Chapter I

PROBLEM, PROCEDURES AND RESEARCH METHODOLOGY

1. Background Factors :

Healthy children can be the greatest resource of any country provided their growth and development is carefully monitored. The statement rings truer for the developing countries in which children form the wide base of the population pyramid. In India as per Park J.E and Park K. (1985 : 435) 17% of the population comprises of children under 5 years of age and another 35% in the range of 5 to 16 years. But it is not by sheer numbers alone that the advocates of comprehensive health care for the child population make their point. Early Childhood is a sensitive period in a child's physical and psycho-social development. Proper health care or deprivation of the same at this stage makes for or mars the total personality development of the future adult. Thus the importance of social interventions geared to improve health of under-fives stands redoubled.

The state and voluntary agencies are implementing several programmes for the pre-school child, nursing and expectant mothers to enable children develop their full potentialities. In fact, a wide network of mother and child health (MCH) services is one of the oldest known social services organised by the government. Yet the situation of children today is far from satisfactory as depicted in section 1.1 under Magnitude of the problem.

The reasons why despite the extensive MCH services and massive voluntary efforts in the area of child health, the situation continues to be grim are -

First, due to the fact that monitoring of child health and development is a complex process involving a multitude of factors operative at different levels. Murthy N. (1986 :179) illustrates :- At the micro level, mother's

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health and her weight gain during pregnancy may be significant factors in determining the birth weight of a child. At the household level, education of the mother, family income and practices such as food habits and intra-family food distribution have a significant role in determining probability of child survival. At the village level, environmental conditions and access to medical care may be the influencing factors. At the national level, adequacy of food production and its proper distribution would be factors influencing child health.

Secondly, development programmes aimed at reducing poverty do not necessarily reach children or improve the environment in which they live and grow. In most countries, there is a relative neglect of the children of pre-school age, although they are a 'vulnerable' or a special risk group deserving special health care. More about this in section 1.2.

Thirdly, it is the question of propensity of the poor to utilise existing resources. Chow N.W (1984) states that for most countries in the world today, poverty means the inability to lead a healthy physical existence. Persistent conditions of poverty produce certain incompetencies and also a sense of deprivation which further debilitate the poor in their hard struggle for a basic living. Such a handicapped start in life reduces the ability of the poor to benefit from available opportunities or make fullest use of developmental services, including the health services. Regarding underutilisation of health services in India there is an added dimension of superstitions, traditions and religious practices which many a time discourage people away from modern health technologies.

Thus, summing up, it may be said that the major barriers to a healthsome growth and development of Indian children are :-

i) Interplay, of a multitude of factors operative at different levels in the environment of the child.

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ii) The gains of development have not percolated down, substantially to the vulnerable child population.

iii) The propensity of the poor to utilise existing health and other services is much under par as compared to their requirement levels.

1.1 Magnitude of the Problem :

As per census survey 1981, India's total urban population is 160 millions, of which 40 millions are slum-dwellers. The following statistics compiled by the Times of India (1983) present a lucid commentary on the health status of the urban children today :-

i) Diarrhoeal incidence in urban areas is estimated to the 500 per 1000 among infants and 299 per 1000 among pre-school children.

ii) Approximately 6000 urban children are turning blind annually due to vitamin A deficiency.

iii) Over 60% children below 3 years and 45% between 3 to 5 years suffer from iron deficiency anaemia.

iv) Nearly 3,00,000 urban children die annually due to diarrhoeal dehydration in majority of the slum areas.

v) Infant mortality is more than 50% higher among children of working mothers than of non working mothers.

vi) Nearly 50% of the infant deaths are neo-natal.

vii) Polio was the cause of paralysis of 44% of the disabled childr en in urban slum areas.

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viii) Only 40% of urban children below one year and 53% below 2 years have been immunised with the BCG. Only 24% of both the age groups have had triple vaccine and 11% against polio.

ix) 29% of infant deaths and 22% of child deaths in urban areas occur due to lack of trained medical attention.

x) 27% of the urban children between 5 to 9 years do not attend school. 6 to 9% of the urban children between 4 to 5 years of age remain most of the day un-attended by any adult family members.

The above data not only highlight the express need of action oriented research by social scientists but also furnish leading clues to the major thrust areas which require immediate attention.

1.2 Reasons why Under-fives Merit Special Health Care :

Relatively, it would have been much easier to conduct this study with slightly older school going children since some of the inputs were periodic height and weight check up; thorough medical check up; haemoglobin testing; monitoring vitamin and iron supplement treatment prescribed by doctors etc. ultimately we decided in favour of the underfives due to the following reasons proffered by Park J.E & Park K. (1985 : 435).

i) Large Numbers

Children under-five years constitute 15 to 20 percent of the general population in the developing countries (about 17 percent in India). By virtue of their large numbers they are entitled to a large sharge of health care.

