has already been referred to.

2.6.3.1 *The Work Scope*

The nature of work performed by the health workers in their different jobs orientates them to their clients' needs. The identified needs then vary from one situation to the other.

2.6.3.2 *Reactivity and Proactivity*

The professionals should be both be reactive and proactive in dealing with

clients' needs. The former refers to the response of the professionals as demanded by clients, while the latter means that the professional may take initiative and may even refuse to follow the demands of the clients particularly if they clash with existing policies. Ewles and Simnett (1995) claim that a balance should be struck between the two.

2.6.3.3 Adopting a marketing approach

Wilsmer (in Ewles and Simnett, 1995:79) cites that marketing in the context of health promotion, is the management skill of identifying opportunities for satisfying consumers'/clients' requirements and by so doing maximize the protection and/or improvement of their health. A number of authors seem to favour the marketing approach in health promotion. Ward (1987) explains that a PRECEDE model can be used when applying the marketing approach to health education as phases 3-6 of the model are particularly relevant. The researcher found the approach to be "a tool to strengthen the conceptual and methodological aspects of health education planning" (p.106). The approach has also been found to make services to be 'user-friendly'. The emphasis in this approach is that needs assessment should lead to efficient client satisfaction so that maximum health output may be achieved.

In conclusion the concept 'need' is a relative one because what may be seen as a need by one client or professional may not to be seen as need by others. Peoples' values and attitudes determine what their needs are. Naidoo & Willis, (1996:206) conclude from discussions of various researchers that "the essential nature of profession is its possession and authority to determine what people need". Ewles and Simnett (1995:77), on the other hand, cite that "Need, like beauty, is in the eye of the beholder."

2.6.4 Approaches to needs assessment

In this section the approaches to needs assessment were classified according to

whose views were assessed. However, the views of the individuals, public and professionals are always sought. The main objective is that the population should be well represented including minority groups (Naidoo & Willis, 1996).

2.6.4.1 The consumer approach

The consumer approach puts emphasis on the fact that clients know best what is good for them. Some researchers refer to this approach as the client-centred approach. Although it has been mentioned that there may be conflict between users' and providers' needs, the users' needs come first. Ewles & Simnett (1995) describe two trends that put emphasis on putting users needs first, the customer movement which began to grow in the 1960s and the influence of the marketing approach from the 1980s. Naidoo and Willis (1996) argue that nursing is being criticised for being rigid and routine oriented because instead of health workers doing things with consumers, things are done for consumers.

Some authors advocate working in consultation with clients which is also criticised that it renders people as passive not active participants in health care (Naidoo & Willis, 1996). Ewles and Simnett see the role of a health worker in the client-centred approach as that of a facilitator assisting the consumers to identify their own problems and acquire skills to bring about change.

Obtaining views of consumers

The views of consumers as individuals or as members of the public may be obtained through a variety of strategies thus making felt needs to become expressed needs. Such views may be obtained informally and/or formally. However, although informal methods give valuable information, two main disadvantages have been acknowledged, namely, inaccuracy of information and underrepresentativeness of the sample (Ewles & Simnett, 1995).

The formal methods are the most preferred provided the method has been well planned taking into consideration the purpose, target population, objectives and available resources. Methods used include both small, local and large scale surveys using a number of techniques such as questionnaires and interviews which may or may not be in depth on a one-to-one or group basis. Groups may give information in community or key informant forums and in focus groups interviews (Naidoo & Willis, 1996).

Any age group may be targeted. In most cases adults usually participate in needs assessment not only for their own health but for the health of their children (Morse, 1991). Since this study addressed school health promotion, the consumer approach considered the views of all stakeholders, namely, teachers and mothers as community members. In particular, the views of children were also sought.

The child-to-child approach

The child-to-child approach is an example of a consumer approach in a school health setting. Hansbury (1995), when giving a brief historical background of the approach, explains that it emerged as a response to the Alma Ata PHC Conference held in Geneva in 1977, and was launched in the University of London in 1978 in preparation for the International Year of the Child in 1979. In this approach children participate actively in needs assessment of local health problems and in rendering health education through giving health messages to the peers, siblings, parents and the community at large. Although it was initiated and adopted in the developing countries, it is now applied internationally in more than 70 countries (Tones and Tilford, 1994).

After children have identified health problems, they participate in choosing priority health topics that may be included in the programme, thus participating in developing health plans, implementation and evaluation of such plans.

Although child-to-child approach has been mentioned in this section, the emphasis here is on the basic assumption of this approach that children are capable of assessing their own needs.

Evaluating the consumer approach

The advantage of the consumer approach is its unique 'bottom-up' approach. People participate in identifying their own needs and work towards solving them which is the trend in the PHC approach. It lays emphasis on the partnership approach between consumers and professionals and advocates for community participation and/or development. Ewles & Simnett (1995) describe the role of the professionals as that of being facilitators and catalysts.

The disadvantage is that consumers may be under represented as it is sometimes difficult to get opinions of the cross-section of the population under study (Ewles & Simnett, 1995). In most cases minority groups may suffer as the powerful usually are the ones who successfully express their views (Naidoo & Willis, 1996).

As a variety of strategies are used in this approach, it is beyond the scope of this study to discuss each strategy's advantages and disadvantages.

2.6.4.2 The epidemiological approach

Epidemiology is the study of distribution of the disease among the population and its determinants. Descriptive epidemiology gives an explanation of the people affected, their age, sex, social class and geographical location, the people at risk and the time when such disease commonly occurs (Ewles & Simnett, 1995).

The concepts 'epidemiological' and 'medical' approaches are used interchangeably by most authors because of their almost similar characteristics. These approaches aim at activities that reduce morbidity, mortality and disability, hence, health intervention strategies are usually based on epidemiological data.

Routinely available data

The epidemiological approach makes use of routinely available data that is regularly compiled and published annually in most countries (Katzellenbogen, Joubert & Yach, 1991). In South Africa information is readily available from a variety of sources which give health related statistical data.

Mortality data obtained through registration of deaths is compulsory by law. The underlying causes of deaths are also recorded. Morbidity data may also be obtained from health departments as some diseases are notifiable. Morbidity data may also be obtained from other sources such as general practitioners' offices, hospital records and disability registers some of which may be found from welfare departments. Mortality and morbidity statistics may be unreliable in some areas particularly in rural areas. Registration of births is also compulsory by law though under registration may still be found in the rural areas.

The national census which is done after every 5-10 years is another means of obtaining population data in a country. Though the census provides socio-economic data, comparing diseases and the socio-economic data in an area may expose patterns of inequalities within a particular geographic area (Katzellenbogen, Joubert & Yach, 1991). The latest census in South Africa were undertaken in 5 year intervals in 1985, 1991 and 1997. It also has problems of under-enumeration.

Use of indicators

Indicators, according to the World Health Organisations (in Dennill, King, Lock and Swanepoel, 1995) are any variables that can help to measure change and evaluate PHC programmes at local, regional and international levels. Four categories of indicators are health policy, social and economic, indicators of health care and health status.

The indicators of health status provide objective epidemiological data as it gives the following statistics, infant mortality and child mortality which are usually given as incidence and prevalence rates and morbidity rates. These rates do fall under routinely available data in this study except for life expectancy but the concept itself has to appear as a theme of significance in needs assessment as it forms a basis in implementation of PHC programmes.

Epidemiological research

The epidemiological approach also includes research undertaken in the field of epidemiology which may be descriptive; analytic including case-control. Cross sectional and follow ups and ecological studies are undertaken by epidemiologists. Katzellenbogen, Joubert and Yach (1991) have written six common approaches in epidemiology as routinely available data; community studies; health service evaluation studies; Knowledge, Attitude, Belief and Practices (KABP) studies, Rapid Epidemiological Assessment (REA) and use of qualitative methodology.

Evaluation of the epidemiological approach

The advantages of using an epidemiological approach is that it provides scientific and objective data which are useful in planning and evaluating health services. Naidoo and Willis (1996) explain that preventive health programmes should be based on sound reasoning which is derived from epidemiological data. It is economical to use because it is quick and easy to retrieve

information. The researchers can access the document at any time convenient to them and thus have an unobstrusive source of information. The data presented are systematic as the compiler usually pays more attention while compiling it. Documents also provide the researcher with the language used by the informants (Cresswell, 1994).

The epidemiological approach has its disadvantages as well. Katzellenbogen, Joubert and Yach state that since the researchers who use readily available statistical data have no idea of the quality of such data, the reliability and validity of data may be questionable. In South Africa, routinely available data in the past years was collected according to race, namely, Whites, Indians, Coloureds and Blacks. There has been racial discrimination in data collection and data on Blacks has been unavailable or unreliable due to inequalities in service distribution among races particularly in the rural areas.

The epidemiological approach puts emphasis on high risk groups while the WHO advocates a population approach (Naidoo & Willis, 1996). The high risk group approach promotes 'victim-blaming' as some disease are due to health habits and/or behaviour common among certain groups. Tannahill (in Naidoo & Willis, 1996) also states that health education that is based on disease and risk factors has a tendency of being prescriptive in nature dictating to the consumers what they should do.

Some codes and symbols used on some filed records may be difficult to interpret to the researchers while others may have to be verified before use (Polit & Hungler, 1983). Cresswell (1994) supports Polit & Hungler that some documents may be protected making the information unavailable for public access, and others may be costly for the researcher to find in inaccessible places. These may also be incomplete and unauthentic. Not all the records necessary for research may be available and the researcher may be using records

that are not representative of the real picture of the problem.

The approach also encourages the 'top-down' or expert-led strategies as the experts are the ones who recognise problems and suggest what should be done .

Using persuasive strategy, the consumers are talked into cooperation and compliance. Such approaches discourage people from being independent and active decision-makers to being passive recipients of care who depend on health professionals according to Ewles and Simnett (1995).

2.6.4.3 *The Social Science Approach* *

Introduction

The social science approach makes use of theories derived from social sciences. Although health educators have been searching for theories that represent the 'eclectic nature' of health education according to Ward (1987), they are using theories derived from social sciences. D'Onofrio (1992:385) explains that health education "does not seem to have its own tailor-made body of theory". The latter further cites that before health educators can select theories for use, they should understand that they are borrowed and the idea is not only unique in the field of health education as professionals in other fields also use social behavioural theories. Van Ryn and Heaney (1992) commend the use of social and behavioural theories in health education as they are based on people's experiences of daily living.

Some authors indicate that the concepts 'theory' and 'model' are sometimes used interchangeably as it occurs in this study, too. Van Ryn and Heaney, (1992:316) use Webster's II new Riverside University Dictionary which defines a theory as "systematically organised knowledge applicable in a relatively wide variety of circumstances devised to analyse, predict or otherwise explain the nature or behaviour of a specified set of phenomena". Mouton

(1996:196), on the other hand, describes a model as "probably the most ambiguous in the vocabulary of social scientists." The researcher's arguments are based on the fact that models share a number of characteristic similarities with theories, hence, Achinstein and Correll (in Mouton, 1996) state that theories and models differ only in degrees. Mouton explains that the difference between the two is that models have a "heuristic" function while theories have an "explanatory" one.

Walker and Avant (1995) describe six factors that make up a theory as the purpose, concepts, definitions, relationships, structure and function. Kerlinger (in Van Ryn and Heaney, 1992) describe a completely developed theory as the one that has three major elements which are explanatory factors that influence a particular aspect of interest, relational factors among them and conditions under which such relations do or do not exist.

Types of theories used in health education/promotion

The theories used in health education are classified according to the goals of the phenomenon under study. Burdine and Mc Leroy (1992) argue that any theory that guides practice should address four goals: a specific health or social problem under study; social science theories at different levels of analysis that are most appropriate for understanding the problem; describe the points of intervention and the methods of intervention among population groups. These four goals according to Burdine, Mc Leroy determine two types of theories - "change process" and "implementation" theories addressed by the first three goals and the last one respectively. The example of change process theories is the Health Belief Model (HBM) while the PRECEDE model is an example of a implementation theories.

However, Pender (1996) on the other hand describes two types of theories for

motivating health behaviour as theories for understanding health protection such as Health Belief Model and Protection Motivation Theory (PMT) and theories of understanding health promotion and health protection and examples are Pender's Health Promotion model, the Theory of Reasoned Action(TRA) and the Theory of Planned Behaviour(TPB), Social Cognitive Theory, Theory of Interpersonal Behaviour, the Interaction Model of Client Health Behaviour and others. Penders description is based on the differences between health protection and health promotion. Health protection is directed towards avoiding negative events that are threat - oriented, while other models are focused towards the positive state of health and well-being."Health promotion is motivated by a desire to increase well being and actualize human health protection. Health protection is motivated by a desire to actively avoid illness, detect it early " (Pender, 1996). In this study the author uses the health protecting and preventive behaviour interchangeably.

In this study social science theories will be discussed according to the first notion of classification into change process and implementation theories.

(i) Change process theories

The Health Belief Model (HBM)

Naidoo and Willis (1996) and Pender (1996) cite that the HBM is derived from the social psychologic theory which was primarily the work of Lewin in the 1950's.It was modified by Rosenstock in the 1960's and Becker in 1974. The model was further modified by Bandura in 1977 when the concept of self efficiency was included. The model predicts which individuals would or would not use protective measures and further suggests possible interventions that might commit individuals to health preventive behaviours. In this way the model can be used as a framework which can be used to find out why healthy individuals take necessary precautions and actions to prevent illness while others fail (Pender, 1996).

The theory explains that individuals are likely to take actions when they (1) consider themselves to be susceptible to disease, (2) perceive the disease as serious and threatening their lives, (3) believe that taking steps would reduce the occurrence of a disease and (4) are convinced that the benefits of taking action outweigh the costs. The theory also has modifying factors which indirectly affect one's actions which are the demographic factors, socio-psychological and structural variables (Redman, 1993; Naidoo and Willis, 1996; and Pender, 1996).

Evaluation of the HBM

Pender (1996:36) explains that the HBM is "appropriate as a paradigm for health protecting or disease preventing behaviour, is clearly inappropriate as a paradigm for health promoting behaviour". It is described by Naidoo and Willis (1996) as the best known theory that explains how beliefs influence an individual's decision-making pertaining to health issues.

Redman (1993) cites that component variables of the HBM can be altered and used in the assessment of needs for an educational diagnosis. Redman cites a study conducted by Jones on the standardized assessment of the patients' perceptions of hypertension. Following the assessment, patients were given an educational session to increase their knowledge on the following aspects: awareness of the disease, susceptibility to its complications, seriousness of the complications, and the benefits of compliance to treatment using the HBM. The details of sampling and the methodology used in this study were not given. However, the results of the study indicates that the likelihood of hypertensive patients to comply with follow-up appointments for treatment increased by 50%.

Although the HBM may be used in the analysis of teaching materials available for use in a particular setting, it does not apply to all diseases equally as was found by Prewitt(in Redman,1993). The focus of that study was on AIDS

educational materials that were available for use in 1988. The results showed that the materials focused heavily on susceptibility and severity of AIDS and failed to put emphasis on the benefits of preventive health behaviours.

Janz and Becker (in Pender, 1996) also reviewed the studies that were conducted on the HBM during the last 10 years. The studies which were conducted both retrospectively and prospectively, revealed that component variables of the model, perceived barriers and preventive susceptibility were important in explaining or predicting health behaviours. However, the perceived behaviour was found to be the most powerful component. The other two, that is, benefits of taking action and perceived seriousness were found to be less effective.

Walsh and Mc Phee (1992) criticized the HBM citing that it only focuses on the patient and fails to consider the contribution of physicians in health prevention. The theory puts emphasis on the beliefs and attitudes of a patient and fails to consider other aspects of importance such as the skills of professionals, the resources available, some organisational factors, the costs and others. The theory is also criticised for giving an assumption that everybody considers health as a value yet people's values differ.

Theory of Reasoned Action (TRA)

The theory of Reasoned Action (TRA) was proposed by Ajzen and Fishbein in 1975. There were two variables of behavioural intention in this original theory. Ajzen later added a third variable and that component theory was labelled the Theory of Planned Behaviour (TPB). The original component is combined with the modification to form a Theory of Reasoned Action and Theory of Planned Behaviour.

In this theory intention is seen to be the determinant of an individual's behaviour. In the TRA two variables, the attitudes and subjective norms directly

influence an individual's attitudes. Another assumption of the theory is that people are capable of controlling their own behaviour. However, Ajzen criticised the latter statement citing that an individual may not always be able to control his own volition and, hence, the addition of the third variable of perceived control of behaviour.

Naidoo and Willis (1996) explain that according to the TRA, individual's intentions may be unpredictable because they may not be consistent. The consistency of an individual's behaviour is influenced by one's beliefs and provided the beliefs are stable. Various factors determine the stability of an individual belief such as the strength of the belief, the length of time an individual held a particular belief, the influence of significant others, for example the peer group, the relationship and integration of the belief to other beliefs and attitudes the individual holds, the clarity and structure of the belief itself. The inconsistency that arises within an individual during some occasions is referred to as "cognitive dissonance". Naidoo and Willis (1996) point out that there are differences between TRA and HBM because the TRA recognises compliance with pressures of the significant others as a powerful factor.

According to Pender (1996:39) TRA has been well tested in research studies compared to TRP. The findings in TRA related research indicate that "intentions are for most part, moderately correlated with behaviour and subjective norms are uncorrelated to moderately correlated with behaviour". There were reported successes in studies of intervention conducted where the variables of TRA were used as behaviour change was brought about. The TRA according to Pender (1996) is categorised under theories for understanding health promotion and health protection while for Naidoo and Willis it is a health planning model.

(ii) The implementation theories

While Burdine & Mc Leroy (1992) refer to theories that focus on intervention as implementation theories, Naidoo and Willis (1996) refer to them as planning models. The latter cites Ewles and Simnett's, the PRECEDE, Tones and Berry's planning models as the four of the best known planning models. Of these, two will be discussed, namely, the PRECEDE model as it is used in the study and Ewles and Simnett.

The Precede - Proceed Model

The PRECEDE model as indicated in chapter 1 stands for Predisposing Reinforcing and Enabling Causes in Educational Diagnosis and Evaluation. The Precede Model was developed by Greene, Kreuter and others in the 1970's. The original planning framework is called the Precede Model which is a diagnostic or needs assessment component. The second component, the PROCEED is a developmental stage that was added recently to deal with the implementation and evaluation processes. The Precede model has six phases and three other phases of the proceed model were added to make nine. The framework is used in planning and implementation of health interventions Green & Kreuter, 1991; Green, Kreuter, Deeds & Partridge, 1980). Only the PRECEDE model is used in this study.

Phase 1 Quality of life/Social diagnosis

In this phase the quality of life of the population is being considered by asking the community about their general problems or concerns. The community's subjective experiences may come from all members of the population such as students, parents, workers, consumers and others. The problems as given by community members, act as good barometers of their life experiences. The advantage of this phase is that the professionals get first hand experience of the problems of the community by the community members themselves. Although this phase demands more time and effort it is most beneficial because

community's interests, support and participation are promoted. The partnership approach and intersectoral orientation is also promoted. The phase is made up of three sub-phases which are: community study by the community itself, listing of the presumed causes and the determinants of the aspired goals and prioritization of the identified community problems. This approach has been used in this study.

The other suggested various strategies to collect data are by reviewing existing data, reviewing literature of previous studies and by making use of small groups, the Delphi technique community forums and key informant interviews.

Phase 2 Epidemiological diagnosis

In this phase, specific health problems that appear to be contributing to the social problems in phase 1 are identified. Negative indicators are health problems among the populations which are mortality (death), morbidity (disease) and disability with discomfort and dissatisfaction sometimes added to make "the 5 D's". The indicators are used to determine the health status of the populations. Positive health status indicators such as life expectancy are also used. Thus health problems are not only defined subjectively as in phase 1 but objectively as well, making use of epidemiological data. As the health problems are identified and prioritised, the factors that contributed to those health problems are also identified.

Phase 3 Behavioural and Environmental Diagnosis

The phase deals with the identification of specific behaviours that are health-related and which appear to have a link with the health problems identified in phase 2 while non-behavioural causes are separated. Green and Kreuter (1991:132-138) list five steps in behavioural diagnosis namely:-

- "1. Separating behavioural and non-behavioural causes of health problem.
2. Developing an inventory of behaviours

3. Rating behaviours in terms of importance.
4. Rating behaviours in terms of changeability.
5. Choosing behavioural targets".

On the other hand the five steps of the environmental diagnosis are:-

- "1. Separating behavioural and non-behavioural causes of health problems
2. Eliminating non-behavioural causes that cannot be changed
3. Rating environmental factors in terms of importance
4. Rating environmental factors in terms of changeability
5. Choosing environmental targets" (Green & Kreuter, 1991:144-145).

Phase 4 Educational and Organisational Diagnosis

Phase 4 deals with the identification of factors which affect people's behaviour which are the predisposing, enabling and reinforcing factors.

The predisposing factors refer to the person's knowledge, beliefs, values and attitudes which motivate a person toward change. Enabling factors are the skills and resources such as availability and accessibility of health resources and health related skills that enable a person to act, making a motivation to be realised. Reinforcing factors are incentives from significant others such as community leaders, family, peers and health providers that enable one's behaviour to be initiated and be repeated. Hence, Walsh and McPhee (1992:160) summarised the factors by referring to predisposing factors as "wanting to do "; enabling factors as "being able to do"and reinforcing factors as "being rewarded to do". Green, Kreuter, Deeds & Partridge (1980:167) cite that the core of this phase is "to select the predisposing, reinforcing and enabling factors that, if modified, will bring about the targeted health-related behaviour and environmental change".

Phase 5 & 6 Administrative and Policy Diagnosis

The phase deals with the development and implementation of the educational programme. It analyses the resources available which could either facilitate or hinder the development and implementation of the health promotion programme.

It thus focuses on both human and material resources available for the proposed programme as well as the time frames that will enable the set objectives to be accomplished. The budget of time, personnel and costs is crucial during this phase. The 3 main steps of this phase is assessment of resources needed, the resources available and the barriers to implementation. The policy diagnosis also looks at the organisational and barriers to change.

Phase 7, 8, 9 Evaluation Phase - The Proceed Model

Phase 7 deals with process evaluation and is the first level of evaluation. At this level the programme input, the reaction of stakeholders and the activities undertaken during implementation is analysed. These include staff performance, data collection methods, acceptability of policy, availability of resources and others.

Phase 8 Impact evaluation is second level of evaluation which examines the immediate effects of the programme on the target behaviours.

Phase 9 This is the third level of evaluation which examines the effects of a programme over a long time. Green and Kreuter (1991) cite that of the three levels of evaluation, impact evaluation is the most practical one although limited resources may dictate the emphasis on process evaluation followed by impact evaluation. Procedures for outcome evaluation usually develop if the resources expand.