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ii) High Mortality

Apart from infant mortality which is more than 100 per 1000 live births in the developing countries, the mortality in the age group 1 to 4 years is also very high, not less than 40 per 1000 live births as compared to 0.5 in a developed country like Sweden. In fact, 50 to 60 percent of total deaths in developing countries occur in children under five as compared to only 5 percent in the developed countries. The major causes of death in this group are mal-nutrition and infection both of which are preventable.

iii) Mortality

The common diseases which affect the pre-school age group are Diptheria, Whooping cough, Diarrhoea, Dysentry, Skin infections, mal-nutrition, accidents - all preventable.

iv) Growth and Development

The pre-school age period is a period of rapid growth and development. Since healthy children are the greatest resource of any country their growth and development needs monitoring.

v) Accessibility

Infants and young children (1-4 years) are hard to reach. Special 'inputs' are needed to bring the child into the orbit of special health care. Operational research all over the world has demonstrated that patients are unlikely to travel more than 5 to 8 km. to receive medical care. For the toddler who needs to be carried, this distance may be reduced even further.

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1.3 Need and Importance of the Present Study :

The on-going discussion of the background factors and magnitude of the problem raises several fundamental questions for professional social workers. Questions which can be stated as raison d'etre of the present experimental research are :-

i) Do not social workers in their long established role function of linking people with systems that provide them with resources, services, opportunities and help create new systems when required - Pincus A. and Minhan A. (1973 : 9) have a professional responsibility of developing alternate and more appropriate interventive models which can significantly improve health status of underfives in the country ?

ii) Again, since, social work is not limited to pathology alone and has an important stake in preventive and development services - Carter G.W (1960); is it not the responsibility of the professionals to organise optimum utilisation of existing health services for the clientele groups ?

iii) Aren't professional social workers by virtue of their training in individual, group and community level intervention methods better equipped to work through the complexities of child health monitoring process more effectively than others ?

As such would they not make some of the best path-finders and lead the way ?

iv) In the context of an acute paucity of field based experimental studies in social work is not there a solemn need to contribute action-oriented research, at least make an attempt ?

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1.4 Concepts used in the Title :

1.4.1 Social Intervention

Social intervention is no more a new term. The term intervention is used to mean 'help' through application of professional methods and skills. Primary concern of social work profession being, people in life situations where they have to strike a balance between compulsion of their social environment on one hand and their capacities to cope with on the other hand. The professional values and the scientific body of knowledge equip the practitioner with the right skills and attitudes towards people in their situation and facilitate his/her helping role while working with individuals, groups or communities either directly or in collaborative action.

Social work intervention is often discharged through use of a single method or a combination of methods as warranted by the situation. Friedlander(1967)delineates following professional methods:-

i) Social Case Work - for affecting better social relationships.

ii) Social Group Work - for helping people to participate in activities of a group for intellectual, emotional and physical growth.

iii) Community Organisation - for planning and developing social services in order to meet the health and welfare needs of the community.

iv) Social Welfare Administration-for organising and directing a social agency.

v) Social Work Research-to inquire into validity of structure and methods of social work.

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vi) Social Action - for solving through organised group efforts general social problems and further social welfare objectives.

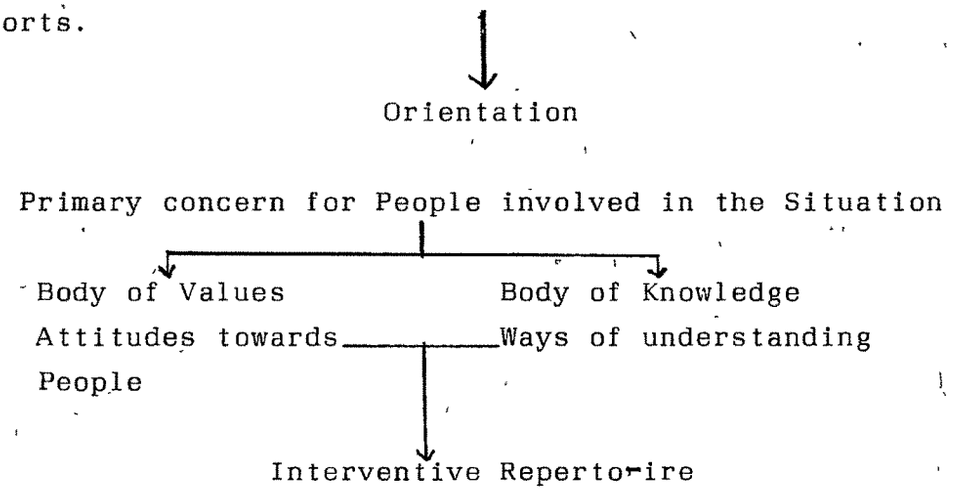
While the last three are supportive methods of social work intervention providing concepts and logistics, the first three are direct methods of social work intervention.

Fig 1 by Harriet Bartlett (1970) explicitly presents central focus on social functioning, orientation and interventive repertoire with professionals.

Fig I : Common Base of Social Work Practice

Central Focus on Social Functioning

People coping with the situation - Balance between demands of the Social Environment and Peoples' coping Efforts.



Working with individuals, Groups, Social Organisations directly and through collaborative action.
(Reproduced from "The Common Base of Social Work Practice, NASW, 1970).

1.4.2 Growth-monitoring

Growth is a key indicator of child health. An interplay of ignorance, inappropriate feeding practices, inadequate diet

and infection result in one third to half of the children remaining undernourished in the developing world. Malnutrition is a key determinant of the high childhood mortality.

Growth monitoring is advocated and used as a pivotal activity to maintain children on the path of normal growth and development and to recognise early growth faltering. It has been appropriately defined by Bhan M.K. and Ghosh S. (1986 : 11) as

> A process of sequential measurements for the assessment of physical growth and development of individual and the community with the purpose of promoting child health, human development and quality of life.

The process involves regular weighing for early identification of growth faltering with appropriate and prompt follow up action. The ultimate target is to educate and achieve change in mother's behaviour towards normal growth and development of the child. The major focus is on child feeding and appropriate response to illness. Growth monitoring provides an excellent opportunity to provide other primary health care services, to improve women's participation and status and interaction between mother's and workers in a predictable and frequent manner.

In fact, growth monitoring activities when properly planned and implemented have a tremendous potential. It, according to World Federation of Public Health Associations (1985 : 8).

(a) helps identify children with high morbidity/mortality risk.

(b) helps identify parts of the community or the country for special health nutrition.

(c) helps maximise scarce resources for those most in need.

(d) assists in evaluating the impact of the other health intervention activities on the beneficiaries.

(e) does not require a lot of time or expense.

(f) can be carried out reliably by health workers trained at a low cost.

(g) can be organised and run by communities themselves.

(h) offers mothers useful information that, when explained in a culturally relevant manner, provides a basis for understanding and implementing specific dietary improvements.

(i) is a health care activity that can and should be performed without trauma to mother or child.

(j) stimulates collaborative involvement of the health system of the community and the family.

(k) and, assumes better preventive and therefore more effective care for all children.

Growth monitoring is being used in several countries for the past decade or so. In India, it is used on the largest scale in the Integrated Child Development Services (ICDS) programme which has been in operation for more than ten years covering over one fifth of the administrative blocks and approximately 130 million population.

1.4.3 Slums

Concept of slums has been presented differently depending upon the context of its ecology i.e. whether Western, Eastern or Indian etc. Secondly, it also depends on who defines it i.e. whether a governmental agency, academicians or research scholar etc. For illustration few noteworthy definitions are presented here.

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According to Gist N.P. (1957 : 356) - The term 'slum' in Western countries usually refers to an area in transition near the central business district as a result of the continuous invasion and succession of impoverished migrants, with houses which were once considered adequate but now are in the process of physical deterioration due to low rents and poor maintenance.

The slums in India, according to the slum areas Improvement and Clearance Act 1956 (enacted by the central government) is defined as - Any predominantly residential area where the dwellings which by reason of dilapidation, over-crowding, faulty arrangements or design, lack of ventilation, light or sanitary facilities, or any combination of these factors are detrimental to safety, health or morals.

A seminar on slum clearance in Bombay in May 1957 went a step further to provide a more realistic and concrete definition of a slum. According to it - A slum may be defined as a chaotically occupied, unsystematically developed and generally neglected area which is over populated by persons and over-crowded with ill repaired and neglected structures. The area has insufficient communications, indifferent sanitary arrangements and inadequate amenities necessary for the maintenance of physical and social health, the minimum needs and comforts of human beings and the community. There is a general absence of social services and welfare agencies to deal with the major social problems of persons and families, in respect of substandard health, inadequate income and low standard of living, who are victims of biological, psychological and social consequences of the physical and social environments.

A definition by Baroda Municipal Corporation in A Report on Slums of Baroda (1976 : 1) can be referred for local interest. According to BMC report - ordinarily, the term 'slum' applies to all those dwellings that do not even provide the basic minimum facilities for human subsistence. There is virtually an absence of good ventilation, good toilets, good drainage, adequate water supply and a family privacy for bathing etc. Slum are so to say, those dwellings that are devoid of all such facilities. Slums promise no room for recreational or community use. They are ordinarily subject to natural calamities. The very lack of

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basic infra-structural facilities, high IMR, utter negligence of personal health and hygiene. All these together characterise what may be termed as slums.

1.4.4 Health

Like the proverbial five blind men who described an elephant each according to his perception, health has been viewed by different people (e.g. biomedical scientists, ecologists, sociologists, anthropologists) from different angles. But for the present purpose definition by World Health Organisation has been used as frame of reference. The definition and its concomitant discussion are as follows :-

Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity.

This definition of health envisages three dimensions - physical, mental and social well being. According to Twaddle A.C. and Hessler R.M. (1977) the state of positive health implies the notion of "perfect functioning of the body and mind". It conceptualises health biologically as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body; psychologically as a state in which the individual feels a sense of perfect well being and of mastery over his environment, and socially, as a state in which the individual's capacities for participation in the social system are optimal.

The WHO definition is criticised for three major reasons. Firstly, because it does not appear to be a realistic definition of health but is only an idealistic goal which is irrelevant to every day demands and nobody then qualifies as healthy i.e. having perfect biological, psychological and social functioning.