Evaluation Of The PRECEDE Model

Naidoo and Willis (1996) argue that the model is rarely used as illustrated. It has also been found to be unusual to start with the quality of life which is phase 1. Usually researchers begin at the third phase, the behavioural diagnosis instead of phases 1 and 2 which deal with needs assessment. These researchers claim that the model has been used successfully in clinical trials in the real world. However, the model reflects the medical world because although the community members may be involved in problem identification, the experts dominate planning and implementation. Researchers further emphasise that the precede model is a useful model if the objective set is behaviour change. The first two phases of the precede model deal with a thorough needs assessment. The study uses these two phases for needs assessment of the school children.

Walsh and McPhee (1992) state that both the patient and the physician are influenced by a different set of predisposing, enabling and reinforcing factors. The health care delivery system, preventive activity factors and situational factors also influence both the patient and the physicians though independently.

Ewles and Simnett Planning Model

Ewles and Simnett developed a health planning model in 1992. This model has been found to be simple though popular. The model has 9 phases. The first phase starts off by identification of consumers and their characteristics and assessment of their needs. The next 2 phases deal with deciding on the goals of health education and the specific objectives. Three types of educational objectives are the cognitive, affective and psychomotor objectives. The fifth phase deals with identification of resources-the sixth, the seventh and the eighth phases focus on planning the content and methods to be used, plan on the evaluation methods and the implementation of the programme respectively. The last and ninth phase is the evaluation phase.

Evaluation Of Ewles and Simnett

Naidoo and Wills (1996) have found the model to be practical and useful. The model can be used for both small and large scale interventions with slight modifications. This model however, clearly consists of the steps of the planning process and gives little information on the specific of health education.

Evaluation of implementation theories

Burdine & Leroy (1992) cite that ideal theories do not exist. The problem that has been identified is that implementation theories used in health education are broad and general. The theories also have no link to any specific health problem. However, Hochbaum, Sorenson and Lorig (1992) state that social and behavioural science theories contribute effectively to health education programmes.

Summary in the use of social science approach

The social science approach seems to be a very complex approach as it uses theories that are derived from the social behavioural sciences. The complexity in using the approach leads to consumer resistance. Hochbaum, Sorenson and Lorig (1992) argue that researchers doubt the effectiveness in the use of theories as they see theories as offering no practical solutions to problems.

Researchers also find difficulty in choosing appropriate theories as some theories do not give adequate practice in certain settings while those that are community-oriented are lacking. Implementation theories are broad and general, for example, the PRECEDE model (Burdine & Mc Leroy, 1992), D'Onofrio (1992) argues that theories derived from social sciences and used in health education are incomplete and incomprehensive and they differ in their stages of development, explanation and acceptability . When theories are used, critical thinking skills are required. D'onofrio further mentions that more than one theory may have to be used if all the complexities of practice are to be addressed

in order to give a better insight to the problem.

Other authors commend the use of theories in health education, for example, Lewin in (Hochbaum, Sorenson & Lorig, 1992: 297) explain that " there is nothing as practical as a good theory". Theories are comprehensive and offer explanations to problems.

2.7 CONCLUSION

It appears that the recommendations by Jinabhai and Khumalo (1994) mentioned in 2.4 should be linked to DHS, that their health services should be under the Ministry of Health and Welfare and that outreach programmes by PHC/Community health nurses should be established in local clinics, and should be applicable to school health services, too. This would also ensure continuity of child care from the ECE programmes to school health services. Services, would therefore, be community based and would more or less correspond with one of the latest models, the school-linked health care centres.

What should also be noted is that primary school children demand more health care services than any other age group of school children including mental health care as prevalence rate of mental illness were found to increase with age among them. School health services should also move away from traditional ill-health model to a health promotion one as proposed by Bagnall (1994). Bagnall explains that "the trouble is that the current model of school health services does not correspond to need - it responds to tradition" (p.27).

In conclusion, effective school health services are a priority in South Africa. According to the National Health Plan, they should be rendered as part of PHC in the DHS. School nurses should be based in the community instead of prior arrangement in some areas where they operated from a hospital base.

Another issue to be considered is the extent to which health education is concluded in the school curricula in order to make the services comprehensive, and integrated with emphasis on health promotion. Delivering effective and efficient health services should be a cooperative effort among health, education and social service authorities, parents as individuals or through parent-teacher-student associations and the government.

Focus should, indeed be based on the health education needs of school children as assessed from all stakeholders in the community so that successful implementation may occur.

Literature reviewed on different approaches to needs assessment revealed that each approach has its own pros and cons. Naidoo & Willis (1996) cite that the challenge in health promotion is that needs assessment should be defined in its own terms. Various authors recommend that both consumer and epidemiological approach should be utilized while the social science approach is difficult to use. In this study, however, all three approaches mentioned have been used in assessing the needs of school children. ✓

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research design, as used in this chapter, refers to a guide that is used by the researcher in planning and implementing the study such that it ensures the achievement of the expected goal. Certain elements central to the research design include among other aspects "the presence or absence of a treatment, number of groups in the sample, number of timing of measurements to be performed, sampling method, time frame for data collection, planned comparisons..." (Burns and Grove, 1993:261). This chapter therefore focused on the design, sampling, data collection and analysis and related ethical issues.

The study is health promotion oriented and health promotion is an aspect of community health nursing. Strasser (in Morse, 1991) points out that community health nursing comprises a variety of clinical areas which require that both theoretical and methodological approaches should be utilised in research. Morse emphasizes that a combination of epidemiologic, quantitative and qualitative approaches are necessary in community health nursing research .

3.2 RESEARCH DESIGN

The research design used was a case study. Yin (in Yin 1989:23) defines a case study as an empirical inquiry that ".investigates a contemporary phenomenon within its real life context... in which multiple sources of evidence are used." Another description of a case study by Burns & Grove (1993) is a design which examines intensively a single unit of study which may be a person, family, group or even an organisation. Hence, case studies are exploratory and explanatory in nature. Case studies involve examination of a number of variables using different data collection methods that are both quantitative and qualitative. Burns and Grove (1993), however, warn that compilation of such data into a meaningful whole is not only difficult but is also

a critical aspect in any study.

This was a comparative study of the three approaches to the needs assessment phase of the health education process. Each approach to needs assessment forms a case. The three approaches were used in a specific magisterial district outside Umtata served by one health centre. The assumption was that health education needs among all children in this geographical area would be similar as it is a homogenous rural area with no visible differences within the area. A single embedded case study with three sub-units has been selected for this study (Yin,1989). In each sub-unit one of the three approaches namely epidemiological, consumer and social science approaches, as explained in chapter 1, was used.

The case study protocol for each case addressed the following aspects:-

1. Input :-
 - staff time
 - levels of skill needed
2. Output :-
 - needs identified
 - priority of needs established

Each of the three approaches, namely, epidemiological, consumer and social science implemented, formed a case, In case One, the epidemiological approach was used. Analysis of records from health centre and school health services from four randomly selected schools on the health problems of school children was done. Analysis focused on one calendar year, that is , from January to December 1997.

In case Two, the consumer approach was used. Two focus group interviews (two groups of standard five children from each of the two Junior Secondary schools randomly selected of about 15 girls and 15 boys in each group) were conducted. A question was asked from each group: What are the common health

problems found among your families and/or other school children? Probing was done to elicit the required information. Each focus group interview took about 30 to 45 minutes.

In case Three, the social behavioural science approach (the PRECEDE model) was used in the other two randomly selected junior secondary schools. Four focus group interviews of standard five children as in case Two above, in-depth interviews of four standard five teachers, one from each participating school were conducted. Focus group interviews with four groups of mothers conveniently found in the health centre were also conducted in this case.

In addition the input-data was collected using the following:-

- (a) An activity-time sheet, on which the researcher recorded the time spent on all activities conducted during the needs assessment process. (See annexure A).
- (b) Levels of skills: The range of skills needed for each approach was listed. The list was then distributed to 40PHC nurses to establish the level of complexity necessary for needs assessment and the required competences. (See annexure B).

Data collection for the output aspect of the case studies were collected through records analysed focus groups and indepth interviews as already indicated.

3.3 POPULATION AND SAMPLE

Deatrick and Faux(in Morse, 1991:203) have observed that many research studies conducted among children " are not based upon the children's and adolescents' account of the phenomenon being studied. Instead, an adult's view (usually the mother's) of the child's world is often substituted ". Yet the children's and mothers' view may be different. One perspective views children as individuals who may be unable to understand and thus describe their world

due to immaturity and lack of or poor socialisation. On the other hand, researchers perceive children as experts in interpreting their own world (Morse:1991). It is in the light of this argument that the researcher looked at the children's world as perceived by the children themselves, the mothers as carers and teachers representing the adults' views. The population, therefore, included all the stakeholders, that is, teachers, mothers, school children and nurses. Nurses were included as far as needs assessment skills were determined.

Selection of subjects for the sample, was a complex issue as cited by Morse (1991), because it carries a profound effect on the quality of research undertaken. Researchers state that qualitative methods lack clear guidelines on the principles of sampling. Lincoln and Guba (1985) point out, that the emphasis with qualitative studies is on the adequacy and appropriateness of the sample.

Adequacy means that the sample should be relevant, complete and that necessary information should be obtained until saturation is reached. Appropriateness means that the researcher should select subjects who possess the required characteristics and are capable of giving the required information.

Morse (1991:135) states that if the researcher wants to ensure that the sample meets appropriateness and adequacy in qualitative studies, "the researcher must have control over the composition of the sample". The best method to attain control is through the use of primary selection.

Primary selection is attained when the researcher chooses the respondents who are known to have the necessary knowledge, as required by researcher, for that particular study and are willing to participate. In primary selection the sample size is small and it is efficient because the response rate is high. All the participants in this study namely, school children, mothers as carers, teachers

have the necessary knowledge on the needs of school children.

3.3.1 Community selection

The community under study was Matyengqina Rural Administrative area in the district of Umtata in the Eastern Cape Province. There were ten junior secondary schools in this area and one community health centre which served 45 locations. The rationale for selecting this rural community was that:-

- (a) It has a relatively homogenous population
- (b) All three approaches can be used in this area without overlap as it is an extensive area.
- (c) The area is geographically accessible compared to other rural communities.

3.3.2 School sample

Four out of the ten junior secondary schools were randomly selected for the study. In two schools the social science approach (PRECEDE model) was used and in the other two schools the consumer approach.

3.3.3 Children sample

The sample included all standard five pupils whose estimated age ranged between 12 and 16 years in the four randomly selected junior secondary schools in the community under study. Standard five pupils were selected because of the following reasons:-

- (a) According to the situation analysis conducted in the Eastern Cape Province in 1996, the target populations for school health services were sub-A, standard 5 and standard 7 pupils.
- (b) Standard 5 pupils were also considered as a recognised middle target group by the researcher, with whom child and adolescent health problems can be addressed, as this period marks the beginning of adolescence.

- (c) As there has been no compulsory education in South Africa, most school drop-outs occur around the specified age and most teenage problems arise during the same period.

Therefore, two groups of standard five children from each of the four schools identified comprised the sample in this study. Grouping according to age, which is a naturally occurring phenomenon was made. Grouping according to sex was also done, for example, 1 group of boys and 1 group of girls from each school. Deatrick and Faux (in Morse, 1991) noted that school age children are more oriented to the same sex group and world outside their homes. The researcher further explains that children speak and work comfortably with adults, since they perceive them as parents, hence the researcher anticipated that the interviews would be successful.

3.3.4 Key informants sample

Key informants were standard five teachers from the four selected schools and mothers as carers. Four groups of four to six mothers from the health centre were sampled.

3.4 DATA COLLECTION TECHNIQUES

Case studies make use of various recommended sources of information which are documents, records, interviews, direct observation, participant observations and physical artifacts (Yin, 1989). Of these sources, three were used in this study, which were records from the health centre and school services, interviews both individual and focus groups as indicated in 3.2. Use of key informants also is recommended in case studies as mentioned in 3.3.4. The three principles of data collection critical in case studies as described by Yin were maintained which are: the principles of multiple sources, creating a case study data base and chain of evidence to ensure construct validity and reliability. The case study protocol, as indicated in sub-section 3.2 for each case addressed

the following aspects:

3.4.1 Input - data

- staff time - The time activity sheet (Annexure B) was drawn and kept by the researcher to determine the amount of time spent on each approach. The activities undertaken and the time used on each activity were recorded so that a comparison of approaches could be done.
- levels of skills needed - The level of skills' questionnaire was compiled and administered on the professional nurses in order to determine the category of nurses who would be able to conduct each approach. The level of skills ranged from simple (Nursing Auxillary level) to specialized (Registered Nurse with an additional qualification).

3.4.2 Output - data

3.4.2.1 *Records Reviews*

This data collection technique has been discussed in detail in chapter 2, only its application in the study will be discussed in this chapter. The study made use of health records from the health centre and school health records which may have been kept at schools or by the district school nurse from 4 primary schools randomly selected for the study. The daily statistic book named the "Assess and Treat book" from the health centre was used to determine the 1) nature of health problems of the children as reported by the pupils themselves and as treated by health professionals. 2) The extent/severity of the problem according to different age groups. 3) The frequency(how often) that is, during which months of the year did the conditions commonly occur. Statistical data for one year, from January to December 1997 was considered.

The limitations of this approach in this study was that some children may not have visited the clinic for their health problems as home remedies may have been used. The researcher had to depend on data recorded by

PHC practitioners and was, therefore not sure of its quality. However, the use of available data was advantageous in terms of cost and time and was also accessed by researcher at the time convenient to the researcher.

Although school health services are poorly done in this area, three of the four schools were visited in the year under study, that is 1997 health records. In this study analysis of the records from those three schools was conducted.

3.4.2.2 *Focus Group Interviews*

The meaning of focus group interviews

Smith (1995) referred to a range of authors and concluded that focus group interviews have become a popular method in research and are useful in assessing communities' needs and experiences. According to Greene and Kreuter (1991), the focus group interview strategy is the most popular method of applying social and behavioural science to practice. Asbury (1995:414) describe a focus group interview as a "data collection technique that capitalizes on interaction within a group to elicit rich experiential data." Another description by Carey (1995) is that they are semi-structured group sessions directed by a group leader who moderates the group while collecting data on a selected topic in an informal manner. The subjective, experiential data collected emanate from the people's perceptions, opinions, beliefs and attitudes (POBAs) according to Henderson (1995).

Participation in focus groups

Focus groups involve 6-12 members with similar traits and/or common experiences although more members have been suggested in some studies. Homogeneity within focus groups is an essential feature. Suggestions are made by Asbury (1995) that the participants should

belong to the same culture not only in terms of ethnic grouping but preferably be of the same age, gender, socio-economic status and other characteristics. The similarity of the participants' culture, traits and common experiences facilitate the conduct of groups. Members tend to bond with one another during the beginning of the session promoting relaxation and active participation.

Krueger (in Morgan, 1995) however, has a different opinion, suggesting that participants may not necessarily know one another before the focus group session, but that it does not become an obstacle if they do. In this study participants were homogenous as suggested by Asbury, that is, same culture, age group and gender for example by grouping girls, boys and mothers separately .

Purposes of focus groups

Focus groups can be used in a variety of ways either as the only data collection tool in a project or in conjunction with other strategies. The general feeling is that whether used in isolation or with other tools, focus groups play a significant role in a variety of settings in social science research. Straw and Smith (1995:422) gave a summary of the purposes of focus groups, that is, in "needs assessment, outcome assessments, meaning of results, program policy development, and message testing."

This study used focus groups for the first purpose, namely, needs assessment. Asbury (1995) supports the above uses while Yach (1992) also believes that the information obtained from focus group interviews is useful in providing insight about the needs of the people and health planning that follows. Focus groups are recommended and used in preventive and promotive studies recently (Eng, Glik and Parker, 1990).

Researchers put emphasis on the fact that focus groups are neither meant to provide emotional support nor education to participants (Carey, 1995, Asbury, 1995). Straw and Smith (1995) warn that although people who have clinical experience tend to make good moderators, their disadvantage is that they neglect the primary objective of focus groups which is data collection and concentrate on being supportive to group members.

Recruitment of participants.

Recruitment of participants should be done and is quite demanding according to Henderson (1995) as willingness and homogeneity of participants is essential. In this study no demanding recruitment was done as the schools and clinics were "automatic sources". Focus groups demand a lot of time, 60-90 minutes per session (Henderson, 1992). Kreuger (in Morgan, 1995) cites other issues that are commonly mentioned by other researchers such as repeated contacts, overrecruiting and incentives. Use of rewards and refreshments during sessions is seen to be essential. Travel time, costs and personal over disclosures are other issues that make recruitment difficult.

Preparation and conduct of focus groups.

When preparing for focus group interviews, the researcher locates a physical setting that is accessible to the participants. The environment should be comfortable and facilitate communication. A moderator's guide is prepared which is a written list of questions/topics to guide the group and enable them to focus on selected topics. Carey (1995) suggested that only 4-5 questions may be asked in a group because if more questions are planned within a session, the depth on the topic cannot be exposed instead the session turns out to be like administering an oral questionnaire for many subjects at one time. The emphasis is not

on the amount of data collected but its richness.

There should be one or two facilitators to the group. One stimulates and directs the discussion while the other observes and jots down the non-verbal cues and/or interaction of the participants and records the content of discussion. However, one person may conduct the group. Asbury (1995) cited that "probes are also useful to help focus the group when the discussion wanders too far afield"(1995:416). The researcher's responsibility is to guide the discussion and keep it on the right direction.

Information is tape recorded. To encourage respondents' relaxation and participation, an icebreaker may be used, for example a common song or exercise. Sometimes playing the tape recorded information back to the participants may be helpful. Icebreakers in the form of games are more stimulating to children. In particular one or two games known to the children were played before the interview.

In this study women visiting the health centre were used as it was a convenient place that mothers visit. The centre was accessible and comfortable for the mothers. The classrooms were used for school children. Morse (1991), however, recommends the use of a neutral territory for children as she argued that it enhances reliability of information sought. This was not possible in this study in order to limit cost and inconvenience for children.

The number of groups.

Calder (as cited in Morgan, 1988) indicated that it usually takes 3-4 groups to gather information until the moderator ceases to obtain new information and can even anticipate the information that the participants will give next. At this stage adequate information has been obtained as in each category, four groups were conducted. However, more groups may

be essential when the topic under discussion is rather complex.

A further point to be noted is that the researcher should not deal with data from focus groups as if they are oral surveys. This means that data analysis should not be taken out of context in which it was conducted (Asbury, 1995).

Advantages and Disadvantages of focus groups

The researchers cite the advantages of focus group interviews as being less expensive to run; take a shorter period to set them up, allow probing to be done and promote community involvement because during the sessions the distance between the target group and health planners conducting research is reduced. The interaction and brainstorming that occurs during the session gives all the participants better insight into the theme which would not be there if individual interviews were conducted. Some of the disadvantages however are that members may not discuss what they believe in, due to peer pressure of members, fear of overdisclosure in sensitive topics and fear of the moderator. The moderator may also influence the responses of the participants (Green & Kreuter, 1980; Katzellenbogen, Joubert & Yach, 1991).

3.4.2.3 In-depth interviews.

Types of interviews differentiated

Although the interviewing technique is described as the most widely used method by Fielding(1994), interviews vary according to the extent of structure, namely, structured, semi-structured and unstructured. In structured interviews both the wording and sequence of questions remain the same. On the other hand, unstructured interviews are unorganised while in semi-structured interviews, questions focus on the research question, probing is done and comments are classified (Rose, 1994).

Rose further cites that in-depth data may be provided through the use of both unstructured and semi-structured interviews. In this study, the in-depth information was obtained through the use of semi-structured interviews. Semi-structured interviews are adventurous as the researcher gains access into the lives and the feelings of participants and non-verbal cues are observed and recorded. Thus, though interviews may appear attractive, as the researcher seems to be just asking questions and recording responses, interviews are complex and intimidating to both interviewers and interviewees (Rose, 1994).

Advantages and disadvantages of the semi-structured interviews

Fielding (1994) stated the advantages of semi-structured interviews, that, although the researcher may be asking the same questions, altered sequence gives the participants the impression that their perspectives are the ones followed by the researcher. Probing may be done and the questions may also be adapted to the participants' level of understanding. A disadvantage, however, is that little guidance and direction may be given to the interviewee.

Skinner (in Katzellenbogen, Joubert & Yach, 1991) gave two advantages of in-depth interviews, that is, allowing the respondents a chance to provide detailed information as well as giving the interviewer a chance, too, to draw out required detailed information from the interviewee while still thinking and expressing his views on the subject.

Certain characteristics of the participants should be borne in mind when conducting interviews such as race, age, sex, social class and religion. Some problems may be encountered if the stated characteristics and the following ones are ignored, namely, participants cultural background,

poorly constructed questions and misdirected probing. Hence, the researcher should consider the two main principles of semi-structured interviews which are the use of open-ended questions and that questions should stimulate the respondents innermost beliefs, values and attitudes (Fielding, 1994; Katzellenbogen, Joubert & Yach, 1991; Rose, 1994; Polit & Hungler, 1993). In this study in-depth interviews of four teachers were done. Skinner (in Katzellenbogen, Joubert & Yach, 1991) described interviewee bias as a major disadvantage of in-depth interviews compared to other qualitative methods. Interviewee bias occurs as the interviewee feels threatened because of his extraction from his own context.

Preparation for interviews

Polit & Hungler (1983) also described semi-structured interviews as focused interviews. As such, semi-structured interviews are variants of focus group interviews and there are common issues on the two techniques recognised even in this study:-

- . Appointments with relevant schools and health centre were made and accomodation secured.
- . Interviewees were requested to participate and their rights to refuse explained.
- . The initiation phase was considered as very important and the key to sucess of the interviews and was kept as free and cordial as possible so that trust between the interviewer and interviewees was established.
- . Permission for tape recording was sought from the interviewees as all focused groups and in-depth interviews were recorded.
- . Refreshments were available during group sessions.
- . The termination phase was also handled with care taking into consideration that sensitive issues were handled and that hopes

and emotions of participants were not raised.

With children's groups warm ups in the form of songs were sung.

TABLE 3.1 SUMMARY OF DATA COLLECTION

I ASSESSMENT OF HEALTH PROBLEMS			
CASE	APPROACH	SAMPLE	PROCEDURE
1	Epidemiological	1 Health Centre 4 Schools	Analysis of records
2	Consumer	Standard 5 children in 2 schools	. Focus groups (4 groups) . 1 question asked: common health problems among school children
3	Social Science (Precede Model)	. Standard 5 children in 2 schools .4 standard 5 teachers . mothers as carers in health centre	. Focus groups (4 groups) .In- depth interviews . Focus groups
II TIME TAKEN FOR NEEDS ASSESSMENT (in all three approaches)		. recorded using time activity sheet (Annexure B)	
III LEVEL OF SKILLS NECESSARY		. 30 PHC Nurses (Annexure C)	

3.5 ETHICAL CONSIDERATION

Ethics was defined by Bankowski (1995:115) as a branch of philosophy that deals with the "distinction between the right and wrong, and the moral consequences of our actions". In health research, respondents are human beings and their rights should be considered. In community studies the individuals within the community and the community itself should be protected. Cassel (in Morse 1991) points out that in community studies "power is shared between the investigators and subjects, with subjects having somewhat more power to frustrate research than the researchers have to compel", hence the participants should be willing to participate.