Secondly, some argue that health cannot be defined as a process of continuous adjustment to the changing demands of living and of the changing meanings that we give to life itself.

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Thirdly, Crew F.A.W. (1965) contends that this definition does not present health in exact measurable terms.

Despite all these limitations, the concept of health, as defined by WHO is broad and positive in its implications; it sets out the standard - the standard of positive health as a GOAL or IDEAL towards which the people should strive.

1.5 Objectives of the Study

The broad objective was to construct, test, validate and document a viable social work intervention model which could demonstrate visible improvement in health and growth of underfives belonging to an urban slum community by means of conducting a field experiment research study.

The specific objectives for sake of enhanced clarity need to be presented separately for the base line survey and each of the input variables that were woven into the study design. Please refer fig II to locate the relative positions of these variables in the total interventional process.

1.5.1 Objectives of Baseline Survey

(a) To identify experimental families i.e. those families which had at least one child under the age of four years and three months (so that the child does not cross the age of five years before completion of the planned interventions) at the time of interviewing.

(b) To document socio economic background viz language, caste, religion and migration particulars, family size, educational and occupational status of family members, economic condition, housing, environment and access to basic amenities.

(c) To study the food consumption levels and normal diet pattern of the family through recall method of 48 hours.

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(d) To study utilisation of health services affecting growth & well being of underfives viz ante natal care, post natal care, family planning, trained attendance at delivery.

(e) To study causes for non-utilisation of health services, if any.

(f) To detect latent or hidden disabilities amongst experimental children below thirty months of age by administering Bailey's developmental testing tool.

1.5.2 Objectives of Health Care and Growth-monitoring Package for children (denoted as input A in fig II).

(a) To organise a thorough medical examination of treatment and control group children before commencement of vitamin, iron supplement for the former and placebos for the latter group respectively.

(b) To organise Haemoglobin test of treatment and control group children both before and after administration of drugs as in (a) above.

(c) To keep bi-monthly record of height and weight of the treatment and control group children for purposes of growth monitoring.

(d) To counsel the treatment group mothers about the response action necessary on their part in case of growth-faltering, stagnant weight or weight gain of their respective children.

(e) To administer de-worming treatment to both treatment and control group children before administration of drugs as in (a) above.

(f) To organise a three months long vitamin and iron supplement treatment programme for treatment group children and 'placebos' for the control group as advised by physicians.

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(g) To organise referral service for treatment children.

(h) To maintain weekly morbidity data of both treatment and control group children.

(i) To evaluate the impact of health care and growth monitoring inputs on incidence of morbidity in the treatment group.

(j) To evaluate the impact of health care and growth monitoring inputs on growth of treatment group children as measured by change in their Weight/Height^2 x 100 index.

(k) To evaluate the impact of health care and growth monitoring inputs on the haematological status of the treatment group children.

(l) To evaluate the impact of health and growth-monitoring inputs on the nutritional status of the treatment group children.

1.5.3 Objective of the Health Education Programme for the Mothers of Treatment Group Children

(a) To upgrade knowledge and practice amongst target women regarding :-

(i) Ante - natal care

(ii) Post - natal care

(iii) Family planning

(iv) Weaning age and foods

(v) Balanced diet for children and adults

(vi) Common nutritive foods with emphasis on those cheaply available

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(vii) Personal hygiene

(viii) Environmental sanitation

(ix) Common childhood diseases

(x) Sickness care and management of the child as specified for each childhood disease.

(xi) Immunisation - its importance and schedule

(xii) Existing health services in the neighbourhood and at city level.

(b) To help target women develop more positive attitudes towards :-

(i) Health as an asset

(ii) Female child and women themselves

(iii) Small family norm

(iv) Ante natal care

(v) Post natal care

1.6 Methodology

1.6.1 Research Design

The study undertaken had an experimental design and was conducted in a field setting at Pension-pura slums located in administrative ward number nineteen of Vadodara city.

In a nutshell, it may be stated that the goal of the experiment was to affect measurable improvement in health and growth of slum children under five years through

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(a) Carrying out a package of health care and growth monitoring activities for children themselves.

(b) Imparting a 'situation-practical' health education programme for the mothers of treatment children so as to upgrade latter's knowledge and competence in mothercraft relevant to child health

Thus there were two independent variables stated as (a) and (b) above and for sake of convenience denoted as inputs A & B throughout the text. Health of the child was the dependent variable. Operational definitions of all the three variables are given in section 1.6.2.

For evaluation of impact of inputs A & B both Before - After and Treatment - Control (Groups) data were compared and analysed for suitable statistical measures. Before - After comparisons were made to study the impact of planned interventions in the case of same group of children and their respective mothers denoted everywhere as treatment children and treatment mothers.