Beauchamp and Childress (in Smith,1995) cite that within the framework of ethics there are four major principles, namely, respect for autonomy of individuals, non-maleficence, beneficence and justice. Punch(in Morse, 1991) points out that there are issues that need to be addressed in research such as consent, deception, privacy and confidentiality which should be dealt with either before, during and even after fieldwork.

3.5.1 Ethical issues before fieldwork

As the study was conducted in the schools and a health centre, letters requesting permission were written and consent have been sought and obtained from the provincial Departments of Health and Welfare and Department of Education and Culture in the Eastern Cape Province. Consent has also been sought from the principals of schools selected and nursing service manager of the health centre. Informed consents were obtained verbally from the parents of school children and all other stakeholders who participated in this study after explaining the reasons and its implications to them. Smith (1995) commented that the consent may be verbal or implied by the act of participants. The aspect of seeking consent ensures the principle of respect for the individuals'

autonomy as they have to decide whether they wish to participate or not.

They had the right to refuse and their right would have been respected, however none did.

3.5.2 Ethical issues during fieldwork.

Informed consent from participants were also sought during fieldwork particularly the mothers as it was not possible to see them before. However, the ethical issue pertaining to focus group interviews are crucial. Smith (1995) points out that though focus group interviews have become popular in research within communities, there is very little information written about the ethical issues involved in this technique. The issues pointed out in Smith(1995), by Carey (1994) were taken into consideration in this study, namely that as they are interactive groups, there may be overdisclosure of participants' personal information which may be sensitive or emotionally laden. Overdisclosure deprives respondents of strict or absolute confidentiality which may affect clients when they leave the group.

The mothers and children in focus groups were informed by the researcher that the information would be kept confidential but warned that absolute confidentiality within members of the group was not possible as they were sharing the topic. They were requested not to disclose the discussed information after they had left the focus groups. Another solution as recommended by Smith (1995), was the informal debriefing session after the interview. This was done to allow the participants to discuss their reactions. Another factor is the number of participants. Many researchers do agree that the number need not be limited to 6-10 individuals. the size should vary depending on the research topic or purpose (Carey, 1994; Morgan & Kreuger, 1993). However there should be fewer participants for more sensitive topics.

The principle of non-maleficence, that is avoiding harm, risk or wrong to the participants was observed. Physical harm was excluded in the study instead psychological harm was guarded against when sensitive issues were discussed. Even when requesting informed consent from clients, they were given true information and no deception whatsoever was exercised. This study involved different participants, school children, mothers, teachers and nurses and as such the principle of beneficence was considered. The researcher ensured that all types of participants and data they produce were treated equally.

3.5.3 Ethical issues after fieldwork

Confidentiality of information given by the participants was ensured except among the members of the focus groups as mentioned in 3.8.2. Anonymity was also maintained to protect the individuals in the communities selected and the communities, too, as no names were filed. All tapes and transcripts were stored in safety.

3.6 VALIDITY AND RELIABILITY

Carey (1995) cites that reliability and validity are considered to be inappropriate to the qualitative paradigm while credibility and usefulness are more appropriate. Other qualitative researchers, however use these concepts (Chenitz and Swanson, 1986). This study however, made use of both the qualitative and quantitative approaches.

3.6.1 Validity

Two types of validity are commonly used by researchers, that is, the internal and external validity. Burns and Grove (1993) support Kerlinger citing that relative validity is controversial because "some

quantitative studies may provide strong internal validity but questionable or limited external validity. Qualitative studies may have strong external validity but questionable internal validity" (p.277). Hence, researchers have to find alternative methods of increasing the overall validity of research studies. Triangulation of measurement has been proposed to improve validity, making the results and interpretations credible.

3.6.1.1 Triangulation

Triangulation is one strategy used against the threats to data validity or credibility. Denzin (in Guba and Lincoln, 1985)has suggested four types of triangulation, namely, data sources, methods, investigators and theories. Triangulation of analysis has been added to be the fifth type in recent years (Burns& Grove,1993). Two of these methods were used in this study.

Methodological Triangulation

Methodological triangulation involves combining two or more research methods in the same study. It is considered to be the commonest form of triangulation. Denzin described the with-in method and across-method triangulation. Across-method triangulation has been used in this study as the study used both quantitative and qualitative methods.

Data triangulation

In data triangulation, information is collected from a variety of sources for the same study. In this study, data was collected from school children, mothers and teachers. Denzin (in Morse, 1991) describes how a researcher can use triangulation of data sources across time, space, and person. The researcher in this study used the dimension of persons, school children, teachers, mothers. Documents were also used. Data source triangulation aims at "maximising the range of data that might

contribute to a more complete understanding of the topic being investigated"(Morse 1991:233).

3.6.1.2 *Other strategies for improving validity*

Other strategies recommended as increasing the researchers validity are creating similar environmental conditions during focal contacts and manipulation of the tape recorder by young subjects before an interview.

The researcher considered both aspects . In this study, similar environment was used as school children's focus groups and the teachers' in - depth interviews were conducted in the schools. School children were shown the tape recorder, how it work and allowed to touch it. Sources of distortion also threatens validity of the study, hence, experienced researchers and interviewer of same sex and race as respondent are recommended. However, for the boys group, this was not possible.

Content validity was improved by conducting pilot interviews such as one pilot group, interview with children was done. The compilation and use of same guides for informal interviews with all groups as in focus group interviews increased content validity.

3.6.2 Reliability

Carey (1995) pointed out that the information obtained from focus groups can be considered reliable and valid although there can be constraints of censoring any conformity from group members which refers to withholding reasonable comments due to lack of trust of participants and tailoring one's comments to other members expectations and /or understanding, respectively. The information is valid as it is the real representation of the group. When the researcher has conducted

several sessions until no new information comes forth then one "can cautiously generalise to similar groups"(Krueger, in Carey 1995).

3.6.3 Credibility and trustworthiness

Since this study used qualitative methods of data collection as well, some aspects of credibility and trustworthiness have been discussed in this section. Further, member checks and peer examination were also done. In the former after data analysis, results were taken to participants to verify if the information was the true version of the information they gave.

In the latter, the second person with research experience was requested to code and analyse data collected on focus groups independent of the researcher and results brought together followed by constructive discussions where applicable in order to research consensus. The peer who assisted with data coding and analysis was one of the lecturers in a University nursing department and was considered an expert.

3.7 DATA ANALYSIS

In this study, the data analysis was done, namely group interviews, conducted among school children and mothers and semi-structured interviews among standard 5 teachers and data of health records from the health centre and schools. Data will also be collected by filling in questionnaires (Annexures A, B and C).

3.7.1 Focus group data analysis

Researchers on focus groups cited that qualitative analysis of interviewed data begin during the stage of planning and continue during and after the session(Goldman and McDonald in Henderson, 1995: Carey, 1995). The questions posed and probes made by the researcher formed part of data analysis.

Focus group data was subjective and usually included perceptions, opinions, beliefs and attitudes of the participants. Summaries after each question was done. However, it was not practical to follow the planned guide. The researcher made a summary at the end of the session welcoming any additions and corrections from the group. This time is considered by Carey(1995) as the time when data arising is very interesting and is part of data analysis.

Data analysis was done within 24 hours after a session or as soon as possible before some information may be forgotten by the researcher. Data was analysed not from the tapes but from written transcripts. However, Carey and Smith(in Carey, 1995:88) discouraged overdependence on transcripts without incorporation of nonverbal, sequential nature of interaction and psychological effects that are embedded in group data.

The researcher should consider all types of data collected during focus group interviews. Henderson(1995) enumerates 8 types of data that may be collected as " statements made by respondents in response to moderator questions...,unsaid information...,untrue statements stated as facts..., results of hand counts...,nonverbal cues..., free wheeling discussion...,reactions..., voting among choices..."(p.466-467).

3.7.2 In-depth interviews data analysis

As focus group and indepth interviews used in this study were semi-structured interviews and thus eliciting detailed (qualitative) information, analysis was conducted in the same manner.

3.7.3 Method of analysis

Although various means of qualitative data analysis are described in literature, Burnard (1994) explain that only a few are clearly described and even those that describe content analysis of transcripts using computer assisted programs tend

to relate to numerical data. Mackenzie (1994) Support Burnard by citing that in published research papers, content analysis is poorly illustrated. Researchers simply mention that following data transcription, content analysis is done from emerging themes without describing explicitly the method of doing it. Riley (in Mackenzie, 1994) explains that analysis may be broken down into steps, namely, ".Organising data.....Hearing what the data have to say.....Recognising your own ideas about the data....organizing evidence for interpretation.....Presenting findings...."

However in this study qualitative data analysis was done by following eight steps that are provided by Tesch (in Creswell, 1994). The steps were as follows:

1. The researcher read through all the transcripts carefully in order to make sense out of it and wrote down the ideas that she comprehends.
2. One document was picked up, the one on top, was read and wrote on the margin the underlying thoughts/meaning.
3. A list of all topics from the margin was written and similar ones brought together and rearranged to form even major topics.
4. The list was then taken back to the data where topics were abbreviated and written as codes next to the appropriate issue. At the same time it was to be noted if there were any new emerging categories and codes.
5. The topics were re-written using descriptive words and changing them into categories. Reduction of categories was done by grouping related topics and possibly lines drawn between categories to show the interrelationships.
6. Abbreviations on each category were finalized and codes written in alphabet.
7. Data belonging to each category were assembled and preliminary analysis done.
8. Recording of existing data was also done. The same steps were followed by peer member who conducted data analysis independent of the researcher.

3.8 PILOT STUDY

A pilot study, which is a small version of the main study, was conducted. Burns & Grove (1993) recommend the use of same subjects, setting, data collection and analysis to determine the feasibility of the study.

In this study, the population were children, mothers and teachers. Data collection methods were focus group and in - depth interviews. In one of the schools which was not sampled, one group of children and a teacher were requested to participate in the pilot study for focus group and in - depth interviews respectively. In the health centre, a focus group interview of mothers was conducted the size of the groups were the same as those of the subjects for the study and homogeneity was maintained pertaining to age, culture and ethnic group.

The researcher directed the discussion while the research assistant took care of tape recording and observed non-verbal cues. The pilot study assisted the facilitator and co-facilitator with the skills of managing the groups, for example, how to start the groups, the use of the ice breakers, hence, the communication improved with subsequent groups. The researcher also guarded against asking leading questions. The researcher and the expert analysed data and discussed their findings in preparation for the main study.

3.9 CONCLUSION

In summary, this chapter gave the details of research methodology, that is, the design, the population and sample, the instruments used, the research procedure's and settings and methods of data analysis. The ethical issues applicable to the study and the pilot study undertaken were discussed. Validity and reliability were described.

CHAPTER 4

CASE STUDY: HEALTH NEEDS ANALYSIS

4.1 INTRODUCTION

This chapter deals with data analysis where in case study analysis of each approach has been done. In the epidemiological approach, analysis of records from the health centre over a one-year period, January to December 1997, were done. School health records indicating the health problems of school children as detected by the school nurse in 1997 were also analysed. Of the four schools selected as sample, one school was not visited by the school nurse.

In the consumer approach, the views of school children on their health problems were sought. Four focus group interviews of standard five children, that is, two groups of boys and two groups of girls from two schools were conducted.

In the social science approach, the PRECEDE model was used to determine the social diagnosis of the community under study. The sample was made up of standard five children from the other two schools, mothers as carers and standard five teachers. Therefore, four focus group interviews of standard five school children from the other schools, four focus group interviews of mothers as carers from the health centre and in-depth interviews of four standard five teachers from each participating school were conducted.

4.2 CASE 1: HEALTH EDUCATION NEEDS ACCORDING TO THE EPIDEMIOLOGICAL APPROACH

In the epidemiological approach, analysis of records from the health centre and school health services was done in order to determine the type of health problems commonly found among school children as indicated in 4.1.

4.2.1 ANALYSIS OF RECORDS FROM THE HEALTH CENTRE

The daily statistics book, which was referred to as the "Assess and Treat book" in the health centre, was examined for a one-year period, January to December 1997. The objective was to find out the common health problems that school children presented with at the health centre, the general attendance of school children compared to that of adults and referrals to the hospital during the same period.

Although the target population for the study were the standard 5 children, this age group was investigated in relation to the age group below and that above. Therefore statistical data analysis focused on the 6 - 11; 12 - 17 and 18 - 20 years age groups, the group under study being the middle one. The focus on the younger group was because of the constant care they need while with the older group the focus was on prevention.

After a careful scrutiny of records the health problems affecting school children were found to be the following (see figure 4.1):

Gastro-intestinal disorders: The complaints were stomach-aches, diarrhoea, vomiting, and diarrhoea and vomiting.

Fever: This condition included a combination of symptoms such as sore throat, headache, raised temperature and sometimes included chest pains.

Intestinal infestation: The children reported to have passed worms and sometimes with accompanying symptom of loss of appetite.

Infectious skin diseases: The disorders included were scabies, ringworms and septic skin lesions.

Ear disorders: The ear disorders included to pain, injuries and discharges from the ears and other related complaints such as deafness.

Eye disorders: The conditions included were injuries, painful and discharging eyes and other eye problems such as poor eyesight.

Childhood diseases: Childhood diseases included measles, mumps and chickenpox. The first two were rarely seen while chicken pox was the commonest.

Injuries: Various types of injuries were reported by the children such as dogbites, falls, cuts, assaults, burn and motor vehicle accidents.

Epileptic fits: Epileptic fits were also presented and treated.

Sexually transmitted diseases: Children presented with all forms of complaints suggestive of sexually transmitted diseases such as discharges from the vagina and penis. Some complained of "drop"(penile discharges). A blood sample from the children with the mentioned symptoms was routinely taken at the health centre for Wasserman Reaction test. The confirmed positive ones were the ones referred to in this study.

Headaches: Those pupils that reported to be suffering from headaches only were counted separately from those that reported headache with other symptoms such as with sore throat, raised temperature and, or without chest pains which were reported as fever because the researcher speculated that headaches alone could occur as a result of emotional stress.

Asthma: Asthmatic conditions were also reported.

Pregnancy: Some girls presented with signs and symptoms of pregnancy and some were sent for pregnancy tests and/or referred to the prenatal clinic.

Dressings: Pupils visited the centre for dressings. Wound dressings were done to clients with injuries such as dogbites, burns, falls, cuts, and septic sores.

Miscellaneous: In this category a variety of conditions that could not be classified with the ones listed above were grouped. These included conditions like pain on any part of the body that fell outside the listed conditions and other complaints that rarely occurred.

In summary, 14 conditions were found to be common among the school children, the fifteenth one being the miscellaneous category. These conditions were compared among the three age groups already mentioned which were 6 - 11, 12 -17 and 18 years and above.

4.2.1.2 Results of health problems of the 12 -17 age group

Although there were 15 types of problems found among school children as listed in section 4.2.1. Only eight were common among the group under study (see figure 4.1). The frequency of health problems in each month during the period under study that is January to December 1997 is shown on Table 4.1

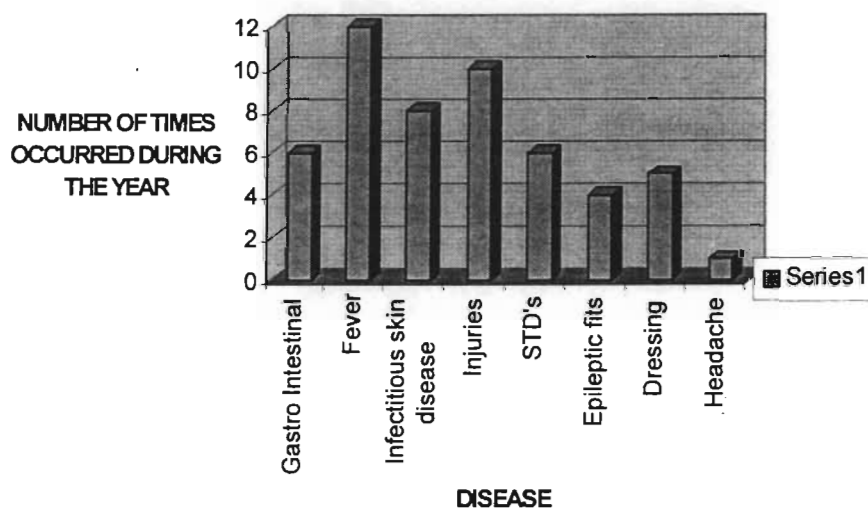


Figure 4.1 COMMON HEALTH PROBLEMS AMONG 12-17 AGE GROUP

In order to find out the commonest health problems, the frequencies of all conditions

were recorded for all age groups from January to December 1997 on a monthly basis. The mean and the standard deviation scores for all conditions in a month per age group were worked out. The z-score for each condition was calculated (see Annexure G). All conditions that gave negative scores were not significant and ignored while positive scores were considered as problematic. A list common health problems in the year, 1997 among the age 12 - 17 year age group was compiled (in order of frequency):

1. Fever
2. Injuries
3. Infectious skin diseases
4. Gastro-intestinal disorders
5. Sexually transmitted diseases
6. Epileptic fits (see table 1)
7. Headaches

The eighth health problem, namely, dressings could not be counted as a problem on its own because the dressings were done as a result of the sores, which were part of the fourth problem.

DISEASE	J	F	M	A	M	J	J	A	S	O	N	D	T
Gastro-Intestinal	X	X	X				X	X	X				6
Fever	X	X	X	X	X	X	X	X	X	X	X	X	12
Infectious Skin Disease	X	X	X	X	X	X	X					X	8
Injuries	X	X	X		X	X		X	X	X	X	X	10
STD's			X	X		X			X	X	X		6
Epileptic Fits						X				X	X	X	4
Dressing						X	X			X	X	X	5
Headache					X								1
No of problems per month	4	4	5	3	4	6	4	3	4	5	5	5	52

Table 4.1 FREQUENCY OF HEALTH PROBLEMS OF 12-17 YEARS GROUP

4.2.2 HEALTH PROBLEMS OF ALL AGE GROUPS COMPARED

Comparing the problems of all age groups also seemed to be interesting because health problems seemed to be age-related.

Gastro-intestinal disorders

Gastro-intestinal disorders were problematic among all age groups in January, February, March and April. While in July and August only the 12 - 17 year age group was affected. In September, the 12 - 17 and 18 + age groups in November only the 18 + age while in October and December the 6 - 11 year age groups were affected. This condition did not give any specific pattern as related to age though the group under study (12 - 17) years and group above were not the most affected (six out of 12 months). The 6-11 year age group was least affected(5 out of 12 months).

Fever

This is the only condition where all age groups suffered throughout the year. For 10 out of 12 months the z-scores for the age group under study (12-17 years) were higher than all age groups.

Intestinal infestations

Out of 12 months studied, intestinal infestations were common in 4 months only, namely January, July, September and November. Only one age group was affected, the 6 - 11 year ages group.

Infectious skin diseases

Infectious skin diseases were only common in 2 groups the 6 -12 years and 12 - 17 years age groups in eight months. In one month April, all age groups were affected while in the other 3 months only 6 - 11 year age group was affected. In one month only there was no group that was affected. The z-scores were higher in the 6 - 11 years age group compared to the 12 -17 years.

Injuries

Injuries were common in the 6 - 11 and 12 - 17 year age groups in 10 out of 12 months studied, while no age group was affected for 2 months (April and July). In August all age groups were affected.

Sexually transmitted diseases

Throughout all the months in 1997 the 18 + years age group was affected while the 12-17 year age group was affected in six out of 12 months of the year.

Headaches

In one month only, May, headaches were common among the 12-17 year age group.

Epileptic fits

This condition was significant in 4 months among the group of 12 - 17 years, in one month among the 6 - 11 year and among the 12 - 17 the 18 + age groups.

In summary the age group under study was the most affected group by the common health problems detected except for the sexually transmitted disease that were common among the 18+ age group and intestinal infestation among the 6-11 year age group.

4.2.1.1 Monthly attendance at health centre by age group

Monthly attendance of each age group per month January to December 1997 was calculated and the mean obtained. The average attendance for the year for the 6 - 11 year age group was 32%, 43% for the 12 -17 and 25% for the 18+ age groups. Again the group under study showed the highest attendance in 1997 (see figure 4.2).



Figure 4.2 AVERAGE MONTHLY ATTENDANCE AT HEALTH CENTRE BY AGE GROUP IN 1997.

4.2.1.3 Attendance of children compared to adults in 1997

The total attendance of children in the same year 1997 compared to that of adults was also calculated on a monthly basis and the mean obtained for the year. The average annual attendance of all school going age group (6 - 20 years) compared to adults was 29%.

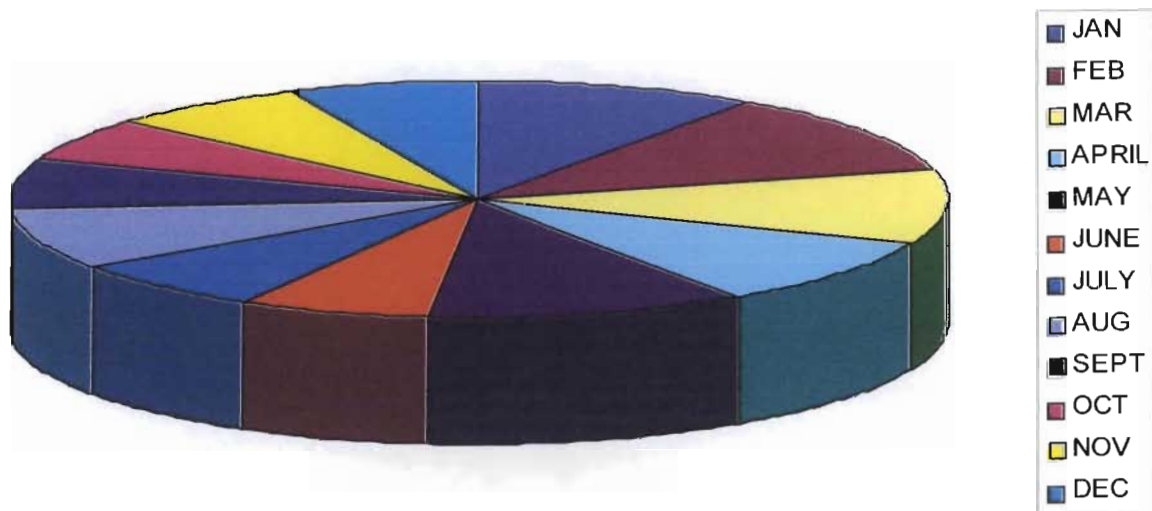


Figure 4.3 MONTHLY ATTENDANCE OF CHILDREN AT HEALTH CENTRE.

4.2.1.4 Referrals of children 6 - 20 years to hospital

Referrals of children to the hospital from the health centre indicated the extent of the

problems that needed either further investigation or treatment. Referrals to hospital showed a gradual decline after May. The referrals were 36% to 44% between January and April to between 8% and 29% in May to December 1997. The annual average percentage of referrals in 1997 was 30%.

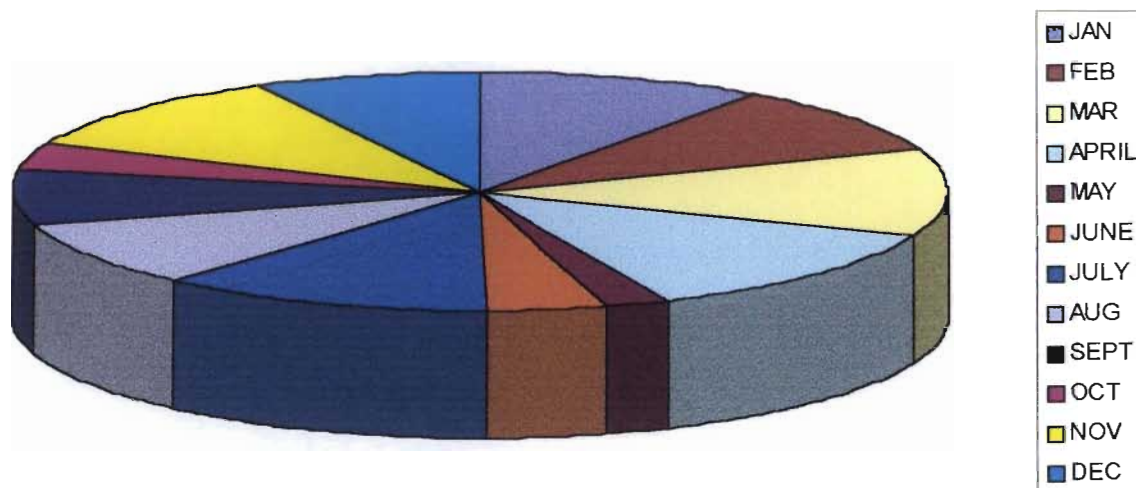


Figure 4.4 MONTHLY REFERRALS OF CHILDREN TO HOSPITAL

4.2.2 Analysis of school health services records

The second method used in the epidemiological approach was analysis of school health services records of the four sampled schools for the year 1997. Of the four schools, however, the school health nurse for the district managed to visit three in 1997 and in 1996 none of the schools were visited due to transport problems as reported by the school; nurse, hence, only the school health records for the three schools visited in 1997 have been used.

Though the target groups for the study were the standard five pupils, the school health records indicated that the school beginners (sub-A) and the school leavers (standard sevens) were examined. The researcher decided to use the results of the classes examined to give an idea of the health problems of school children in general.

4.2.2.1 SCHOOL A

In school A, there were 85 Sub A's. Of the number, three presented with sores, two ringworms, four eye problems and six dental caries making a total of 15 (18%). In standard seven, of the 54 pupils two (4%) had dental caries.

4.2.2.2 SCHOOL B

In school B, Sub A had 86 pupils of which 13 presented with ringworms and one dental caries making a total of 14 (16%). In standard seven, one pupil suffered from an ear problem, two dental caries, one poliomyelitis and one undescended testis making a total of 5 (7%).

4.2.2.3 SCHOOL C

Sub-A had a roll of 74 pupils, of which two (4%) had problems. One presented with a ringworm and other with dental caries. In standard 7, of the 23 pupils one (4%) had a ringworm.

In summary, 380 pupils were seen in the 3 schools of which 39 (10%) presented with problems. There were 17 ringworms, 12 dental caries, 4 eye problems, 3 sores, one with each of the following, ear problems, poliomyelitis and an undescended testis (see table 4.1). Most pupils were found with ringworms ($n = 17$) and dental caries ($n = 12$) according to the school health records.

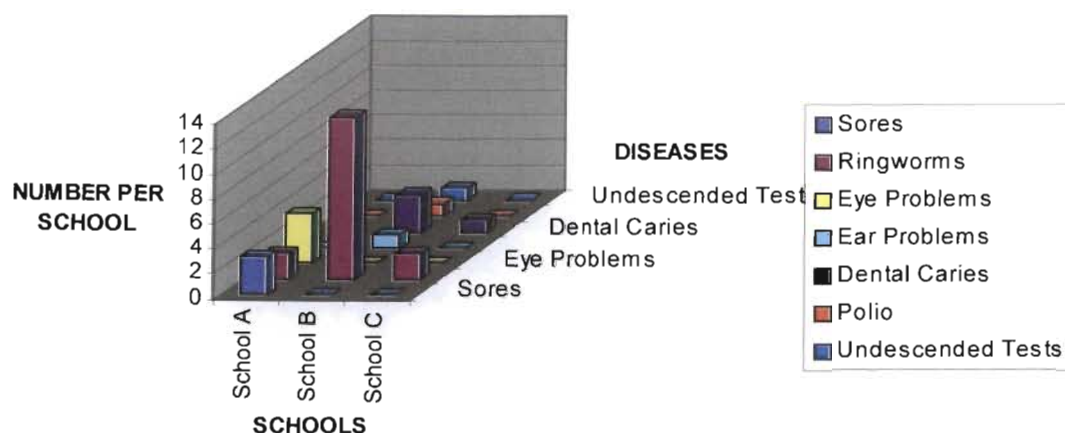


Figure 4.5 HEALTH PROBLEMS DETECTED BY SCHOOL HEALTH SERVICES

4.2.2.4 Comparison of problems detected by health centre records and school health service records

The records as mentioned above were compared and showed significant differences as shown in table 4.3.

Table 4.3 HEALTH PROBLEMS DETECTED BY SCHOOL HEALTH SERVICES

	School A		School B		School C		Total
	Sub A	Std 7	Sub A	Std 7	Sub A	Std 7	
No of pupils in Class	85	54	86	58	74	23	380
1. Sores	3	-	-	-	-	-	3
2. Ringworms	2	-	13	-	1	1	17
3. Eye Problems	4	-	-	-	-	-	4
4. Ear Problems	-	-	-	1	-	-	1
5. Dental Caries	6	2	1	2	1	-	12
6. Polio	-	-	-	1	-	-	1
7. Undescended Testis	-	-	-	1	-	-	1
TOTAL	15	2	14	5	2	1	39

4.2. Conclusion of the epidemiological approach

Common conditions that have been found in the schools and the health centre were skin diseases, ear and eye problems(see table 4.2 below). Childhood diseases that were seen in the clinic among the 12-17 years age group was chicken pox though rarely while at schools it was polio(n=1) and undescended testis(n=1).Dental caries were only found at schools while gastro-intestinal conditions, fever, injuries, epilepsy and headache were not detected at schools.

COMMON HEALTH PROBLEMS	HEALTH CENTRE	SCHOOL HEALTH SERVICES
	YES	NO
1. Gastro-enteritis	YES	NO
2. Fever	YES	NO
3. Infectious Skin Disease	YES	YES
4. Injuries	YES	NO
5. STD's	YES	NO
6. Epileptic Fits	YES	NO
7. Headaches	YES	NO
8. Eye Problems	YES	YES
9. Ear Problems	YES	YES
10. Dental Caries	NO	YES
11. Polio	NO	YES
12. Undescended Testis	NO	YES

Table 4.4 HEALTH PROBLEMS DETECTED BY DIFFERENT SERVICES

4.3 CASE 2: HEALTH EDUCATION NEEDS ACCORDING TO THE CONSUMER APPROACH

Four groups (two groups of boys and two groups of girls) of standard five children from two Junior secondary schools participated in the consumer approach as indicated in section 4.1. Each group was asked one question: " **What are the common health problems among school children?**" The two participating schools have been referred to as school A and B. The problems reported below were spontaneously stated by the school children.

4.3.1 SCHOOL A GIRLS

The above group enumerated the following problems:

Child abuse: The group perceived child abuse as ill-treatment of children either by being given a lot of work or raped by parents and/ or relatives. The group reported that the step- fathers, in most cases, were the perpetrators and as such, children should be warned about them. The group explained that "*an abused child becomes quiet, meek and looks worried at school and fails to explain the cause of such behaviour*".

AIDS and venereal diseases

The group reported that the cause of Aids was having sexual relations with people who have AIDS without using condom and one may contract the disease when helping bleeding people in an accident. Children's fear was that AIDS spread to many people.

Emotional problems

Some children were worried by family problems, which affected their minds and bodies.

Sore throat

Sore throat was also perceived as a common condition among school children.

Epileptic fits

Some children at schools presented with fits.

Tuberculosis

Tuberculosis was also common among school children, whereby a person coughed a lot and the disease was infectious.

Mental illness

The group reported that mental illness was found among the school children, and that the mentally ill should be well cared for and protected as they were usually neglected at the homes. It would seem that mental retardation was not common.

Painful and /or discharging ears

The group reported painful and/or discharging ears with resultant deafness. The group reported that the affected pupils failed to hear the teacher's lessons and appeared stupid.

Eye problems

Sore eyes were common and the pupil failed to see on the blackboard. The group explained that some children at school complained of headaches "*unaware that headaches are due to the strain on the eyes*".

Chicken pox

Chicken pox was also perceived as a common health problem whereby children presented with rash all over the body and was infectious.

Dry and painful chest

The above problem as reported by the group was due to smoking or staying with people who smoked.

Tobacco and dagga smoking

Tobacco smoking damage was reported as damaging the lungs and caused lung cancer. Dagga smoking was also seen as a health problem as the smokers tended to cease communicating with other people and avoided company, were not open to other and thought of mischief all the time and disturbed other children by bullying them. Such individuals became mentally ill if dagga smoking persisted.

Alcohol abuse

Some children drank, yet liquor affected the liver and the brain. The abuser assaulted other people unaware of his condition and failed to account for their deeds when sober. Some children become involved in car accidents because of alcohol abuse.

Injuries / Accidents

The group reported that the following injuries were common among school children:

- . Car accidents as children sometimes left home upset by their parents.
- . Suicide was committed due to conflicts with parents such as when dismissed from home.
- . Stabbing and shooting one another
- . *"Poisoning of one child by another when a child excelled and outshone others in the school work and others become jealousy."* The pupils reported that the other pupils pretended as if provision was shared only to poison the other.

Pregnancy

Teenage pregnancy was also *"common due to misbehaviour"*. The result was that the children experienced difficulties in upbringing the children and gave the children to the mothers. The tendency was to fall pregnant again.

4.3.2 SCHOOL A BOYS

AIDS and venereal diseases

The boys reported that AIDS and 'drop' were common among school children. The group pointed out that the reason was that *"young girls fall in love with older men for money"*.

Drug abuse

Examples of common drugs used were reported as dagga, mandrax and cocaine. The affected user usually assaulted relatives in the homes.

Alcohol abuse

Alcohol was also reported as abused by the school children and had the same consequences as those of drug abuse.

Tobacco smoking

Tobacco smoking was also reported as a common health problem among school children yet it caused lung cancer and that it was also dangerous on the growing foetus in utero if the mother smoked during pregnancy.

Rape

The group mentioned that rape was common and that a raped child failed to concentrate in class.

Measles, tuberculosis and chicken pox

The above conditions were also enumerated as common among school children.

Pregnancy

The group perceived pregnancy among schoolgirls as a common condition. Concern was expressed because some girls tended to fear the parents and attempted to commit suicide or abort. The girls usually left schools and failed to support the children. Due

to poor education some girl ended up working as domestic workers and earning small salaries. The worst could occur when the girls left home and became street children.

Gastro - Enteritis

Stomach-ache with diarrhoea and vomiting occurred due to the use of impure water supplies.

Polio

Polio was also mentioned as a health problem.

4.3.3 SCHOOL B GIRLS

AIDS and venereal diseases

AIDS and venereal diseases occurred due to misbehaviour and failure to use contraceptives. AIDS is lethal and it occurred when boys and girls met sexually.

Tobacco smoking and drug abuse

The group reported that, in particular, tobacco smoking caused lung cancer while dagga affected the brain.

Alcohol abuse

The group stated that school children abused liquor.

Rape

School children were also raped leading to the spread of AIDS and venereal diseases.

Pregnancy

Pregnancy was also reported as common among school children. The affected girls became school drop outs.

Dental caries

The problem of painful and decayed teeth was common among school children.

Painful and/or discharging ears

The children experienced deafness due to discharging and/or painful ears.

Abortions

Some girls aborted following pregnancy because of failure to use contraceptives.

Tuberculosis

Tuberculosis was reported as a common condition.

Skin problems

Two skin problems were mentioned, namely chicken pox and scabies and that they are infections.

Eye problems

The group also reported eye problems as common.

Sores of unknown origin

The group stated that children may have suffered from sores of unknown origin and there could have been underlying diseases unknown to the children.

4.3.4 SCHOOL B BOYS

Tobacco smoking

The group mentioned tobacco smoking and that it resulted in cancer of the lungs and thus affected the body.

Drug abuse

Dagga was reported to be commonly used by youth and was dangerous as it affected both the body and mind.

Alcohol abuse

The group reported that the cause of alcohol abuse was lack of places of recreation in the community.

AIDS

AIDS was seen as a disease which kills.

Sore throat

The common occurrence of sore throat was perceived as a health problem.

Venereal diseases

'Drop' was a common condition among boys due to sexual relations with girls.

Pregnancy

Some schoolgirls became pregnant and left school. Some dropouts became alcoholics and street children.

Tuberculosis

The group reported tuberculosis as a common health problem.

Emotional problems

The group reported that some school children were worried because of the misunderstandings with their parents which led to children not attending school. Other emotional problems were found to be due to children brought up in single parent homes and by sickly parents.

Acne

Acne has also been perceived as a common health problem among school children.

Problems of the ears

There were ear discharges with resultant deafness.

Eye problems

Some children experienced eye problems, which affected their sight.

Learning problems

The group reported that some learning problems which were observed when learners failed to produce good work even when one has read thorough reading has been done.

Boils

Boils were common among school children.

Table 4.5 summarises the results of the consumer approach. A list of problems from all four groups so that common conditions can be easily detected is shown.

Health Problems	School A (BOYS)	School A (GIRLS)	School B (BOYS)	School B (GIRLS)
1. Child Abuse	X	X	-	X
2. AIDS	X	X	X	X
3. Venereal Diseases	X	X	X	X
4. Emotional Problems	-	X	X	X
5. Sore Throat	-	X	X	X
6. Epileptic Fits	-	X	-	-
7. Tuberculosis	X	X	X	X
8. Mental Illness	-	X	-	-
9. Ear Problems	-	X	X	X
10. Eye Problems	-	X	X	X
11. Chicken Pox	X	X	-	X
12. Chest Problems	-	X	-	-

13. Tobacco Smoking	X	X	X	X
14. Drug Abuse	X	X	X	X
15. Alcohol Abuse	X	X	X	X
16. Injuries	-	X	-	-
17. Pregnancy	X	X	X	X
18. Measles	X	-	-	-
19. Gastro-enteritis	X	-	-	-
20. Polio	X	-	-	-
21. Dental Caries	-	-	-	X
22. Abortion	-	-	-	X
23. Scabies	-	-	-	X
24. Sores	-	-	-	-
25. Acne	-	-	-	X
26. Learning Problems	-	-	-	X
27. Boils	-	-	-	X

Table 4.5 LIST OF CONSUMER PROBLEMS FROM SCHOOL A AND B

As indicated in the results already cited, the groups spontaneously mentioned the conditions. Of the number, 6 (22%) problems were mentioned by all groups, namely, STD and AIDS, Venereal diseases, Tuberculosis, Tobacco smoking, Drug abuse with specific reference to dagga. Alcohol abuse, and pregnancy. Further, 6 (22%) problems were reported by 3 out of 4 groups, namely, child abuse, sore throat, chicken pox, emotional problems, ear and eye problems. The remaining 14 (56%) problems were reported by one of each of the groups.

4.3.5 Conclusion of the consumer approach

In conclusion, the list of health problems from the two schools was composed of the conditions that were mentioned by all four groups first (7) followed by those mentioned by 3 groups (6). Those mentioned by one group only will not be listed as common

problems. Those mentioned by four and three groups were:

1. STD and AIDS
2. Tuberculosis
3. Tobacco smoking
4. Drug abuse
5. Adolescent/teenage pregnancy
6. Alcohol Abuse
7. Child abuse
8. Emotional problems
9. Sore throat
10. Ear problems
11. Eye problems
12. Chicken pox

4.4 CASE 3: HEALTH EDUCATION NEEDS ACCORDING TO THE SOCIAL SCIENCE APPROACH

The social science approach in this study made use of the PRECEDE model (see fig.1).

Focus group interviews on the two schools (schools C and D) were conducted on four groups of standard five children, four groups of mothers as carers from the health centre and 4 in-depth interviews of standard 5 teachers in the participating schools using a moderator's guide (see Annexure D). The objective of the interviews was to obtain a social diagnosis of the community under study (phase I of the PRECEDE model)

4.4.1 FOCUS GROUP INTERVIEWS AMONG SCHOOL CHILDREN

4.4.1.1 SCHOOL C GIRLS

In school C the following problems were mentioned by the group:

Poverty

The group explained that the parents did not have money due to unavailability or scarcity of jobs. As a result there was starvation in many families because there was no money to buy food. The families were eating very little food which was in most instances, not nourishing. As a result the children were suffering from malnutrition which the children referred to as "*kwash*" and were in a poor state of health. Children were unable to attend school, as the parents failed to meet the school requirements. There was no money either to build nor maintain the existing homes.

Alcohol Abuse

Some parents drank a lot and spent the available money on liquor with the same consequences as the paragraph above. The group reported that a lot of shebeens mushroomed in the community due to the unavailability of jobs and as means of making money. As a result, the drinking rate in the community was high. Fathers got home drunk, assaulted the wives and children who usually left homes. Sometimes the children accompanied the mothers leaving the fathers to struggle all by themselves in the homes. At times some remained for the sake of schooling. The stepmothers were sometimes taken and the remaining children were ill-treated.

Child Abuse

Child abuse occurred with drunk fathers or stepfathers as the perpetrators. The children were either beaten up and/or raped. As a result the children's school work was affected.

Violence

Violence became rife as a result of too much drinking whereby those affected either shot or stabbed one another and rape also occurred.

Poor Child Rearing Practices

The group reported that difficulties were encountered in bringing up children. The reasons were perceived as the scarcity of money either to buy food, clothing or send children to school. The condition was reported as worse in families who had many children. It was also reported that some mothers were drinking. Some drinking mothers usually took younger children to shebeens and offered them liquor to drink. Mothers also took older children (aged ± 14 - 16 years) to the shebeens. The children were sometimes pulled around by other men as the mothers were drunk and at times children observed mothers relating with other men other than their fathers. Daughters tended to emulate their mothers' behaviour. The result was that children did not get nourishing food.

Drug Abuse

The misuse of drugs such as dagga in the community was reported as another social problem.

Dissatisfaction among Children

Some children were dissatisfied with the way they were treated at the homes due to poor parental care. The children resorted to drinking to relieve frustration. At times friends were invited to attack the parents.

Scarcity of Water

There was scarcity of water for drinking purposes. Water was fetched from the rivers and the same water used for domestic purposes was where the cattle and sheep drank. As a result diseases occurred among people.

Poor Care of the Aged

The aged were poorly handled and/or ill treated. Other family members misused their old age pension which was paid to them by the government bi - monthly. The money was used to buy food for the whole family and clothes usually for the grandchildren.

Some were overworked fetching water and firewood for the family. An instance was mentioned where family members poisoned the blind.

Sexual Behaviour

The group reported that the children were usually well brought up but the trend now was that young girls "*are now deeply involved in having boyfriends though they are still young*". Prostitution was also becoming common in the locality though "*parents do not like such behaviour*". The girls had a tendency of having many friends while parents did not approve of that. Pregnancies among young girls and illegitimacy have become common. The result was that the girls left schools during early ages while the boys remained. Grandmothers had to bring up children. The daughters usually got married and left the children behind with "*struggling*" grandmothers. Prostitution occurred occasionally though parents disapproved. An example of a girl was given who was dismissed from home because of prostitution.

Suicide

The common type of suicide committed was hanging. Among youth, suicide occurred when one misbehaved at home, for example, it was also common among pregnant teenagers. Women also committed suicide following conflicts with drunken husbands:

Barriers to health

The barriers to health were the poor diet eaten and failure of children to visit social workers for the social problems encountered.

Necessary resources

- ◆ The group reported the needed facilities for the community as: water taps to ensure safe water supply.
- ◆ electricity as the candles used sometimes set huts on fire and led to burns among family members while paraffin stoves also exploded with the same consequences as those of candles.

- ◆ social workers to solve social problems
- ◆ jobs for the unemployed
- ◆ police patrols to provide security against violence.

In summary one of the members the group stated that it was *"not pleasant to stay in the locality"* due to violence. The *"type of life we are living is too bad because people have done away with customs and do not know what they are suppose to do now"*.

4.4.1.2 SCHOOL C BOYS

Alcohol abuse

The boys mentioned that there were many shebeens which were always full of people with children also playing around. Females were visiting the shebeens, too. Drunken men sometimes raped females without any determination. In the shebeens fights broke out and other participants pickpocketed the drunk. As children perceived adults as their role models the children *" look at this behaviour with appreciation and emulate it"*. Some drunk fathers clashed with their family members when they reached home. Some of the unemployed men who were supported by their wives were even given money to drink in the shebeens.

Child abuse

Some drunken fathers abused their children when they reached home.

Drug abuse

Dagga was available in the community. The elderly people had a habit of sending children to buy dagga and smoke it in the presence of children. Some children got used to buying it even for themselves.

Unemployment

There was scarcity of food in some homes due to unemployment affecting the uneducated though even learned individuals at times. Due to unemployment there was

crime and people were attacked from work, money demanded and confiscated and sometimes victims were killed.

Sexual behaviour

There was pregnancy among young girls and unmarried older ones, therefore, illegitimacy was common. Young girls dropped out of school following pregnancy. Polygamy was not common. Extramarital relations were also not common as in some cases it was practised when people were from the shebeens and were drunk. Rape was also common.