The experiment also used a matched sample of children and their respective mothers as control groups (criteria for matching given in section 1.6.5) to make possible an After-only type of comparison between treatment and control groups. This kind of double check was necessary to eliminate any doubts that the treatment groups, over a period of time, might have undergone change attributable to outside influences like mass media or other welfare agencies/workers rather than the interventions by the researcher. (It must be noted that as both treatment and control group children were drawn from the same compact geographical area, outside influences remained a common factor).

1.6.2 Operational Definitions of Independent and Dependent Variables

1.6.2.1 Independent Variable A

Denotes a package of all health care and growth monitoring interventions for children spread over a span of six months. The package includes :-

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Organising a thorough medical examination including haemoglobin testing of treatment and control children before adminstration of prescribed drugs in each group; deworming treatment to both groups; monitoring three month long prescribed treatment for each group; keeping a bi-monthly height and weight record for both groups; growth-monitoring in case of treatment children only; referral health services to treatment children only; maintaining a weekly morbidity record of both groups throughout six months of interventions; organising after-treatment haemoglobin testing for both groups of children.

1.6.2.2 Independent Variable B

Refers to a situation practical health education programme for treatment mothers only. The programme comprising of fifteen sessions spread over a period of three months were essentially varied excercises in Group Work practice with the broad aim of enhancing overall competence of target women regarding child health care with added emphasis on underfives. Simplified health messages were communicated through discussions, games, flip chart stories, posters, film show, demonstration of nutritive foods, preparation of ORS (Oral Rehydration Salts) mixture and two child-to-child programmes.

1.6.2.3 Dependent Variable - Health of the Child

For the purposes of present study the dependent variable was operationalised as positive change in Weight/Height^2 x 100 index of growth; haemotological status; and nutritional status as depicted on Road-to-Health cards and a reduction in incidence of morbidity.

1.6.3 Hypotheses

At the end of the interventional process the following outcomes were targeted -

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1.6.3.1 Hypothesis 1 - The mean value of Weight/Height^2 x 100 index of growth in treatment group children would show increase after the experiment vis-a-vis the mean value before.

1.6.3.2 Hypothesis 2 - The mean value of Weight/Height^2 x 100 index of growth in treatment group children vis-a-vis the control group would be higher after the experiment.

1.6.3.3 Hypothesis 3 - The mean value of haemoglobin level for treatment group children would show increase after the experiment vis-a-vis the mean value before.

1.6.3.4 Hypothesis 4 - The mean value of haemoglobin level for treatment group children vis-a-vis the control group would be higher after the experiment.

1.6.3.5 Hypothesis 5 - The mean value of nutritional status for treatment group children would show increase after the experiment vis-a-vis the mean value before.

1.6.3.6 Hypothesis 6 - The mean value of nutritional status for treatment group children vis-a-vis the control group would be higher after the experiment.

1.6.3.7 Hypothesis 7 - The mean reported incidence of each of the eight morbidity conditions viz - diarrhoea, vomitting, measles chicken pox, skin diseases, high grade fevers, coughs and colds (there was nil response for the nineth category - 'any other') under observation during the intervention period in treatment group would be lower than the corresponding values for control group at the end of the experiment.

1.6.3.8 Hypothesis 8 - The mean scores of knowledge (in each unit) pertaining to health care of underfives amongst treatment group mothers would show increase after the health education programme vis-a-vis the corresponding values before.

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1.6.3.9 Hypothesis 9 - The mean scores of knowledge (in each unit) pertaining to health care of underfives amongsst treatment group mothers would be higher than scores obtained by control group after health education programme.

1.6.3.10 Hypothesis 10 - The mean scores of attitudes (in each unit) pertaining to health care of underfives amongst treatment group mothers would be higher than control group mother's score after the health education programme.

1.6.3.11 Hypothesis 11 - The mean scores of attitudes (in each unit) pertaining to health care of underfives amongst treatment group mothers would be higher than control group mothers' score after the health education programme.

1.6.3.12 Hypothesis 12- The mean scores of practice (in each unit) pertaining to health care of underfives amongst treatment group mothers would show increase after the health education programme vis-a-vis the corresponding values before.

1.6.3.13 Hypothesis 13 - The mean scores of practice (in each unit) pertaining to health care of underfives amongst treatment group mothers would be higher than the scores obtained by control group mothers after the health education programme.

1.6.4 Sampling

The present study being a field experiment, sampling had to be done with much care. Unlike a laboratory, an open community setting does not lend itself to controlled conditions, so vital for any research. The next best course of action we thought, was to locate such slum families which at the time of our planned interventions were not receiving any organised health services at their door setp. This could ensure that extraneous influences were kept to a minimum

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1.6.4.1 First Stage of Sampling

Thus based on the above criteria we selected Harijanvas and Sardargram pockets of Pensionpura slums in Vadodara city where the children were neither covered under the Integrated Child Development Scheme (ICDS) nor by the community service of Childrens' Hospital, Karelibaug and the like. It was also known that, approximately both the slum pockets together had more than hundred families and there would be a sufficient number of children for study purposes.

1.6.4.2 Second Stage of Sampling

A base-line survey of Harijanvas and Sardargram families was undertaken to identify the target families, inter alia.