Housebreaking and theft

Due to poverty among the people, there was housebreaking and theft and people were robbed of their money and property. Housebreaking and theft was also practised by some people who were not poor but were dissatisfied with what they possessed. Another reason for housebreaking was jealousy, for example, competing shebeen owners organised "tsotsis" to destroy other shebeens and take money away.

Conflicts among community members

There were misunderstandings among community members due to divisions among themselves. Some preferred a certain leader while others supported the other.

Position of women in the homes

Traditionally men were heads of families. Women acquired positions of authority only if men were drunk, as migratory labour was becoming scarce.

Poor child rearing practices

Children were badly brought up. Women experienced difficulty in coping due to lack of money. As a result women were involved in small businesses such as selling old family clothes to raise money. The older children were not disciplined and failed to be at home at expected times such as early evenings. Children were disrespectful and

responded to parents carelessly. Although children were supposed to listen and carry out parental instructions the opposite occurred as they assumed authority giving instructions to parents. Lack of discipline was common among children who were spoiled, for example, those who were given a lot of pocket money by the parents, bought liquor and indulged in drinking.

Lack of recreational facilities

There were few sports grounds for soccer and none for rugby, for example.

Inaccessible health care facilities

The clinic was far and difficulties were experienced when taking sick children to the clinic especially during the night when there were no staff members at the clinics.

Lack of toilet facilities

There was lack of toilet facilities except for only a few homes. People used the veld and during rainy seasons, spring water supplies were polluted.

Poor care of the elderly

Some were not well cared for except just before receiving their old age pension from the government. Some relatives received money on their behalf. Once used up, the elderly were ill-treated. Some visited drinking places.

Suicide

Suicide was not common. When it did happen the method used was strangulation through hanging.

Barriers to health

The following were barriers to healthy lifestyles:

- ◆ Lack of enough pure water supply and disease was rife.
- ◆ Lack of land to plough and there was no food production.
- ◆ Poor accommodation as it was common to find about eight people staying in one

small room. There was overcrowding, sharing of poor facilities by family members and passive smoking by children resulted. Exhaustion of breadwinners due to stress was expressed.

- ◆ Poor state of roads, which were poorly graded, caused difficulties in transporting people to hospital particularly during the night.

Resources needed

The required facilities were related to the barriers mentioned in the paragraph above, that is:

- ◆ water taps
- ◆ electricity
- ◆ telephones
- ◆ good roads and
- ◆ ploughing land

In summary the group reported that *"life here is not pleasant to others because of the scarcity of money"* and because there were conflicts that continued to break out among the people.

4.4.1.3 SCHOOL D GIRLS

Rape

Rape was common whereby relatives, for example, brothers, strange people or even people known to the victim were perpetrators. *"A raped girl becomes quiet and fears to report to the parents as instructed by the rapist."*

Alcohol abuse

The availability of shebeens in the community result in alcohol abuse and drunkenness, robbery and housebreaking. Clashes and fights among the drinkers were common and drinking became problematic for some families.

Tobacco and dagga smoking

Smoking of tobacco and dagga was a social problem.

Poverty

Some people lived on non-nourishing diet because of lack of money due to unemployment. Even those who had money misused it by buying liquor instead of food.

Poor child rearing practices

Children were not brought up well and were neglected due to lack of money.

Conflicts among community members

There was discrimination among community members . The reason was that some favoured a certain headman while others preferred some one else. Fights resulted between different groups. Such conflicts delayed community development, for example no electricity or water projects were undertaken as compared to neighbouring communities.

Poor housing and lack of accomodation

Some people owned poor housing while others had no accommodation whatsoever. If the buildings that existed fell people were left homeless.

Sexual behaviour

Although prostitution was not practised as such, there were extra-marital relations, which are done for economic reasons because of poverty(that is covert prostitution).

Pregnancy among young girls and illegitimacy were common.

Poor care of the elderly

The elderly were poorly handled. Either the elderly were robbed of their old age pension or grandchildren stole the money.

Barriers to health

- ◆ There was lack of pure water supply resulting in water-borne diseases.

Needs

The community members needed electricity and water.

4.4.1.4 SCHOOL D BOYS

Alcohol abuse

The group stated that there was heavy drinking in the community. Due to the high drinking rate even at work, some people were dismissed and were without jobs. Alcohol abuse was destructive to individuals and homes. There was physical neglect of self and illness occurred. Some community members presented with "*phuza face*" (the face of a drinker).

Drug abuse

Common drugs used were dagga, sniffing of benzine, glue, paint, petrol and tobacco smoking. Dagga smoking was common among all age groups. Youth smoked due to peer pressure. The group repeated that consequences of dagga smoking were feelings of grandeur, irritability, provocation of others and fighting. Benzine affected the brain. Some victims were involved in ongoing fights and some became street children. The drug abusers' personal hygiene deteriorated, the gait was affected and tremors occurred. Mental illness usually resulted.

Child abuse

The older men fell in love with younger girls for economic reasons as girls needed money. The boys who were left with female siblings at home were tempted and abused the siblings. The abusers were usually people who were drunk or smoked dagga. As a result teenage pregnancy occurred. The older persons denied paternity for fear of losing status in the community. Rape was also common and some step fathers

were seen as perpetrators.

Violence

The availability of shebeens led to people committing crimes under the influence of liquor. In some instances, people were killed.

Poverty

The unemployment rate was high and some members of the community including women stayed in the shebeens. Since there was poverty the community members lived on poor diet.

Poor water supply

The water supplied was unsafe because the homes did not have toilets. As a result gastro-intestinal diseases were common.

Conflicts among community members

The group reported that the locality lagged behind compared to the neighbouring ones, as there were no telephones or electricity due to rurality. Conflicts among community members led to the poor community development of the locality.

Poor child rearing practices

People were not interested in proper upbringing of their children. The children were brought up by the grandmothers.

Care of the elderly

The elderly were not well looked after. The pension money was used to feed the whole family. Some daughters married or went to seek work elsewhere leaving the children to be looked after by the elderly.

Sexual behaviour

Adolescent pregnancy and illegitimacy were common. There was promiscuity among girls for economic reasons.

Resources needed

The group reported that the resources needed were:

- ◆ Employment opportunities
- ◆ Electricity
- ◆ Water taps
- ◆ Clinics
- ◆ Roads and
- ◆ Police patrols

In summary, Table 4.6 shows the list of social problems expressed by the school children in schools C and D. Of the 20 problems, 13 were mentioned by all the groups and three by 3 groups. The problems that were mentioned by two groups were three and one by a single group. Therefore, 16 out of 20 problems were seen as common social problems by children in the community.

Social Problems	School C	School C	School D	School D
	Girls	Boys	Girls	Boys
1. Poverty	X	X	X	X
2. Unemployment	X	X	X	X
3. Alcohol Abuse	X	X	X	X
4. Numerous Shebeens	X	X	X	X
5. Drug Abuse	X	X	X	X
6. Child Abuse	X	X	X	X
7. Violence	X	X	X	X
8. Family Disorganisation	X	X	X	X

9. Poor Child Rearing Practices	X	X	X	X
10. Poor Water Supplies	X	X	X	X
11. Poor Home Hygiene	X	X	X	X
12. Ill-treated Aged	X	X	X	X
13. Adolescent Pregnancy	X	X	X	-
14. Illegitimacy	X	X	X	X
15. Prostitution	X	X	-	-
16. Suicide	X	X	-	-
17. Far Clinics	X	-	-	X
18. Residents Conflicts	-	X	X	X
19. No Toilets	-	X	X	X
20. Children's Dissatisfaction	-	X	-	-

TABLE 4.6 LIST OF SOCIAL PROBLEM BY SCHOOL C & D

Table 4.7 gives the list of resources that school children felt that the community needed, for examples, all groups felt that water taps and electricity were a priority. Of the four groups, two expressed the need for job creation, police patrols, and construction of roads and clinics. The need for social services, and ploughing land were mentioned by one group only.

Resources Needed	School C	School C	School D	School D
	Girls	Boys	Girls	Boys
Water Taps	X	X	X	X
Electricity	X	X	X	X
Social Services	X	-	-	-
Jobs	X	-	-	X
Police Patrols	-	X	-	-
Ploughing Land	-	X	-	-
Recreational	-	X	-	-

Roads	-	X	-	X
Clinics	-	X	-	X

TABLE 4.7 LIST OF RESOURCES NEEDED

4.4.2 FOCUS GROUP INTERVIEWS RESULTS FOR MOTHERS

4 groups of mothers were interviewed at the health centre. The following information was given:

4.4.2.1. MOTHERS GROUP I

Pregnancy among school children

The mothers reported their concern on the rising numbers of school children who become pregnant. Mothers of the pregnant girls had to take care of the babies to avoid child neglect and/or abandonment of babies. Mothers usually sent their daughters back to school only to have the girls become pregnant again.

Alcohol abuse

The mothers saw drinking in the locality as a "*liquor disease*". The problem was becoming worse day-by-day because even the cafes in the rural area sold liquor. The youth were drinking in the shebeens. Some unemployed men visited the shebeens to look on while others are drinking as there was no money. Fights among drinkers and even with families broke out due to the abuse.

Unemployment

There were no employment opportunities as a result youth were becoming "tsotsis" because of hunger. People were struggling to earn a living and housebreaking was rife. Unemployment had led to starvation and people experienced difficulty in surviving.

Impure and scarce water supplies

The water supplies were impure and scarce.

Divorce

There was a high rate of divorce among the couples. The reason was that men habitually rejected their wives. Young couples were not prepared to learn and adjust to the new life (the married life). The result was that wives left homes and moved from place-to-place with no fixed accommodation. The children were scattered living with relatives who were compelled to support them. The divorced women usually became lonely.

Housing

Some families had adequate housing while others did not, due to poverty. As a result difficulties were experienced in building homes and families were overcrowded.

Position of women in the homes

Both women and men had to work in order to make a living. Due to lack of employment opportunities, "piece jobs" were resorted to. As parents were at work, the elderly looked after the children and the upbringing of children was difficult.

Care of the elderly

The elderly were ill-treated. The group reported that elderly people were an asset in the family because the old age pension was the main source of living for the whole family nationally. However, some elderly people were attacked for their pension.

Suicide

Youth resorted to suicide due to their unmet needs. Suicide seemed to be the best solution to the individuals' social problems.

Sexual practices

Polygamy was uncommon while rape was on the increase among the younger girls who were raped usually by the fathers. The mystery was that the courts released the perpetrators very soon. Raped children's mental state was usually affected, became nervous and sometimes wanted to *"run away on seeing any man"*. A rare instance was quoted where 2 girls raped an elderly woman, were charged by the chief and had to pay damages.

Resource needed

The resources needed were seen as follows:

- ◆ Jobs in order to get money to buy food, build homes and *"to bring about some form of civilisation"*.
- ◆ Water as the supplies were scarce and impure.
- ◆ Firewood, as they used cowdung or even bought wood from town.
- ◆ Electricity.

MOTHERS GROUP 2

Violence

The group reported that there was *"a lot of violence"* in the locality and the people's health were affected by worry and health status deteriorating. There was robbery and the elderly were victimised as their money was confiscated because the people were unemployed and hungry.

Poverty

Unemployment had led to violence due to scarcity of jobs. People did not have peace within themselves because there was no money. Others had been retrenched, hence, a high rate of violence and starvation.

Undisciplined children

The mothers were concerned that the children were rude and failed to listen to parental instructions. The children did not respect their parents, and as a result, assaulted in the community. The parents were responsible for lack of discipline as they failed to reprimand them accordingly.

Scarce and impure water

Water was fetched from far and the supplies were unsafe.

Alcohol abuse

Mothers expressed their concern because *"there were many shebeens in the locality which sold liquor to all community members including children"*. Children started drinking during early ages of eight to ten years including girls.

Drug abuse

Common drugs abused in the locality included tobacco and dagga smoking and sniffing of petrol by the youth.

Poor housing and homelessness

Some community members became homeless while some experienced difficulty in maintaining houses, and sought accommodation among the neighbours. The number of homeless were rising and overcrowding was rife.

Care of the elderly

Although the care of the elderly differed from family to family, difficulties were experienced in handling them. It was stated that old age homes offered the best solution as the community members were targeting and exploiting the aged. Grandchildren were demanding money or taking it by force.

Suicide

Suicide was common among the youth. Youth had a tendency of becoming fed up when their demands were not met and when reprimanded following their misbehaviour. Suicide was committed through either hanging or shooting. Suicide was also common among women when the husbands failed to support them.

Child abuse

The young girls were victimised by the fathers. Rape was also common among women, the elderly and children to such an extent that working women lived in fear for themselves when travelling to work and for the children who were left alone at the home most of time. As such, night church services in the locality were stopped.

Sexual behaviour

Pregnancy among school children, illegitimacy and polygamy occurred.

Barriers to health

The group reported the following barriers to health:

- ◆ Alcohol abuse, hence the group recommended that all places that manufactured and sold liquor should be closed.
- ◆ Dagga, and a recommendation was that dagga smuggling should be stopped.

Resources needed

The following resources were needed:

- ◆ Pure water supplies
- ◆ Roads as vehicles were easily damaged
- ◆ Electricity, because car hijacking and theft in the locality was rife as there are no lights and people lived in darkness.

In summary the mothers in this group stated that *"it is not pleasant at all to stay in the locality and it is a pity that we have nowhere to go"*. In the homes there was mistrust between couples, for example, a woman mistrusting to leave the husband with the

children. There is a saying that *"one cannot plant a cabbage and not eat it"*. Men seemed to be complying with that statement.

MOTHERS GROUP 3

Violence

There was violence in the community perpetrated by undisciplined youth in the form of housebreaking and theft. It was further reported that the behaviour had been newly acquired by the youth. Mothers complained that *"Police are negligent. Criminals are released on bail immediately and threaten the victim after release."*

Drug abuse

School children smoked dagga due to its availability in the community, as it was sold by the community members. Other children joined due to peer pressure. Shooting and stabbing among the youth following dagga smoking and resultant hospitalization was common. Some children were expelled or suspended from school. The group expressed concern as to whether expulsion or suspension of children from school was the right thing to be done. Community members, due to anger, and sometimes out of revenge broke into the drug smuggler's houses and assaulted the drug smugglers

Sexual behaviour

Adolescent pregnancy, illegitimacy and polygamy were common. Pregnancy among school children and its consequences was a problem because pregnant girls, following delivery returned to school leaving the children with grandmothers who had no money to provide. Some mothers got married leaving their babies behind to stay with the grandmothers.

Poverty

The fathers were unemployed due to lack of employment opportunities. Poverty imposed emotional stress on community members whose health status was deteriorating.

Alcohol abuse

Availability of a lot of shebeens had led to members of the community indulging in liquor. Working members were given liquor on debit and allowed to pay at the end of the month. The consequences of alcohol abuse were reckless behaviour, denial of change of behaviour, housebreaking and theft of money in order to buy liquor once more.

Poor eating patterns

Some homes were struggling to get food leading to starvation. Scarcity of food was due to drought whereby people were unable to plant crops due to scarcity of water. To cope with the situation mothers were working away from home. As a result the grandmothers looked after and supported the children.

Undisciplined children

Most children whose mothers were working away from home were undisciplined and even lazy to attend school. Most of those children were involved in housebreaking due to lack of parental guidance and care.

Position of women at home

Though husbands were unemployed but stayed in the shebeens, some mothers were working away from homes. As a result children starved as there was no one to cook for them. The consequences were that their husbands were almost always drunk, could hardly look for jobs, and left the homes every morning. They had no sense of responsibility as they came back to their homes in drunken states.

Care of the elderly

The elderly were poorly cared for. Some were assaulted and in one instance it was quoted that the assault had led to death. Grand children demanded old age pension. As a result the pension was the source of living for the whole family. The money was abused and got finished almost immediately. The elderly were left with no money to

attend to their needs such as visiting the health services and buying food.

Suicide

A number of reasons led to suicide in the community such as unemployment, starvation and dagga smoking.

Discrimination among community members

Racial discrimination among community members was crucial such as when Sothos and Zulus lived among Xhosas. As a result members of one race teamed against the other.

Child abuse

Some children were abused and other became pregnant with fathers as perpetrators. As a result competition in the homes arose between the mothers and the daughters in rare instances.

Barriers to health

The barriers to health were scarcity of money, water and firewood.

Resources needed

The group reported that the following were needed:

- ◆ Electricity
- ◆ Water and
- ◆ Police patrols

4.4.2.4 MOTHERS GROUP 4

Drug abuse

The group expressed concern at the extent of the abuse of dagga by the youth in the locality with the result that housebreaking and theft were rife.

Conflicts among community members

There were conflicts among community members particularly among the "haves" and the "have nots" due to jealousy. An instance was quoted whereby neighbours fought because the poor claimed the duck of the rich and in the struggle, the poor asked why the former was having electricity in his/her home while most members of the locality did not.

Alcohol abuse

The problem was that there was a lot of alcohol sold in the locality because even the shops were selling it. The group complained that men were drinking most of the time and were irresponsible at their homes. There were many shebeens which were run as means of raising money due to scarcity of jobs. The drunk were cheated as wrong change was given and sometimes they were pickpocketed. A lot of mischief was found in the shebeens.

Poverty and unemployment

Most community members especially the youth were unemployed due to scarcity of jobs. Some went to Johannesburg where most used to be employed but failed to find jobs. As a result a few got piece jobs locally. Some were ignorant, hence, could not find work. The aged also found problems in getting the old age pension. Elderly people struggled until they were very old with no financial support from the government.

Starvation

Due to the scarcity of jobs and money there was starvation. The condition was aggravated by the fact that the land was barren and with scarcity of water, no crops could be grown.

Scarcity of water and women's health

Community members travelled long distances to fetch water, hence they could not plough the gardens and fields. Concern was expressed that fetching water was hardwork which undermined the health of women.

Poor children's upbringing

It was difficult to bring up children because only mothers supported them, hence, the difficulty in feeding, clothing and educating them. Some mothers requested assistance from the coping relatives. Concern was expressed that some children were so shabby at school that, even though teachers accepted them, they feared going to school and "*meet well-dressed children from better homes*".

Insufficient housing and poor hygiene

There was overcrowding in some homes due to insufficient space. Some homes were falling and roofs were leaking in others and homes were also in poor hyginic states.

Poor care of elderly

The elderly were treated differently as homes differed. Some were badly treated while others were well cared for. The elderly stayed with their children and grandchildren had to support them.

Sexual behaviour

There was no polygamy and even if men had any extra marital relations this was done far away from home. The wife may have suspected that the husband was having an affair but without any proof. Illegitimacy was common.

Child abuse

No child abuse had been observed or heard of by the group.

Barriers to health

The major barrier was stress due to starvation. Women were disturbed emotionally by family problems. Women's health was undermined with heart failure, high blood pressure and weight loss. One respondent stated that *"at night one's heart beats so fast that it can even stop and one can die of frustration"*.

Resources needed

The community members expressed concern on the urgent need for:

- ◆ water taps
- ◆ job opportunities
- ◆ electricity
- ◆ good roads and
- ◆ a clinic (other members felt that that clinic was accessible).

In conclusion, the group explained that community values such as men respecting the wives, neighbours' friendliness to one another and living peacefully in the locality, were still upheld.

4.4.3 REPORT ON INDEPTH INTERVIEW FROM TEACHERS

Four standard five teachers from each of the 4 sampled school were interviewed in depth.

4.4.3.1 STANDARD 5 TEACHER FROM SCHOOL A

Children brought up by grandmothers

The teacher perceived the task of children's upbringing by the grandmothers as a social problem while the parents were away at work. Some parents were in far away places like Johannesburg. Some failed to send money and it was the responsibility of the elderly to support the children. As a result the children were malnourished.

Housing insufficiency

The homes did not have enough space for the family members and as a result there was overcrowding.

Alcohol abuse

Liquor was the major problem in the community as more shebeens were mushrooming as a way of making money. On the contrary the drinking rate was high while people were unemployed and did not have money. Men stayed in the shebeens and did not participate in few development projects that were in progress. Projects that were not brought up by the community members themselves were not supported. The unemployed expected handouts. Very few were beginning to show interest in small businesses such as selling fruit.

Unemployment

Unemployment was rife for both men and women, hence, men spent most of their time in the shebeens. Women flocked to school to prepare school feeding scheme for children so that in turn they could get their shares.

Starvation

Due to unemployment, apathy and laziness some homes experienced starvation. As a result children became drowsy at school. Children were depending on the school feeding scheme for the day's meals and complained if it was not available at times. As a result children suffered from ringworms and had no school uniforms.

Apathy and laziness

Some community members lacked interest and were lazy to work, even when given petty jobs skills to undertake such jobs were lacking.

Poor discipline among children

Clashes occurred between parents and their children over certain issues. One instance

the teacher was aware of, was over religious matters such as attending evening services. Children who attended evening services were drowsy at school. Some children stayed on their own while the parents were at work. As such, children were undisciplined.

Care of the elderly

The elderly could hardly be cared for because most of them were looking after the grandchildren. The old age pension were means of living for the families.

Violence

Violence was rife in the community. Fights and shootings among the youths were common. Homes and schools were broken into for theft in order to sell and raise money, in the school, for example burglars looked for typewriters and school stamps. Children used the school stamps to cheat by writing reports promoting themselves to higher classes and applying for admission in other schools. Destructive behaviour occurred as a result of hunger.

Interest in school affairs

Parents showed no interest in school affairs. Even when they were invited for school meetings, only a few attended.

Suicide

Though suicide was scarce, the boys were the ones who committed suicide by either shooting or hanging. The underlying reasons were lack of school fees or when reprimanded. In rare instances women also committed suicide. One instance quoted, was when one woman was not supported financially by the husband. The woman poured paraffin all over the body and set herself alight.

Child abuse

It is not clear if this is a problem. Incest seems to be and illegitimacy seemed to be a problem, too.

Resources needed

The teacher reported the following resources as needed:

- ◆ Pure water supply
- ◆ Teaching of skills to community members for example brick making and building to encourage use of local people if building is to be constructed.
- ◆ Road construction
- ◆ Electricity
- ◆ Clinics, as the available one is too far
- ◆ Closing of shebeens and even the places from where liquor was manufactured
- ◆ Stop dagga smuggling
- ◆ Toilet facilities as those families near schools and church used the school's and church's toilets.

SCHOOL B STANDARD 5 TEACHER

Alcohol abuse

The teacher stated that "*Liquor is the major problem because there are too many shebeens*". As a result, the unemployed stayed in the shebeens seemingly unaware of the responsibilities at their homes. Even school children visited shebeens due to lack of parental control. There were conflicts in the families due to drunkenness and the neighbours were disturbed during fights with noise and destruction of property. Vulgar language was used in the presence of children. People's morals were generally low. The unemployed shared liquor with the unemployed friends.