The main criterion for selection of target families was that the family should have atleast one child below 51 month of age at the time of survey, so that the child did not cross the age limit of 5 years before completion of the interventive plan. The second important criterion was willingness of the family, particularly the mother, to participate in the research project.

As such, of the 115 families surveyed, there were 44 families having one or more children less than 51 months of age; the number of these children being 70. Hence the 70 children so identified and their mothers, 44 in number comprised the universe of this study.

The number of children and their mothers were just adequate for study purposes and therefore it was decided to work with all i.e. carry out a census study. Indeed, it must be mentioned here that there were some drop out cases at various stages of intervention period. The miscellaneous reasons being sickness of the child in the first round of clinical investigations, non-cooperation from mothers, temporary absence or permanent

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move of the family from Pensionpura etc.

As such, of the 70 eligible children, only 55 received complete package of interventions from the beginning to end; and our data analysis is based on them. Drop out rate thus calculated was 21.4%.

1.6.5 Criteria for Delineation of Treatment and Control Groups

Even though the purpose of using matched samples was clear enough i.e. minimising differences due to extraneous variables, the mode of selection of crucial criteria variables required much deliberation. After several permutations and combinations we settled for the following two :-

(i) Health Indicator Criterion - Either groups i.e. treatment and control should have equal number of children having haemoglobin levels above 9.0 gms/dl as well as equal numbers having haemoglobin levels below 9.0 gms/dl.

(ii) Socio economic Indicator Criterion - Either groups i.e. Treatment and control, should have equal number of children having PCI (per capita income) of more than rupees 100 per month as well as an equal number having PCI of less than rupees 100 per month.

Therefore, it was only after the first round of clinical examinations i.e. when we had assessment of haemoglobin levels that the sample was further sub-divided into treatment and control groups. Hence we started with 32 children in the treatment and 30 in the control groups but were left with 30 and 25 respectively in both by the end of intervention as explained earlier in section 1.6.4.2.

As for the health education programme for mothers, mothers of the treatment group children were delineated as treatment group mothers while the mothers of the control group children comprised the control group of mothers.

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1.6.6 Interventional process and Procedure of Data collection

Interventions are core technologies of helping professions. We first learn about interventions through our professional training, in numerous forms like theories, techniques, prescription, case-studies etc. But nowhere in the world, can we get tailor-made programme formats specifically designed to meet the diverse needs of yet more diverse client groups. Besides, there was this question of availability of relevant and indigenous literature. While a lot is available on theories, characteristic features, case management guidelines etc. for social work intervention; as also reports of several actual interventions abroad when it came to readings on intervention projects in India carried out by trained social work personnel, there was an acute paucity, particularly in the field of community health. As such the researcher relied on her own previous experience of an action research project in the said field with the broad aim of prevention and cure of intestinal parasitic worm infection amongst 3 to 9 years olds in a slum community - refer Joshi S. (1986 : 44)

Experience gained during the multi-disciplinary intervention project provided the researcher not only with the seed idea for the present field experiment but also lent a perspective and a vision. The idea in its nascent from was discussed in detail with the research guide and a social research expert when a tentative design emerged. Later, three joint consultative meetings were held with leading pharmacologists and paediatricians from Sir Sayajirao General Hospital, Baroda for finalising the process design. In the concluding round of talks, on request of the researcher, research guide also participated. Her intervention ensured that the perspective and requirements of social work research remained intact and did not lose focus or become diffused in the multidisciplinary team approach to the problem.

Importance of holding consultations with medical experts was obvious for two reasons. First, all the decisions regarding contents, sequence and periodicity of health care inputs denoted as input

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A in fig II depicting Flow-Diagram of Interventional Process could have been taken by medical professionals alone. It would have been unethical on part of social workers to dwell upon in this area. Secondly, the researcher could also utilise these discussions for seeking advice and support for hospital based resources such as a team of physicians for clinical examinations of children, technicians for haemoglobin testing, drugs at low cost, road-to-health cards as tools of growth monitoring and posters for health education programme for mothers. Thus an out line of plan of action and a tentative calender of interventive tasks was drawn up.

The actual interventional process as shown diagrammatically in fig II had following component blocks :-

Base - line survey
Application of Input - A
Application of Input - B

While figure II visually displays key interventive actions under each block and sequence of their occurence, the procedures used in their implementation and data collection for the study are described here after.

1.6.6.1 Procedure of Base line survey

The researcher first visited the site along with her field work students and met the community men leaders, Mahila mandal office bearers and some residents to broadly explain the objectives, kind of interventions, expected outcomes etc. and invited their views. It needs to be mentioned here that the researcher has been working through her field work students in this community since July 1981 and a working rapport between us existed before hand. Almost all the persons contacted evinced their interest and inclination to co-operate. On being asked what time would suit them for our door-to-door interviews, they suggested afternoons and also that we could begin any day.

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Simultaneously, a semi-structured interview schedule was prepared by the researcher and pilot testing soon began.

The researcher took two students alongwith her each time for demonstration of interview technique and conducted ten interviews over three days. The experience was discussed in group conference for necessary modifications of the schedule as well as mode of interviewing.

The tool was revised as per above and data collected with the help of five field work students placed under researcher at that time. Both pockets were covered within a period of four weeks from 7 Jan.'87 to 3 Feb.'87. Each respondent was given token gift of a fibre glass cup which was also used as a measure of consumption of grains and flour per day, thus ensuring fair levels of accuracy and uniformity in data gathered.

Of the 115 families surveyed, 44 families were identified as target families i.e. a family which had at least one child under four years and three months of age (as the child should not cross the age of 5 years before intervention could be duly completed) at the time of interviewing. Immediately, within a week's time analysis of variables like family size, per capita income and any other special health or social condition (like widowed mother, acute poverty etc.) was completed for the target families.

Later, per capita monthly income and haemoglobin level of the child were used as the two parameters for classifying the experimental children into treatment or control groups (details given later in section 1.6.5.)

1.6.6.2 Procedures in Application of Input A

Despite the long drawn strike by junior government doctors at Baroda in early 1987, we got full logistics support from SSG

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Hospital for various clinical examinations and were able to work as per the tentative plan of action.

We, on our part also made detailed and systematic advance preparations to secure optimum success in each task undertaken and corresponding data collection. Such preparations included prior intimation to community women about the forthcoming events; on-the-spot persuation in case of some women for haemoglobin test of their children or giving vitamin and iron supplement pills/syrup to the child without fail; preparation of forms for record of medical examination with the help of doctors; issuing registration cards to each child to facilitate co-ordination of various tests; advance preparation of registers for record of haemoglobin level, height, weight, recommended treatment, referrals if any, and weekly morbidity data; training and monitoring role of community health volunteer (details given in section 1.6.8); explaining road-to-health cards to mothers etc.

The peoples' support was evident by their arranging of tables, chairs and test equipments; maintaining order on the spot as there used to be more than 50 children and their mothers each time with many children screaming loudly because of blood test or fear of it; offering water and tea to the clinical team and social workers present etc.

Table 1.1 below depicts time schedule of all component tasks under input A

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TABLE : 1.1

Time Schedule of execution of Component Tasks under Input - A

	Component Task	Time Period
i)	Organising logistics support	I week Feb'87
ii)	Pre-interventive haemoglobin test	10 Feb '87
iii)	Pre-interventive medical examination	19 Feb '87
iv)	De-worming treatment	IV week Feb '87
v)	Selection of community health Volunteer	"
vi)	Classification of children into treatment and control groups.	"
vii)	Bi-monthly height and weight records	Feb, Apr, Jun, Aug'87
viii)	Organising and monitoring vitamin and Iron supplements for Treatment children	Apr, May, Jun, '87
ix)	Organising and monitoring placebo treatment for control children	"
x)	Growth monitoring for treatment children only	Periodically from Feb to Aug, '87
xi)	Weekly record of morbidity amongst Treatment & Control groups	Mar to Aug '87
xii)	Post-intervention haemoglobin testing of treatment and control groups.	30 Aug '87.

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1.6.6.3 Procedures in Application of Input 'B'

As shown in fig II, input B comprised of three major tasks, namely :-

(a) Empirical study of Knowledge, Attitudes and Practices (KAP) regarding health care of underfives amongst mothers of both treatment and control groups before health education programme conducted for treatment group only.

(b) Construction and implementation of a situation practical health education programme (HEP) for mothers of treatment group only.

(c) Empirical study of KAP regarding health care of underfives amongst mothers of both treatment and control groups after health education programme conducted for treatment group only.

A semi structured and pre coded KAP measurement scale covering all the areas of inquiry mentioned under the objectives of HEP as given in section 1.5.2. was developed after a careful scrutiny of related literature and discussions with experts from medical and social science professions. The scale after proper pre-testing and necessary modifications was administered on mothers of both treatment and control groups; and thus pre-intervention data was collected.

Next came the actual implementation of HEP consisting of fifteen sessions spread over a period of three months approximately from July 24, '87 to Oct 31, '87. The sessions were held at the 'Balwadi' in Sardargram usually in the afternoon as per the convenience of the participants.

In the very first session, the participants were oriented about the goals, subject matter content, programme duration and teaching methods to be used during the HEP. Next, the working modalities with regard to timings, duration and periodicity of the sessions, incentives for high attendance and merit performance etc. were discussed

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with the participants. Decisions were taken on the basis of majority vote. The same session included three short educational games. In the end, the women were informed that Fatehganj Samaj Kalyan Kendra, an extension agency of Faculty of Social Work, M.S. University would award them certificates subject to successful completion of the course by the participants.

Of the remaining fourteen sessions, the last one was reserved for Certificates Award and Prize Distribution Function. For each of the preceeding thirteen sessions, objectives, media of instruction and audio-visual aids were carefully planned in advance. Preparations for the sessions in terms of developing an aid, contacting resource persons for talks, training the children for a skit or a rally was done separately in additional hours which at times extended over one or two weeks as in the case of the latter two items just mentioned.