Unemployment

Due to the scarcity of jobs a number of people were unemployed. Families that were not supported financially could not afford to buy nourishing food, school uniforms or

send children to the schools. The majority were unemployed due to some retrenchments that were reported as recent.

Child abuse and rape

Rape and child abuse were not common.

Housing patterns

Some houses were of standard. Some few families used small huts which were overcrowded.

Poor eating patterns

Families eating patterns were poor not only due to unemployment but due to ignorance among the uneducated. Communication between the educated and the uneducated was poor and ideas were not shared. The ignorant fed on any type of food available and as a result malnutrition (underfeeding) was common.

Water supplies

In most homes there were water tanks while the poor fetch water from the river. The problem was encountered during drought when the water was scarce and not clean and people did not know how to purify it.

Toilet facilities

Some families did not have toilets in the homes. Some people did not care about privacy, were careless and unaware of the healthy living standards. Homes were not kept clean either.

Position of women at home

Women were "*struggling*" as all the work was done by them. As most men were unemployed women maintained the homes and worked alone without the cooperation of the husbands.

Parenting styles

No one cared about what children ate. Parents were just there without showing interest in the progress of the children, for example, praise the children for good performance at school.

Lack of discipline

Children lacked discipline. There was no privacy in the homes. Children witnessed fights that occurred among parents which used to happen within closed doors in the olden days, without children noticing. Some parents gave liquor to their children.

Care of the elderly

The teacher stated the value of aged had gone down in the community. The aged were no longer well cared for, clothed or attended to when sick and it was such a "*pathetic*" situation. It was because not only men were drinking but the daughters-in-law who were suppose to be taking care also drank. As a result the old age pension was not used for the needs of the elderly but for the well-being of the whole family.

Sexual behaviour

The youth started falling in-love during their early ages for economic reasons such as food and clothing. There was promiscuity among the youth because of alcohol abuse. Sexually transmitted diseases among school children had been reported by the clinic staff and teenage pregnancy was also common.

Resources needed

The teacher mentioned the following:

- ◆ Agricultural practices should be encouraged.
- ◆ Skills teaching and involvement in projects such as sewing, ploughing gardens and parenting skills.
- ◆ Motivation for employment opportunities by inviting industrialists to open up projects so that people got work.

- ◆ Speed up the water project which was under the plans of the community.
- ◆ Community members should work hand-in-hand with the government and not await handout.
- ◆ Encourage religious practices such as church going among youth in order to drop the prevailing level of violence.

4.4.3.3 STANDARD 5 TEACHER FROM SCHOOL C

Impure water supplies

The teacher reported that the community members lacked education about healthy ways of living. Water was impure and the users did not purify it. Children were not restrained from swimming in the water used for domestic purposes. The very same water was drunk by cattle. No spring protection was done even if the community members were requested to do so. Drinking water was full of tadpoles. As a result the users suffered from gastro-intestinal diseases. Water was the most important need of the people yet community members did not cooperate to keep it clean.

Inability to plough land

There was drought with resultant scarcity of water. Community members had to buy vegetables instead of ploughing the land.

Poverty and unemployment

Most people were unemployed and tried to cheer up through liquor and, as a result, committed evil deeds. Since most people were uneducated, there was no money and diseases were rife due to poor eating habits.

Lack of cleanliness in the homes

The homes' state of hygiene was poor. Cleanliness was lacking, as a result people were reluctant to receive visitors. The children were untidy at school. This was because mothers were drinking. The teacher mentioned that it was not unusual to find them sleeping even during the day.

Alcohol abuse

People in the community were abusing liquor. There were many shebeens and "*drinking is a way of life in this locality*". Even the mothers enjoyed themselves in drinking and were irresponsible, not bothering what children ate. Mothers became more relieved when government introduced feeding scheme. The teacher stated that drinking "*is the major issues in this area*".

Lack of discipline

The children were undisciplined because most of the time the parents were away from homes. Teachers in the school were living under fear of theft by school children because children drank, too, at their age. So the teachers had to take care of their bags all the time or else the money in the bags was stolen. It seemed as if only schools were concerned about the discipline of the children. Children play funny games and were noisy in the locality even during the night. Parents did not commit themselves in any constructive deeds.

Sexual behaviour

Adolescent pregnancy and illegitimacy were common but polygamy was not practised.

Conflicts between scholars and non-scholars

Young girls fought over boys. Fights also occurred between the children who were still attending school and those who were dropouts. The teachers were sometimes forced to be either tactful when dealing with such cases or ignore them because sometimes interference led the teacher into conflict and danger when out of school as the children retaliated.

Children upbringing

As indicated in the above paragraphs it was poorly done.

Poor care of the elderly

The elderly were poorly cared for. The old age pension was stolen from them. The pension was also used to support the whole family.

Lack of motivation among people

People, were apathetic and lazy to work. Even if projects on skills training were brought up, for example, Transkei Appropriate Technology Unit (TATU) at some stage showed interest, no co-operation was obtained from the community members.

Resources needed

The teacher perceived the following as resources needed:

- ◆ Toilet facilities as the community members did not own toilets. The school itself did not have toilets for some time until the teachers managed to build one on their own which they shared with school children.
- ◆ Pure water supply
- ◆ Firewood
- ◆ Skills' training for example for ploughing the land and brick making.
- ◆ Health educators to teach people on healthy life styles.

4.4.3.4 STANDARD 5 TEACHER FROM SCHOOL D

Conflict among community members

There were divisions among community members due to clashes among themselves. One of the reasons was that some community members were proud. Those who were ignorant did not humble themselves and failed to give those who were educated or skilled a chance lead. Each member wanted to appear to have brought in constructive ideas within the community. Jealousy prevailed and the educated were more problematic. As a result progress in the community was retarded because the members did not have the same vision, common concern and goals. However, breakthroughs occurred at times. Generally, people in the community were partying and were leading

happy lives in most instances.

Lack of discipline in the community

The community members were "loose" and there was lack of discipline. This problem was *"very deep in the community"*. Parents failed to control their children. Measures of discipline were applied by females most of them within families. Fathers were weak and failed to look after the interest of the children. Fathers were reported as acting forcefully when they applied disciplinary measures when necessary. As a result children feared and did not respect them. In the absence of fathers children lacked discipline.

Another contributory factor that led to lack of discipline was single parenthood in the society. However, as indicated in the paragraph above, there was lack of discipline even among nuclear families:

Poor children's upbringing

Mothers were the people who stayed with children most of the time and were struggling. Supporting children was a *"heavy load"* and mothers failed to cope because married ones had to support their husbands as well, hence, the problem of lack of discipline even among children of married couples. There were problems with both broken and stable families as far as parenthood was concerned. The teacher reported that this could be due to the fact that *"some laws were oppressive to the women and women violated them but went beyond limits"*. As a result parents especially single parents were not disciplined and civilised and misbehaved in the presence of children such as changing lovers. As parents were role models, the children emulated such behaviour when they were growing because the children had been living under such evil environment.

Sexual behaviour

Polygamy existed but had not been successful. The involved people did not succeed in practising it these days and fights occurred among couples if it has been observed. Extra-marital relations were practised. Among non-believers, clashes among women over men end up with women going

to see witchdoctors. *"It is unfortunate that some children are brought up in such environments"*.

Unemployment

Some parents were unemployed and there was no money in the homes. As a result some school children could not afford to carry provision while going to schools. Hungry children became drowsy during lessons as feeding scheme catered for children up to standard two. These children became greedy when others ate. Parents could not afford to buy school uniform, too. The children's personalities were affected by the poor state of families.

Scarcity of water

There was scarcity of water both at homes and in school. In schools the water tanks ran dry in winter and children suffered, as they had to travel a long distance to a shop to ask for drinking water.

Health care facilities

The clinic was rather far and most children could not use it due to poor access. There was a need for a clinic next to the school because when the child was sick the teacher had to send the child home to the parents who may be staying far. While the child was on the way home alone, security was not guaranteed as some children crossed the river.

Child abuse

There were known incidents of children who were abused by their own parents. Sometimes the teachers were not sure whether the abusers were a real parents or stepfathers. As a result the children show change of behaviour in class and usually failed to ventilate.

Care of the elderly

The elderly were not well cared for except in few homes. Children demanded their old age pension.

Suicide

Suicide rarely occurred at times among the youth, for example, using gunshots. The causes were usually unknown.

Resources needed

The teacher reported that the community needed the following:

Pure water Supply

Working opportunities to help the unemployed.

Recreational facilities for all children including those who were not attending school.

Building of morals through religious belief.

In conclusion the teacher stated that *"life in this community is not giving any hope Evil is continuing"*.

4.5 SUMMARY OF THE RESULTS OF THE PRECEDE MODEL

4.5.1 PHASE I SOCIAL DIAGNOSIS OR QUALITY OF LIFE

Phase I of the PRECEDE model is the social diagnosis or assessment of the quality of life (see Figure 4.6). In this study, the social diagnosis of the community under study has been determined by data collected from 3 sources, namely, four group of focus group interviews of standard five children from two schools, four focus group interviews of mothers from the health centre and four in-depth interviews of standard five teachers from the four sampled schools. The underlying belief of this phase of the model is the reciprocal relationship between social and health problems.

Table 4.6 displays the common social problems perceived by children in schools C and D. The mothers and teachers have mentioned the same problems and thus the social diagnosis of the community was confirmed by the three different sources.

In addition teachers expressed concern about lack of co-operation of parents in school affairs such as poor attendance in parent-teacher-students associations (PTSA) or school

governing council and children who attended school without breakfast. Teachers also voiced out that some children were untidy when they came to school. Mothers also expressed concern on divorce/separation, undisciplined children and youth, poor ill health due to hard work such as fetching water and firewood from afar and general emotional stress due to worry as a result of poverty, hence their health deteriorated. Parents and teachers reinforced the problem of conflict among residents, which was mentioned by children.

In summary, the picture of this community which emerged from the interview was one of poverty (unemployment, starvation, poor housing and homelessness etc), lack of cohesion in social structures (divorce, community conflicts, poor attendance of meetings etc.), social change (increasing number of shebeens, family disorganisation, normlessness etc.) and abuse, violence and exploitation (child, women and Aged abuse, intimidation, crime, lawlessness etc.). Although factors were categorised accordingly, categories overlapped as one factor could be classified under more than one category.

4.5.2 PHASE 2 EPIDEMIOLOGICAL DIAGNOSIS

In the epidemiological diagnosis phase, identification of specific health problems which emanated from the social problems were cited. Available data and data generated through specific investigations was used. In this study health records from the health centre and school health services confirmed the epidemiological diagnosis as according to Green and Kreuter (1991) health problems have to be measured objectively rather than subjectively. Therefore, the epidemiological approach, the first approach of the study, becomes a component of the social science approach in the PRECEDE model.

The relationship between the social and the epidemiological assessment according to the PRECEDE model is determined by two approaches, the reductionist and the expansionist approaches. This study makes use of the reductionist approaches whereby some health problems were deduced from the social problems though the respondents

so voiced out some.

Phase 3 Environmental and Behaviour Diagnosis	Phase 2 Epidemiological Diagnosis	Phase 1 Social Diagnosis
<p>Environmental</p> <p>No Industries</p> <ul style="list-style-type: none"> • Lack of jobs <p>Lack of Infrastructure</p> <ul style="list-style-type: none"> • Toilets • Roads • Land • Electricity • Firewood • Housing <p>Behavioural</p> <ul style="list-style-type: none"> • Laziness and Apathy • No outside projects supported • Leaving children with grandparents • Unsupported children • Lack of parental co-operation in school affairs • Alcohol and Dagga abuse • Child abuse • Early sexual activity 	<ul style="list-style-type: none"> • Malnutrition • Alcohol Abuse • Dagga Abuse • Suicide • Gastro-Intestinal Disorders • STD's • Adolescent Pregnancy • Tuberculosis • Tobacco Smoking • Child Abuse 	<ul style="list-style-type: none"> • Poverty: • Homelessness • Poor Housing • Poor Home Hygiene • Prostitution • Children's Dissatisfaction • Unemployment • Starvation <p>Social Change:</p> <ul style="list-style-type: none"> • Increase in Shebeens • Family Disorganisation • Illegitimacy • Undisciplined Children • Normlessness • Poor Child Rearing practices <p>Abuse, Violence and Exploitation</p> <ul style="list-style-type: none"> • Child Abuse • Women Abuse • Ill-treated Aged • Prostitution • Rape • Intimidation • Lawlessness • Crime <p>Lack of cohesion</p> <ul style="list-style-type: none"> • Divorce/ separation • Community conflicts <p>Poor meeting attendance</p>

**Table 4.8 SUMMARY OF FINDINGS
ACCORDING TO THE PRECEDE MODEL**

4.5.3 PHASE 3 BEHAVIOURAL AND ENVIRONMENTAL DIAGNOSIS

The third phase of the PRECEDE model is the behavioural and environmental diagnosis which is a systematic analysis of behavioural and environmental links to the problems which were identified in the epidemiological or social diagnosis (Green & Kreuter, 1991). The environmental diagnosis indicated that there were no industries (lack of jobs), lack of infrastructure (bad roads, lack of toilets, no fire wood, poor housing, etc.). The behavioural diagnosis showed the laziness and apathy, alcohol and dagga abuse and unsupported children who are left with grandmothers (see Table 4.8). This table has been arranged from left to right according to the PRECEDE model.

4.6 CROSS CASE ANALYSIS OF HEALTH EDUCATION NEEDS

The health education needs of school children as determined through the three approaches used indicated that the epidemiological approach is disease oriented, selective in approach, medically orientated and uses the top-down approach.

The results of the consumer approach indicated that it is a mixed approach as it has yielded both disease-orientated conditions and social problems. The results of the PRECEDE model were comprehensive, giving a better understanding of the community – their habits, lifestyles and traumatic experiences. It is a human empowering approach as representative stakeholders shared their problems. The problems that were detected by all three approaches were sexually transmitted diseases and teenage pregnancy. A list of ten common health problems from the epidemiological and consumer approach appear on table 4.9 below. The list of the PRECEDE model is very comprehensive (see table 4.8) Eight out of ten conditions detected by the consumer approach were diagnosed by the PRECEDE model, except some throat, ear and eye problems.

Epidemiological	Consumer	Social Science
Fever	STDs	Families: poor child-rearing practices poor conflict management
Injuries	TB	Health protection: communicable diseases -TB -STDs life habits -smoking -drinking environment -toilets -hygiene
Skin diseases	Smoking	Good citizenship: No respect for:- -law -neighbours -institutions
Epidemiological Approach		Consumer Approach
1. Fever		STD's
2. Injuries		Tuberculosis
3. Skin diseases		Tobacco smoking
4. Gastro-Intestinal		Drug abuse
5. STD's		Teenage pregnancy
6. Epilepsy		Alcohol abuse
7. Headache		Child abuse
8. Dental caries		Emotional problems
9. Ear and Eye problems		Sore throat
10. Teenage pregnancy		Ear and Eye problems

Table 4.9 Common health problems from the epidemiological and consumer approaches.

Administrative
Diagnosis

Educational
Diagnosis

Behavioral
Diagnosis

Epidemiological and Social
Diagnosis

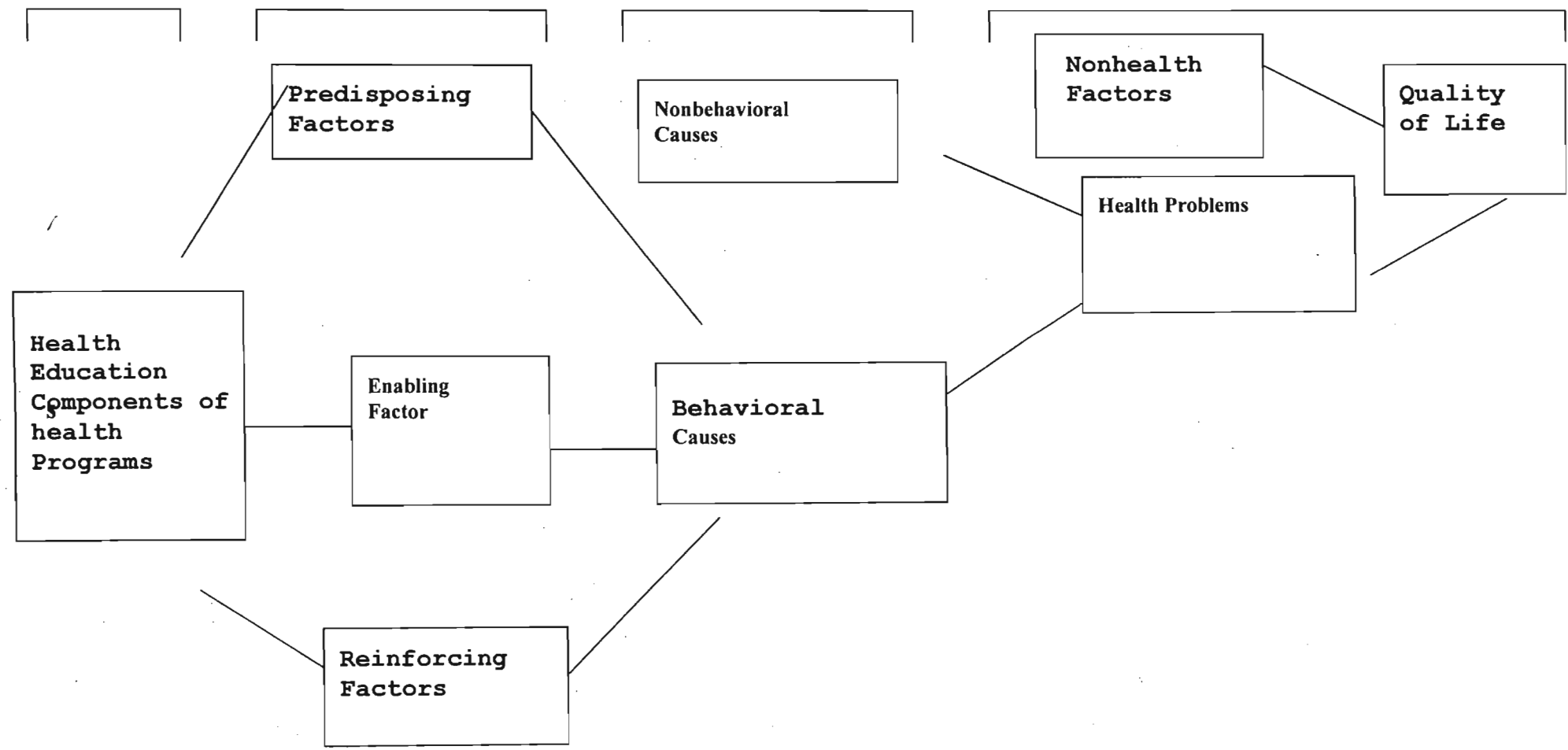


Figure 4.6 PRECEDE MODEL

TABLE 4.10 COMMONALITIES AND FOCUS OF NEEDS IDENTIFIED

	PHYSICAL	MENTAL	SOCIAL/CONTEXTUAL
All three approaches	STD		Teenage pregnancy/ early sexual activities
Two approaches	TB Eye and ear problems	Alcohol abuse	Smoking
Only one approach	Injuries Gastro-intestinal Skin Epilepsy Dental caries	Drug abuse	
Could be same	Fever Sore throat	Headache/Emotional problems	Child abuse/poor child rearing practices

4.7 INPUT ANALYSIS

4.7.1 Analysis of health problems in relation to time taken

4.7.1.1 Case 1: Time Taken Using the Epidemiological Approach

The epidemiological approach used 72 hours 15 minutes. Although in the epidemiological approach the records from the health centre and school health services were analysed, only one hour was spent on analysis of school health records. The latter records were scanty and thus gave poor results. Therefore, the strength of the epidemiological approach was on the records from the health centre.

The scantiness of school health records might be due to the fact that the school nurse visited each school almost once a year though it was supposed to be twice. Failure to conduct a visit and a follow-up might be due to the high number of schools in the district the nurse served. Secondly, on the day the schools were visited, many children were to be seen from different classes - Sub A, Standard five and seven and lastly the ratio of nurses to pupils in each visit was relatively high.

On the other hand, the results from the records of the Health Centre might be more informative because children were sent for visits by their parents, teachers and on their own, for some conditions, without parental knowledge or approval. The ratio of nurses to clients in the health centre was more reasonable compared to the school nurses' to children at the schools.

The results of the health problems identified in the health centre were, indeed, objective in the sense that many conditions were reported by the children themselves. On the list of fifteen conditions, the first eight were reported as the commonest among the 12-17 years age group. These were fever, injuries, infectious skin diseases, which included scabies and ringworms, gastro-intestinal disorders, sexually transmitted diseases, epileptic fits, headaches, dressings. Other conditions included eye and ear problems, childhood diseases mainly chickenpox, asthma and teenage pregnancy and miscellaneous conditions. Of the list from the school health services, only five conditions were detected, four of which tallied with those detected through the records from the health centre, namely, skin conditions, ringworms, ear and eye problems. The fifth one was dental caries.

4.7.1.2 Case 2: Time Taken Using the Consumer Approach

In the consumer approach, the children themselves as consumers voiced what they determined as common health problems. The time taken to conduct need assessment in this approach was 47 hours 20 minutes. From the list mentioned the following twelve were detected as the most frequently occurring, namely, AIDS, venereal diseases, tuberculosis, tobacco smoking, drug abuse, teenage pregnancy, child abuse, emotional problems, sore throat, headache, eye and ear problems and chicken pox.

When the list of consumer health problems was compared with the list diagnosed by the epidemiological approach, eight conditions were found to be common to both approaches, namely, AIDS, venereal diseases, tuberculosis, tobacco smoking, drug abuse, teenage pregnancy, child abuse, emotional problems, sore throat, headache, eye and ear problems and chicken pox. The health centre's report did not include tobacco smoking, child abuse, drug abuse and emotional problems which children identified, as their felt needs. Children in the consumer approach also mentioned tuberculosis.

4.7.1.3 Case 3: Time taken using the social approach (the PRECEDE model)

The social science approach used more time than any of the two approaches combined, which was 113 hours 40 minutes. The approach yielded comprehensive results on the social diagnosis of the community under study exposing the underlying problems that gave rise to the health problems together with some health problems, too. The major problem was poverty in most children's homes, which led to normlessness and lawlessness in the community with resultant high rate of violence, crime, and all types of abuse to women, children, elderly, alcohol and drugs.

As such, from the social diagnosis, the following health problems were derived - malnutrition, gastro-intestinal disorders, adolescent pregnancy, sexually transmitted diseases, suicide. This list is a little different from the problems produced through the use of the consumer approach namely, malnutrition, fever, chicken pox and suicide. However, it was rare to have conditions that were common in all three approaches except sexually transmitted diseases and teenage pregnancy.

4.7.1.4 Cross case analysis on time

Analysis of time spent on each approach showed that the social science approach compared to the other two approaches consumed the most of time (see table 4.11). Some reasons that could be given for the greater demands on time were that it was the most comprehensive approach because data was gathered from a number of respondents, namely children from the two schools and mothers as carers from the Health Centre through focus group interviews, and in-depth interviews of four teachers, one from each of the four sample schools. Transcribing of data from the tapes from all the interviews, data analysis and report writing also demanded more time.

Time taken in analysing in health records in the epidemiological approach was the second highest. Analysing records from the health centre demanded a lot of time for two reasons, namely, that as the health centre served 45 localities, the average number of clients seen per day was high.

Secondly, one register was used for all the clients of all age groups that were assessed and treated.

Therefore, analysis meant that even though the study was on children, pursuing the "Assess and Treat" book, which included adults, was done covering a one-year period, January to December 1997. Thirdly, not only the attendance of the group under study was observed, that is, the 12 to 17 year age group but this group was analysed in relation to the group below (6 to 11 years) and the group above (+18 years). Lastly, two sets of records were analysed in this approach, those from the health centre and school health services.

The consumer approach whereby children from two schools were interviewed through focus groups took the least time compared to the other two methods. Still in actual working hours, this approach takes more than one week of a person's time on a full time basis (47 hours 20 min).

Although the time taken to conduct each approach is of significance analysis could not be done in isolation of the results yielded by each because the aim of need assessment is efficiency, that is to obtain the correct diagnosis in the best way but with minimum costs. The amount of time taken determined part of the cost, the more time taken was done in relation to the results of the health needs detected.

4.7.2 Analysis of Skills of the Professionals

Analysis of skills of the professional nurses who can conduct needs assessment has been done using a questionnaire (See Annexure C). The questionnaires were distributed to two health centres one of which has 28 registered nurses, no enrolled nurses and 2 nursing assistants and the other one has 10 registered nurses, 2 enrolled nurses and 2 nursing assistants. Only registered nurses were allowed to fill in the questionnaire since one health centre did not have enrolled nurses. A convenient sample of twenty two and eight registered nurses respectively was obtained.

4.7.2.1 Case 1: Skills necessary for the Epidemiological Approach

Of the 30 registered nurses, six felt that nursing auxiliary nurses could use the epidemiological approach, two rated the enrolled nurses while 22 felt that registered nurses could use the epidemiological approach. All registered nurses reported that they are capable of using the method.

4.7.2.2 Case 2: Skills necessary for the Consumer Approach

Of the 30 registered nurses, all felt that no auxiliary nurses can use the consumer approach, two rated that the enrolled nurses can use the consumer approach and 28 rated that only registered nurses can use the approach. All the respondents rated that they have the capacity to use the approach.

4.7.2.3 Case 3: Skills necessary to use PRECEDE model

The social science approach used the PRECEDE model. On the questionnaire skills listed were those relevant to the use of the PRECEDE model. Of the 30 professional nurses, 15 felt that professional nurses with no additional qualification are competent to use the model, while the other 15 felt that only nurses with an additional qualification can master the skills listed. Of the thirty nurses that were expected to rate themselves as to whether they are capable of conducting needs assessment using the PRECEDE model, only five rated themselves as capable.

4.7.3 Cross case analysis on staff skills

Of the three approaches, on the average the epidemiological approach needs simple skills (nursing auxiliary level) and average skills (enrolled nurse level), the consumer approach needs complex skills (registered nurse level) while the social science approach needs specialised skills (registered nurse with additional qualification).

TABLE 4.11 TIME TAKEN TO CONDUCT NEEDS ASSESSMENT USING DIFFERENT APPROACHES

ACTIVITY		TIME TAKEN
1.	Epidemiological approach	
1.1	Request permission to conduct the study health centre	30 mins
1.2	Analysis of records from the health centre	60 mins
1.3	Analysis of records from school health services	1 hour
1.4	Report writing	10 hours
1.5	Travel time	30 mins
1.6	Communicating results to nurses in the health centre	15 mins
1.7	Sub-total	72 hrs 15 mins
2.	Consumer Approach	
2.1	Request permission from two schools	1 hour
2.2	Setting up four focus groups	2 hours
2.3	Conduct four focus groups	4 hours
2.4	Transcribing data from tape records	20 hours
2.5	Data Analysis (four groups)	8 hours
2.6	Report writing (four groups)	10 hours
2.7	Travel time	1 hour 20 mins
2.8	Communicating results in two schools	1 hour
2.9	Sub-total	47 hrs 20 mins

3	Social Science Approach (PRECEDE model)	
3.1	Request permission from two schools	1 hour
3.2	Request permission from mothers	1 hour
3.3	Setting up of four focus groups of school children	2 hours
3.4	Conducting focus groups of school children (4 groups)	4 hours
3.5	Transcribing data from tapes (4 groups)	20 hours
3.6	Setting up of four focus groups of mothers	1 hour
3.7	Transcribing data from tapes (4 groups)	20 hours
3.8	Individual teachers interviews	5 hours
3.9	Transcribing data from tapes (4 groups)	20 hours
3.10	Data analysis in children's focus groups	8 hours
3.11	Data Analysis in mothers' focus groups	8 hours
3.12	Data Analysis in teachers' interviews	8 hours
3.13	Report writing	12 hours
3.14	Travel time	2 hours 40 mins
3.15	Communicating results in two schools	1 hour
3.16	Sub-total	113 hrs 40 mins
TOTAL TIME		233 hrs 15 mins

CHAPTER 5

SUMMARY OF RESULTS, DISCUSSIONS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

5.1 INTRODUCTION

This study aimed at investigating the needs assessment phase of the health education process for school children. Its objectives were to identify the needs of school children using three approaches, namely, the epidemiological, consumer and social science approaches. In relation to the stated objective, another objective was to analyse the inputs and outputs pertaining to the approaches used. In the former (inputs), the skills necessary for the professionals to conduct each approach and the time taken to use each were investigated. In the latter (outputs), the needs identified by various approaches were analysed. In particular analysis of the differences in the needs identified and prioritisation was done.

The study was conducted in relation to the various researchers' opinions about the health education given to children in schools. One author cited that little or no attention is paid to the needs assessment of school children, instead the school health services are routine and task-oriented and that no differentiation between needs of rural and urban children has been done (Dines & Cribb, 1993). Further, that the health education in schools was misdirected and neglected (Hawes, 1995). The transformation of health services in South Africa according to the current National Health Plan (1994 (a):62) places child health as a priority. The plan stipulates the need for the development and implementation of school health education programmes with emphasis on the preventive and promotive approach (ANC, 1994). It is in the light of the above statements that this study on the needs assessment phase of the health education process has been conducted.

5.2 THE SUMMARY OF RESULTS

5.2.1 The needs assessed

This sub-section gives the summary of results of the needs assessed using the three approaches and the differences of the results. Only sexually transmitted diseases and teenage pregnancy were perceived as problems among school children in all three assessment approaches. Although the eye and ear problems were detected by the epidemiological approach but when z-scores for these conditions were worked out eye and ear problems gave negative scoring denoting that they were not significant for the group under study. Differences were marked between the needs identified using epidemiological, consumer and social science approaches. Table 4.7 shows that of the ten conditions, three appeared in two approaches, namely, sexually transmitted diseases, teenage pregnancy and ear and eye problems. Headache has only been identified through the epidemiological approach and emotional problems only through the consumer approach. It is unclear whether headaches are related or due to emotional problems.

On the other hand, eight of the ten health problems identified by the PRECEDE model were also detected by the consumer approach (see Table 4.6 and 4.7). In summary the consumer and social science approaches identified more or less the same problems.

5.2.2 Time taken to conduct each approach

Analysis of time taken to conduct each approach was done and found to be 72 hours 15 minutes for the epidemiological approach, 47 hours 20 minutes for the consumer approach and 113 hours 40 minutes for the social science approach (PRECEDE model).

5.2.3 Professionals' skills in conducting each approach

Lastly, the study investigated the category of nurses that have the necessary skills to conduct each of the three approaches. On the average professional nurses perceived themselves as the category that can competently use both the epidemiological and the consumer approaches. With the use of social science approach half the sample of the professional nurses felt that only professional nurses with the additional qualification can use the PRECEDE model while the other half felt that any professional nurse can use it.

5.3 DISCUSSIONS

5.3.1 Needs assessment approaches

The purpose of the study was, to identify the approach that is efficient and effective in needs assessment of school children, while at the same time, identify health problems upon which their health education can be based. The conceptual framework used in this study is the systems approach, which emphasises the correct performance of tasks while choosing the best method at a reasonable cost (Churchman, 1968). However, according to Kaufman (1987:83) "Needs assessment doesn't cost; it pays". The focus of the study was on the 12 - 17 year age group doing standard five in a selected rural administrative area.

5.3.1.1 The epidemiological approach

Through the use of the epidemiological approach on school health records and records from the health centre, 15 health problems were identified for children of six to twenty years, of which seven were common among the age group under study. The identified problems were gastro-intestinal disorders, fever, infectious skin diseases, injuries, sexually transmitted diseases, epileptic fits and headache. These conditions were thus considered as priorities because though other conditions were identified, they were not statistically significant for the age group under study, for example, teenage pregnancy, chicken pox, ear and eye problems.

In summary most of the conditions assessed through the use of the epidemiological approach are supported by the literature reviewed. Rogers (in Hawkins, Hayes & Corliss, 1993: 46) cites evidence that infectious skin diseases, eye and ear problems and minor ailments recurred during the 20th century. Injuries were also found to be a problem and the eight killer disease in Ghana by Gyebi-Ofosu (1994). Moleleki (1997) reported childhood accidents as a major health problem in South Africa. Mooka (1993) who gave a comprehensive list of health problems of school children included vision and hearing problems, adolescent pregnancy and sexually transmitted diseases. Therefore, the results of the epidemiological approach gave the correct diagnosis according to the literature reviewed.

The evaluation of this approach from the literature also showed that it provides a scientific and objective data, is economical, as it is easy and quick to retrieve data. The approach is also convenient since limited skills and time is needed to analyse the data. The data is presented systematically as the clinic staff takes time to do this carefully (Cresswell, 1994; Ewles & Simnett, 1995; Naidoo & Willis, 1996). Indeed, the researcher supports the above advantages of this approach in relation to this study.

On the other hand the quality of such data may be questionable, invalid and unreliable as the researcher did not participate in compiling it (Katzenellebongen, Joubert & Yach, 1991). This is supported by the experience with the school health records in this study. The records of the school health services were scanty but the conditions identified were the same as those from the health centre except for dental caries. The strength of this approach was on the records from the health centre. Records from the school health services were scanty perhaps due to the following reasons in the area under study:

- . that a school nurse visits each school only once a year and a follow up should be done if possible. In most cases, in some districts, this has not been possible.
- . that practically not all schools are visited in a district in a year as it is supposed to be done due to the high number of schools in a district and that
- . during each visit, a team of two to three nurses has to see many children, as the target groups are Sub-A, Standard five and seven visits are done within a day
- . thus the ratio of nurses to pupils during each visit is very low.

Further, three weaknesses of the epidemiological approach are illustrated in this study:-

- . the physical label - this approach has a biomedical bias in that in most cases conditions are misinterpreted as physical while they might not have been, for example in this study, taking headache as a problem though it may be a sign of an underlying emotional problem. Chawla (1987) and Reeler (1987) cite that although psychiatric morbidity varies between 10 and 30 percent in Africa, health care personnel rarely detect such conditions in PHC clinics because they are more likely to present with physical than psychological symptoms.
- . diagnostic label - the approach tends to be inclusive in nature, for example, a problem may be reported as injuries without indicating precisely which type of injuries are commonest such as household, motor-vehicle accidents and so on, thus misdirecting the preventive and promotive health intervention.
- . physical condition - through the approach, mostly physical conditions are detected (see Table 4.9) and treated. This criticism was voiced by Giel, Harding, et al (1988) who state that mental health care is universally lacking in primary care particularly in developing countries, probably

because primary health workers were not appropriately trained in treating psychiatric conditions.

Through this approach, it was found that the average monthly attendance of school children at the health centre in 1997 was 29% while the average monthly attendance of children referred to hospital was 30%. These statistics show that children of school going age demanded significant levels of attention from the health professionals. This view was supported by Jones & Clarke (1993) as it appears on literature review (see p. 18). This kind of statistical data could be used to motivate health service personnel, school personnel and parents to get involved in preventive and promotive activities.

According to the conceptual framework used in this study the systems approach resources form an essential part of the approach. Resources are described as what makes the system capable of doing its job. Input includes all types of resources used in a system, namely, personnel, equipment and money which are used to bring about good service, hence, one of the study's objectives deals with input in terms of staff time and skills.

The time taken to use this approach was 72 hours 15 minutes which is almost 2 weeks. This study found that professional nurses and perhaps other categories are competent in using this method. The approach demands little or no equipment as data is readily available except for travelling to where records are kept such as to the health centre and schools. More than half of the professional nurses indicated that they are capable of using this approach.

5.3.1.2 The Consumer approach

In the consumer approach, the school children were asked to describe what they perceived as their health problems in the two schools. Although 27 topics were identified, only 12 were rated as common by three to four groups. The most

common topics identified were STDs and AIDS, tuberculosis, tobacco smoking, drug abuse, emotional problems, sore throat, ear problems, eye problems and chicken pox. These ten conditions can, therefore, be considered as priorities.

Mooka (1993) conducted a study on the health problems of students in Botswana. Most of these problems identified by the consumer approach correlate well with those described by Mooka, namely alcohol and drug use/abuse, smoking, vision and hearing problems, adolescent pregnancy and STDs and AIDS.

Other problems that were identified that appear in the literature reviewed were injuries, skin diseases and gastro-enteritis. However, these are not in the final list, since only one group identified them. These conditions were detected as priorities in the epidemiological approach. It would, therefore, seem that the epidemiological approach tend to identify common problems without considering the seriousness of each and therefore, the attention is misdirected. The consumer approach addressed the health behaviour rather than illnesses, for example, smoking and drug abuse. The approach also succeeded in identifying both physical and emotional/social problems. It therefore, successfully addresses the holistic health care as contrasted with the epidemiological approach.

The time taken to conduct this approach was the shortest of the three, namely, 47 hours, 20 minutes, almost a week compared to two weeks used in the epidemiological approach. It detected 27 health problems, of which twelve were priorities compared to 15 problems brought up by the use of the epidemiological approach of which seven were significant to the group.

As far as the use of resources is concerned expensive equipment is necessary, viz, travelling expenses, a tape recorder and tapes. The professional nurses perceived themselves as the category capable of using the approach (more than 75%).

The evaluation of this approach revealed its strength as that it puts the needs of the users first and is client-centred (Ewles & Simnett, 1995), hence, it encourages the bottom-up approach. It is an approach that supports the current PHC as it emphasises that clients know best what is good for them. The approach recognises the rights of individuals to identify their own health needs so that the health education should be based mostly on felt needs of school children and other stakeholders.

The approach encourages partnership between the communities and the professionals and finally community participation and development may be achieved through its use (Ewles & Simnett, 1995; Green & Kreuter, 1991). Another strength of this approach is that it gives a mix of problems both physical and psycho-social context and thus is a balanced approach.

The disadvantages of the group were the under representation of the consumers which poses a problem of getting the cross-section of the opinion of the target group or the suffering of the minorities when their voices cannot be heard because of the powerful ones (Ewles & Simnett, 1995; Naidoo & Willis, 1996). In this study school children described their felt needs. Diagnostic labels are also found in the consumer approach, for example, children mentioned sore throat as a problem. Sore throat, however, may occur in combination with other signs as in respiratory conditions and communicable diseases.

5.3.1.3 The social science approach

In this study, the social model used is the PRECEDE model whose first phase deals with the social diagnosis of the community (see sub-section 4.5.1). The results of this model were derived from the focus group interviews of school children, mothers as carers and in-depth interviews of teachers.

The summary of findings (see table 4.8) show that the social diagnosis of the community is categorised into four, namely, poverty (homelessness, unemployment, starvation and others), social change (increase in the number of shebeens, family disorganisation, undisciplined children and others), abuse, violence and exploitation (child, women and aged abuse and others) and lack of cohesion (divorce, separation, community conflicts and others).

In phase 2 (epidemiological diagnosis), ten health problems (see table 4.8) have been detected namely, malnutrition, alcohol abuse, dagga abuse, gastro-intestinal disorders, STDs, teenage pregnancy, tuberculosis, tobacco smoking and child abuse. There is an overlap of conditions appearing in more than one phase. Phase 3 shows the environment and behaviour diagnosis. This phase shows problems which are due to environmental problems, lack of jobs, lack of infrastructure and behavioural problems.

The information obtained through the use of this approach correlates well with the health problems identified by the consumer approach. However, this approach gave more detailed information, not only of the health problems but the social, environmental and behavioural diagnosis. As such, the information has been further categorised into problems that are family related, those that relate to health protection (communicable diseases, life habits and the environment) and those relating to good citizenship (law, neighbours and institutions).

As already indicated in the previous approaches discussed in this sub-section, these problems are supported by the literature reviewed (Green & Kreuter 1991) but this approach went further to reveal what was not encountered in the use of other approaches. The social science approach therefore has been very comprehensive in needs assessment giving a better understanding of the community under study. Getting first hand information about the community lifestyles, habits and traumatic experiences was enlightening to the researcher and empowering to the respondents.

The time taken to conduct needs assessments using the social science approach was 113 hours 15 minutes. This approach consumed the longest time, almost three weeks. The approach did not only consume a lot of time but needed equipment such as tape recorders, cassettes, material for transcribing and travelling expense to schools and health centres. This approach needs expertise, according to half of the sample of the professional nurses - a nurse with an additional qualification while the other half felt any professional nurse could do it. It also demanded the patience and enthusiasm of the researcher. Yet Kaufman (1987) cites that needs assessment need not be expensive or time-consuming. The time taken to use the social science approach (the PRECEDE model) was long. It might, therefore, be difficult to conduct it in each and every clinic/health centre or locality as it also demands complex skills and is thus expensive. It might be considered for use in conducting needs assessment for a region or province.

Evaluation of this approach according to literature review states that the first two phases of the PRECEDE model deal with thorough needs assessment. Researchers further emphasise that the PRECEDE model is useful if the objective set is to change the behaviour. One of the disadvantages of this model is in its use.

5.4 RECOMMENDATIONS

Based on the results of this study, the PRECEDE model must be the approach of choice because of its comprehensiveness. However, if PHC nurses are to use it, they have to be supported because of its complexity. It demands use of multi-sectoral resources and comprehensive planning. Therefore, it is not feasible to recommend that this approach be used by every clinic/every school.

The consumer approach can also be used because it is balanced and efficient. Although it is not as comprehensive as the PRECEDE model, it balances physical and emotional, serious/common problems, health behaviour and illness. However, if used, the health worker has to validate the meaning of some problems identified within the community. The staff's frame of reference should also be determined, for example, when focus group interviews are conducted. It is feasible to use it in a clinic study area as it does not demand complex skills and a long time.

On the other hand, the epidemiological approach has been found to have major weaknesses in that it focuses mainly on the physical conditions and diagnostic labels. If the epidemiological approach is used, it should be used together with focus group interviews even in clinical settings in order to detect both social and psychological problems. It could also be used to get an idea of utilization levels to motivate for action.

If needs assessment is conducted on a large scale, for example for the whole province or region a combination of approaches is recommended. If needs assessment is done on a small scale, a consumer approach is recommended. The use of an approach that investigates not only medical conditions but a combination of physical, social and psychological conditions lies on the current paradigm shift from curative-oriented health care to health promotion. Though

the study focuses on the needs assessment phase of the health education process, health education is an integral and vital aspect of health promotion.

In this study, focus group interviews have been found to be informative, giving the felt needs of the consumers and encouraging community participation. As such the following are recommended:

Recommendations for CHN practice:

1. Parental education and guidance

Though the study's focus was on the needs approaches assessment and the nature of needs identified, it yielded rich information that could be useful in promoting the health of individuals, families, groups and communities. The PRECEDE models first and second phases yielded comprehensive results about the communities where school children lived. Other than the physical problems which were mainly identified by the epidemiological and consumer approaches, the PRECEDE model revealed the trauma that school children are exposed to in their daily lives due to poverty, social changes, abuse violence and exploitation and lack of cohesion within the family and community structures. This information demands that children should be socially supported. Parental education is essential in order to equip parents with parenting skills. Health workers have a role to play in forming parental support groups where information can be shared by the members. The information from these groups are also of importance to the welfare system and a multi-sectoral approach to needs assessment is therefore recommended.

2. Creation of awareness about counselling and support services

Other than the parents and relatives, children should be empowered about management of crisis situations as they expressed concern about problems such as family disorganisation, suicide, teenage pregnancy, child abuse and others. The results of the study showed the dire need for professional guidance. The need for empowerment of parents and children in order to boost their coping

skills and thus promote their health, is clear from the focus group data and should form a prominent part of the transformation of the PHC nurses' role.

3. Health education programmes for all age groups

Although the study focused on school children, the problems identified affected all age groups in the community (phase 1 of the PRECEDE model). Therefore the health workers conducting health education can use the information to compile their own health education programmes not only for the group under study. In the epidemiological approach, the analysis of records from the health centre focused on three age groups, the 6 to 11, 12 to 17 and the 18 and above groups.

4. The comprehensively trained nurses should work in the clinics/ health centres / school health service in the rural areas

There is a need that comprehensively trained nurses should work in the above services in order to deal with the health needs in a comprehensive manner. Literature reviewed revealed that the prevalence rates of mental disorders were 6 to 10 % among the 10 to 19 years age group in Ethiopia (Giel, Arango, Climent et al, 1981). Another study by Giel et al (1981) found that childhood mental disorders were consistently missed at primary health care level among the communities studied. Wig (1988) also cited that mental health care was lacking in primary care particularly in the developing countries. Community health workers concentrated on prevalent conditions such as malnutrition and infections.

Recommendations for Nursing Education

1. Conduct and utilisation of research at basic level

The results obtained when information was sought on which category of nurses could conduct needs assessment using the three approaches, was that the consumer and social science approaches could best be utilised by the registered nurses and an additional qualification was recommended. The nursing curricula

for community health nurses should emphasize using such comprehensive models in practice. Such programmes should also ensure that skills, for example, focus group facilitation, use of epidemiological data and analysis of qualitative data from focus groups be adequately addressed.

2. Inservice education for trained nurses

Since many of the nurses in the practice settings currently do not have this knowledge and skills, it is essential that structured updating programmes be developed and implemented in community health nursing practice. It is recommended that nurse managers in the health institutions should encourage inservice and continuing education. Subscription to nursing journals should be encouraged to fight against obsolescence.

Recommendations for future research

This study poses challenges for nurses in the Primary Health Care setting in that information gathered revealed that other than the children under study, members of the community of all age groups experience physical, mental and social problems. Any of the identified problems need to be further researched with particular reference to conditions such as sexually transmitted diseases and AIDS, teenage pregnancy, child abuse, tuberculosis and substance abuse to mention just a few, especially in terms of implementation research.

On the other hand, the focus should not only be on negative health as the trend is health promotion. Health promotion includes enacting public policies that assist in preventing ill health. However, those policies need to be researched as well for example as related to the abuses of tobacco, drugs and others.

Finally, following needs assessment, future research should not only focus on the next phases of the health education process but also on the next phases of the health education, planning, implementation and evaluation.

5.5 LIMITATIONS OF THE STUDY

Although the Eastern Cape Province has 5 regions, this study was confined to one rural administrative area in the Umtata district. Though random sampling of 4 out of 10 Junior Secondary Schools has been done, generalisation of findings will be limited to the Umtata rural administrative areas. Mervin, however, (in Creswell, 1994) cites that the purpose of qualitative research is not to generalise findings but to interpret events in a unique manner.

The mothers on whom focus group interviews were conducted in the health centre were not mothers of the sampled school children. The mothers were conveniently found visiting the health centre for community as the children and teachers. The assumption is, therefore, that these mothers represent all mothers in the community. Although an effort has been made to argue that this may be true, it cannot be proved.

Data for the epidemiological approach was collected from one health centre over a period of one year and records of the school health service were from three out of the four schools sampled. Such data may be relatively minimal and may not be comparable to the data collected through the other two approaches.

Another limitation of the study is that although the levels of skills of various categories of nurses sought ranged from simple (Nursing Auxiliary level) to complex (Registered Nurses with an additional qualification) the questionnaire was completed only by registered nurses. Other categories, for example, Auxiliary and Enrolled nurses were excluded. Instead, professional nurses gave responses on what they considered to be the skills of the lower category.

5.6 CONCLUSION

In this study comprehensive and in-depth information about the needs of school children has been obtained using three approaches. Each approach identified the needs of school children and was supported by literature review. Of the three approaches, the epidemiological approach identified needs that are different from the consumer and the social science approaches, which have more similarities. From each approach priorities were identified. As such, the identified needs should form the foundation of the health education programme that can be compiled for school children in the junior secondary schools in an area studied.

Selecting an approach that is efficient and effective depends on the context in which the study is conducted, available human and material resources. If the aim is to obtain the health needs of the children using minimum resources, the consumer approach is the best method. It identified numerous problems within a shortest period of time compared to the other two approaches. Any category of professional nurse can use it. It is, therefore cheap to use. This approach is well supported as it gives the felt needs of the target population and is an approach that encourages recognition of people at grass root level, which is recommended in the Primary Health Care approach. If a comprehensive, social and health diagnosis is required, the PRECEDE model offers a useful methodology. However, this approach demands a multisectoral approach.

Bagnall (1995:27) expresses concern that the current model of school health service fails to address the needs instead "it responds to tradition". The trend in community health nursing is the health promotion paradigm as it has been described in the literature review that traditional health education has been found to be narrow, individual focused and "victim-blaming". The identified needs, therefore, should form part of a health promotion programme in health promoting school.

The present government in its transformation process discourages vertical programmes in health services and the school health service is one such programme. The National Health Plan stipulates that school health services is the responsibility of the District Health Authorities (DHA). The DHA should coordinate health promotion activities and outreach education programmes in school, too. Needs assessment should form the basis for provision of those outreach programmes.

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ANNEXURE A

MODERATOR'S GUIDE BASED ON THE PRECEDE MODEL

1. What are the common social problems that may lead to health problems in this locality?
2. Are there any problems that may be encountered due to housing, eating patterns or working conditions of the community members in this locality?
3. What would you consider as the environmental concerns of the community members?
4. Does the culture of the community members influence their patterns/conditions of living with resultant impact on health?
5. Do the community members have any problems that are stress-related?
6. Are there any conditions or patterns of living that are caused by economic problems?
7. What resources do you think community members would like to have?
8. What are the barriers to healthy lifestyles among community members?

ANNEXURE B
TIME ACTIVITY SHEET

ACTIVITY	TIME TAKEN
1. Epidemiological Approach	
1.1 Request permission to conduct the study health care	
1.2 Analysis of records from the health centre	
1.3 Analysis of records from school health services	
1.4 Report writing	
1.5 Travel time	
1.6 Communicating results to nurses in the health centre	
1.7 Sub-total	
2. Consumer Approach	
2.1 Request permission from two schools	
2.2 Setting up four focus groups	
2.3 Conduct four focus groups	
2.4 Data analysis	
2.5 Report writing	
2.6 Travel time	
2.7 Communicating results in two schools	
2.8 Sub-total	
3. Social Science Approach (Precede Model)	
3.1 Request permission from two schools	
3.2 Request permission from others	
3.3 Setting up four focus groups of school children	
3.4 Conducting focus groups of school children	
3.5 Setting up four focus groups of mothers	
3.6 Individual teachers' interviews	

3.7	Data analysis in children's focus groups
3.8	Data analysis in mother's focus groups
3.9	Data analysis in teachers' interviews
3.10	Report writing
3.11	Travel time
3.12	Communicating results in two schools
3.13	Sub-total

4. OTHERS

.....
.....
.....
.....
.....

5. TOTAL TIME

ANNEXURE C

LEVELS OF SKILLS IN CONDUCTING NEEDS ASSESSMENT

BACKGROUND

The needs assessment phase of the health education process for school children has been conducted using three approaches, namely:-

- (a) by analysing health records from the health centre and school health services (epidemiological approach)
- (b) by asking the children what they perceived as their own health problems (consumer approach)
- (c) by using a social science approach where a model (PRECEDE) was followed.

In each of the approaches used the skills necessary to conduct needs assessment were identified and listed under each.

INSTRUCTIONS

1. Indicate the level of skills which you think is required for each approach by ticking () in the relevant column.
2. In the last column, tick () if you feel competent to use the approach, and put an (x) if not.

KEY :	1.	Simple	(Nursing Auxiliary Level)
	2.	Average	(Enrolled Nurse Level)
	3.	Complex	(Registered Nurse Level)
	4.	Specialised	(Registered Nurse with Additional Qualification)
	5.	Self	(Respondent's Own Capacity)

1. EPIDEMIOLOGICAL APPROACH (ANALYSIS OF RECORDS)

1.1 Negotiation skills

1.1.1 Access to health and education authorities at provincial and regional levels

1.1.2 Access health centre

1.1.3 Access to school health records

1.2 Data analysis and interpretation skills

1.3 Report writing skills

1.4 Feedback skills (to relevant stakeholders)

1	2	3	4	5

2. CONSUMER APPROACH (SEEKING INFORMATION FROM CHILDREN)

2.1 Negotiation skills

2.1.1 Access to schools

2.2 Community entry skills

2.3 Focus group interviewing skills

2.4 Data analysis and interpretation skills

2.5 Report writing skills

2.6 Feedback skills

1	2	3	4	5

3. SOCIAL SCIENCE APPROACH (USING PRECEDE MODEL)

- 3.1 Negotiation skills
 - 3.1.1 Access to teachers, mothers and school children
- 3.2 Community entry skills
- 3.3 Focus group interviewing skills
- 3.4 In depth interviewing skills
- 3.5 Data analysis and interpretation skills
- 3.6 Report writing skills
- 3.7 Feedback skills

1	2	3	4	5

ANNEXURE D

IN-DEPTH INTERVIEW SCHOOL D STANDARD 5 TEACHER

DATE : 19-11-1997

KEY : I : INTERVIEWER

R : RESPONDENT

- I: As I have already briefed you on what we need to talk about, I wish to further explain that you should feel free about the language use. If you want to use Xhosa its okay or if you want to use English it is still alright as long as I get the content I will re-write it in English.
- R: O.K.
- I: One other thing is that the order of the questions is not important and I will just keep on asking whatever question.
- R: O.K.
- I: Let us start with this one: What do you see as the common social problems that may lead to health problems in this locality?
- R: I can say one of the social problems is the community itself. Here, the problem is that the community itself is usually divided. They are usually some clashes and I think this retards the progress of the community towards delivery. It makes people not to have common concerns because the community has to look at the children that are growing because they are the ones that determine the future of the community.
- I: Mh-h.
- R: So the community has got problems because their vision or their concerns are not usually accepted by each and every member of the community and this retards progress.
- I: Let us look at these clashes among them. What are usually the causes of these clashes among the community members themselves? It is quite an important point because as you say they make them not to have the common goals. What are the causes?
- R: I do not know but I usually notice that there is pride among the community members and no one is prepared to be humble, to come down and say I do not know this and start yielding to those who know it. Infact at the back of their minds they do have interest but each and everyone wants to appear as if he or she has initiated the idea.

I: So each one wants to appear as if he/she is the one who has done something. So are they competitive?

R: They are competitive and it becomes difficult for them to come together although I notice that there are breakthroughs sometimes. For example, across there never a Christian school is suppose to have been built there, there is a yard. We heard here in school that there are clashes among the community members about the building of that school and it was going to be helpful and the medium of instruction it was going to be English and it was going to be built by Americans. So clashes also retards the progress of the community. So, I see pride mainly.

R: Mh-h.

I: One other thing is that there are people who are educated among the community and the very, educated people are the ones who are problematic at times and even those who are illiterate because it is usually said little knowledge is a dangerous thing.

I: Mh-h.

R: And jealousy. Instead of people seeing that something that is done is good, they become jealous of the person who has done it.

I: O.k. so, what have you observed as far as their drinking and eating patterns are concerned?

R: There is too much looseness in the community. There is too much looseness. As far as I see things parents are dismally failing to take control of the children in disciplining the children. I will also generalise that most parents today in the society are single parents including this very one.

I: O.k

R: And even those that are not single there is a problem and the problem is very deep. I can say to those who are not single that measures of discipline are applied most of the time by a female most of the time. The fathers are so weak and they fail to apply disciplinary measures and look after the interests of the children. When they come into the scene they become forceful and that is no measure of discipline. A person exercises discipline by imparting force physically and that person is not building up that child instead the child is going to fear him.

I: O.k.

R: When that person is away the child does as he/she pleases again. The parents are not educated at all I am mixing a lot of things and as they are not educated. This man is the head of the family then he comes in force and there is no discipline there because he is feared as the key figure and when he is away there is no discipline.

I: Mh-h.

R: Let us come to the females. Mothers are struggling because most of the time they are staying with the children and everything depends on them. It is a very heavy load for them and they fail. I refer to those who are married, because they are responsible for everything even the very husband to the extent that I usually say that if the mother knew that she is all by herself she should have conditioned herself that she is responsible for everything including the affairs of the children. Then there is that problem of failing to discipline to children in the homes of married couples. In single parent homes, some of them, infact most people need the word of God, let me include that aspect. The word of God does something in the health of the people morally. It builds good morals even if a person is not very serious with it like other people. At least one must know that on Sunday he will go to church and what happens in church. One is built up- that is morally.

I: Mh-h.

R: And then when I talk about single parents I want to say that they feel independent because they are independent but some of them are not civilised and that makes them to behave anyhow in front of the children. For example she may have a boyfriend and be in love with him in front of the children. She gets tired of it still in front of the children and she still brings another one. So even if she does not talk to the children about this issue because they are small but they are learning something from her so they are brought up in that environment and they are not opposed to this action. When they are old they continue with the evil that they have been brought up into. This happens to single parents, broken families and even in the families that are not broken. What I am saying is that the problem is with the parents mainly. Most of the parents today are undisciplined let me just say that out, the parents of today are undisciplined. I do not want to say there is something wrong with their brains but they are couth and they are the children themselves. There is something wrong with civilisation. Some of the laws or tradition were oppressive, that is some of them.

They needed to violate them and there was nothing wrong with such violation, but in the process they exceeded the limits and exaggerated things. That is why there is such damage.

I: Let us connect what you have said to the question of illegitimacy and polygamy. How do you bring these together? Is there illegitimacy here? What about polygamy?

R: In a way there is polygamy but it is not successful. People who are involved in polygamy do not succeed in practising it. It used to in the olden days,

I: Can we say then that we do not have pure polygamy here? What about extra marital relations?

R: Yes. There are plenty extra marital relations.

I: So they do not marry these other women so that a man ends up having married two or more women?

R: Yes it used to be, but these days it does not materialize. Once a man starts going out, clashes begin and end up with fights among women. For people who do not believe in God, the fights end up with people going to the witchdoctors and so on. And even the children are brought up in such an environment.

I: How is the state of violence in the community?

R: In this community?

I: Yes

I am referring to things like housebreaking, robbery, suicide, abuse of liquor, dagga and so on. What can you say?

R: I can say in this community, as far as I have seen, I don't know because I don't stay here, all that you have enumerated is found in this community but its level could still be controlled if there could be some means of controlling it. Dagga is being smoked even by school children.

I: Do you mean school children?

R: Yes, there are some school children who smoke dagga.

I: Does it mean that it is easy to get it?

R: Yes it is found here in the community. School children also drink liquor and this is because there are shebeens in the community.

I: Are the parents employed or not? Are there any economic problems that you see.

R: Some are employed while others are not, you see this among school children. You find that some children are hungry and you buy bread for them. The arrival of the feeding scheme has helped us but it does not cater for all the children. It caters for sub A up to standard two. Infact here it starts from the pre-school up to standard two. But if there are fewer children attending school on some day it goes up to standards three and four.

I: Mh-h

R: So it's not for everybody and other children stay the whole day without getting food and they remain hungry, and you sometimes find them drowsy. For instance, there is a child who was crying. I called her and asked why she was crying and she said her eye was sore but because I am usually sensitive to their problems I just bought bread for her to eat. One other thing is that I know her background. I told her to go and eat outside. She did so and by the time she came back she was right and happy and I could see that there was nothing wrong with her. It was just hunger. So there are economic problems because some children cannot even carry provision when they are coming to school. Others are unable to buy even the uniforms. She is not pretending. There is just no money at home. She even walk bare-footed. The problem with these economic problems is that they affect the personality of these children. One other thing that makes me to be sensitive towards these problems is that I also came from a poor home. When you mix with children who come from good homes you even become greedier when they eat and I could not get anything and go home only to find that there will be nothing prepared for me at home even after school. So there are such problems in this community.

I: What facilities do you think the locality should have even though for some reasons it does not have?

R: I think if there would be a way of finding jobs for the people who are unemployed. I don't encourage that people should be given handouts because this would determine their future. They will acquire that value that someone must expect something without working for it. I am suggesting that there should be some working facilities that would help the unemployed. Apart from that, that some efforts should be made that there be no children who are unoccupied whether they are occupied by work or reading as long as they are occupied. They should not be allowed to be idle right from childhood. Not all the children from this area are attending school.

So those who do not attend school are sometimes occupied by things that are not constructive and which are going to destroy the community. They also have influence on those who are attending school because schooling is not very nice because it demands a lot of energy. It's just the usual culture of learning. There is nothing nice about it. When those who are schooling see those who are not, they may envy them and think that they have got better lifestyles. So I strongly believe that nobody, whether old or young, should just remain unoccupied because most of the problems come about as a result of a person doing nothing.

I: O.k. What can you say about the watersupply in this area, the condition of roads, clinics, electricity and so on?

R: Yes, you see, there is scarcity of water here and that is one other thing that can affect the people's health. Even these tanks here at school are sometimes out of order and there is no water at all here at school and the children become thirsty and the river is very far. The children become thirst and there is no water even in the community around. They have to run and ask for water from the shops in the community during break and even that shop is very far and even there it is a question of the survival of the fittest.

I: Mh-h. Yes I know with school children then concerning the clinic, what is the position here?

R: Yes, especially with us as we have small children here at school, you are unable to help a child even if he/she has a headache unless you buy from the shop with your money. Even when a child is suffering from stomach ache you can't help her. We, as parents, see for ourselves how we can help them. It then depends on that particular teacher. As a result most children are suffering because they are not catered for. Infact there is supposed to be a clinic which is next to the school even if it is in the locality. I do hear that there is a clinic in another locality which is rather far and I personally do not even know where it is. When a child will be going to the clinic, she is not even supposed to come to the school. So children cannot be helped here nearby so that they do not have to go home. So when the child gets sick, the only alternative is to send her to her parents. The parents themselves are staying very far from school and the child has to go alone and there is no security or reliable people on the road. And may even have to cross rivers.

I: What about violence?

- R: Violence is there and as a result there has been a time when our children were abused a lot and
- I: Do you mean sexual abuse
- R: Yes, sexual and you see them here in class with a changed behaviour. She changes from being the child you know. At times you call her. Because our children are shy you try your best to get information from her but they fail to ventilate what has happened or what usually happens. There are individual cases we know, where children are abused by their own parents. We are sometimes not sure whether it is the real parent or the stepfather. So we have victims here of rape. As for rape, it is just so common.
- I: Mh-h.
- R: Some female parents are drinking so sexual immorality is expected.
- I: Mh-h. Is there anything else that you would still like to comment about? In summary what would you say about the life in this locality?
- R: Life in this locality is not giving any hope. Evil is continuing. It is not reversing but something can be done so that life continues. Thought life is hopeless something must be done to stop and to prevent. One of the measures of prevention is what I mentioned, that nobody should be unoccupied because some of the people run shebeens because when they looked around they found that there is no work and they are unemployed and the liquor business is moving fast.
- I: Selling liquor is a way of living.
- R: Some of the parents who drink, do not drink because they like to do so.
- I: Are you through now?
- R: I am not sure
- I: I mean as far as your summary is concerned?
- R: Yes
- I: What we have not talked about here is the way the elderly people are handled but I am not sure if you wish to say something since you said that you do not stay in this community.
- R: The grandmothers?
- I: Yes, or is there anything you have noticed?

- R: I have not noticed anything about the elderly people. I do see them going to get their old age pension payment but I do hear some instances where children demand money from them.
- I: Mh-h.
- R: No, they are not handled well, it can just be in that home and that other home where they are treated well.
- I: Do you have instances of suicide here in the locality?
- R: Yes. We sometimes hear instances of gunshots among youth but we never really get the causes.
- I: Either that those shoot themselves. Are there no fights in this area?
- R: No, the fights are rare here instead people are leading happy lives, there are parties and all other occasions accompanying partying.
- I: Mh-h.
- R: One other thing is that the people of this community are bright and that is why they have got clashes.
- I: I am very grateful to you. Thanks a lot.

PROVINCE OF THE EASTERN CAPE

Department of Health and Welfare



Isebe LeZempilo neNtlalontle

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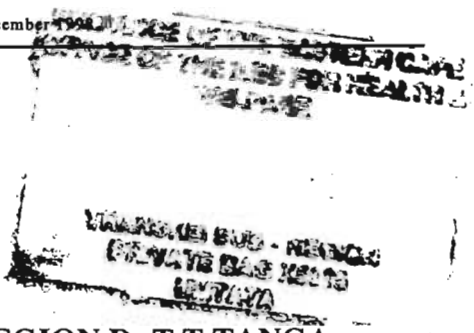
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IOFISI YOMLAWULI-NGINGQI
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date: 08 December 1994



DEPT. OF NURSING

UNITRA

PERMISSION TO CONDUCT RESEARCH IN REGION D- T.T.TANGA

Dear Madam

Permission is hereby granted to conduct research in Region D. The theme of the study is:
"THE NEEDS ASSESSMENT PHASE OF THE HEALTH EDUCATION PROCESS FOR SCHOOL CHILDREN".

Yours faithfully

ACTING REGIONAL DIRECTOR

PROVINCE OF THE EASTERN CAPE
OFFICE OF THE REGIONAL DIRECTOR
IOFISI YOMLAWULI-NGINGQI
(Eastern Region)



ANNEXURE F

**PROVINCE OF THE EASTERN CAPE
DEPARTMENT OF EDUCATION, CULTURE AND &
SPORT : EASTERN REGION**

Office of the Regional Director
P/Bag X5003
UMTATA
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17/01/97
.....

Ms Tobeka T. Tanga
UNITRA
Faculty of Medicine & Health Services
Department of Nursing Sciences
P/Bag X1
UNITRA

Dear Madam

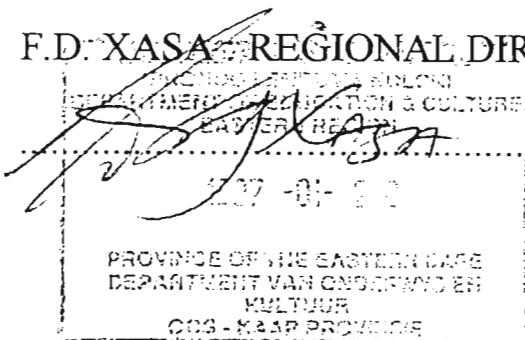
PERMISSION TO CONDUCT RESEARCH IN REGION D. (EASTERN
REGION). : Ms T.T. TANGA

Permission is hereby granted to the above, to conduct research in our
institutions.

This office appeals to all those she will come into contact with to please co-
operate.

Thank you

F.D. XASA REGIONAL DIRECTOR EASTERN REGION



ANNEXURE G

SIGNIFICANT Z-SCORES OF HEALTH PROBLEMS IN THE HEALTH CENTRE IN 1997 FOR THE 12 TO 17 AGE GROUP

MONTH	DISORDER	Z-SCORE
January	Gastro-intestinal	1, 166
	Fever	2, 679
	Skin diseases	0, 810
February	Gastro-intestinal	0, 931
	Fever	2, 852
	Skin diseases	0, 192
	Injuries	0, 783
March	Gastro-intestinal	0, 404
	Fever	3, 154
	Skin diseases	0, 674
	Injuries	0, 135
	STDs	0, 189
April	Fever	3, 330
	Skin diseases	0, 553
	STDs	0, 326
May	Fever	3, 373
	Skin diseases	0, 634
	Injuries	0, 124
June	Fever	3, 282
	Skin diseases	0, 407
	Injuries	0, 327
	Epileptic fits	0, 168
	STDs	0, 168
	Dressing	0, 407

July	Gastro-intestinal	0, 16
	Fever	3, 429
	Skin diseases	0, 469
August	Gastro-intestinal	0, 583
	Fever	3, 434
	Injuries	0, 102
September	Gastro-intestinal	0, 469
	Fever	3, 302
	Injuries	0, 005
	STDs	0, 423
October	Fever	3, 169
	Injuries	0, 309
	Epileptic fits	0, 384
	STDs	0, 459
	Dressings	0, 158
November	Fever	3, 170
	Injuries	0, 505
	Epileptic fits	0, 600
	STDs	0, 314
	Dressings	0, 124
December	Fever	1, 688
	Skin diseases	0, 294
	Injuries	0, 449
	Epileptic fits	1, 533
	Dressings	

N.B. The total frequencies (n) for each month differed and are, therefore, not included.