Coming to the subject matter content, we were aware that some areas were rather 'difficult' for the participants (to comprehend) as they had never heard of these or practiced them before e.g. a balanced meal, role and functions of different nutrients, information on certain childhood diseases etc. Under the circumstances, in order to sustain the interest and involvement of the participants throughout the intervention period we deployed a whole gamut of communication techniques, namely - group discussion, talks aided by charts and posters, talks by outside experts, paper presentation by volunteers from the learners' group, educative games, story telling, health quiz, skit, rally, cooking demonstration and film show.

In short, it may be said that the present HEP model was an exercise in Group Work practice with sharply defined goals; the setting being an urban slum community.

Post intervention data was collected on the same scale by different investigators; again for both treatment and control group mothers.

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1.6.7 Reliability and Validity of KAP Scale

Reliability means respeatability of the measuring instrument or the level of consistency in the answers obtained by it. As earlier mentioned, for the present study, no ready-made commercial scale with a given reliability value was available. We therefore not only had to develop a KAP scale of our own but also had to ascertain its reliability. Test - Retest method was used.

Ten mothers out of the thirty which comprised the experimental group i.e. 33.3% were interviewed a second time by a different investigator within five weeks of the first interview. The scale itself consisted of twenty sub scales each of which was complete by itself. Hence the scores obtained by the individual respondents in the first and second round of inquiry were analysed for their correlation matrix, and the R value was calculated by Cronbach's Alpha formula. The results are presented in table 1.2. as per below :-

TABLE : 1.2

Reliability Test of KAP Scale

Srl	Sub - scale Item	R - Value
1.	Knowledge of Diarrhoea	.75544
2.	" Measles	.95343
3.	" Chicken Pox	.83923
4.	" Anaemia	.97225
5.	" Tetanus	.86621
6.	" Scabies	.53157

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Srl		Sub - scale Item	R - Valve
7.	"	Infant feeding	.87830
8.	"	Nutritious Diet	.97488
9.	"	Pre-natal care	.61496
10.	"	Post natal care	.67900
11.	"	Family Planning	.98939
12.	"	Immunization schedule and advantages.	.82151
13.	"	Health services in neighbour hood and at city level	.66310
14.	Attitude to Infant Feeding		.92125
15.	Attitude to Family Planning		.97646
16.	Attitude towards Women and Female children		.76771
17.	Attitudes towards health professionals and Services		.68552
18.	Practice of Infant feeding		.93276
19.	Practice of Sickness care of child		.88024
20.	Practice of Personal Hygiene		.96104

Table 1.2. shows that the R-value of various sub scale items ranged between a minimum of .53157 as for Knowledge of scabies

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to a maximum of .98939 as in the case of 'Knowledge of Family planning'. Thirteen out of twenty sub scale items had an R-value of more than .80 which is considered high enough for standardizing and commercializing of a scale. Two other items, namely 'Knowledge of Diarrhoea' and 'Attitude towards Women and Female Children' had R-value above .75 and it can be said that it was good enough. The remaining five items had low R-value of less than .70.

In order that the KAP scale was high on validity i.e. it indeed measured what it was purported to have measured; the questions contained by the scale were drafted very carefully with reference to a theoritical frame work excerpted from Training Manual on Research Methodology on Child Labour and Health (1984 : 37) as per below :-

Responses to question are less likely to be valid at least in three circumstances :-

(1) If the questions are embarrassing, such as those involving sexual functions or bowel habits.

(2) If honest responses might endanger the subject (for example, a child might suffer physical punishment or loss of his job if he tells an interviewer that his employer is abusive).

(3) If there is a motive to gain some social effect, such as to amuse the interviewer,or gain his respect or approval. Children especially are likely to guess at what answers might please an adult.

(4) Sometimes respondents will give answers even when they don't understand the question, either to please the interviewer or just to get the interview over with.

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Further since internal validity of a classical experimental design such as the one used in the present study is characterestically strong as per Powers G.T. et.al. (1985 : 206), it was felt that additional validity of the measurment scale was not really necessary. Here, the classical experimental design would essentially have four characterstics as follows :

First, there is a manipulated independent variable. In a TRUE experiment, the causal variable or the independent variable is administered or changed by the experimenter in order to ensure the time order.

Second, is the existence of at least one dependent variable.

Third, common feature of true experiments is the random assignment of subjects to experimental and control groups. This equalizes the groups when the experiment begins.

The fourth, trait of the experimental design is the process of pre-testing and post-testing.

1.6.8 Data Analysis and Presentation

With reference to the objectives of the study, voluminous data was collected which for purpose of organised presentation can be placed in three broad categories as shown below :-

(i) Base line survey data

(ii) Data pertaining to health and growth monitoring (of children) interventions.

(iii) Data pertaining to health education interventions (Programme for mothers).

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While, the base line data was analysed by the researcher with the aid of a scientific calculator, the other categories (ii) & (iii) stated above were computer processed at EDP section, Tata, Institute of Social Sciences, Bombay. For the latter categories ICSSR research grant for guidance and consultancy services in statistics and Electronic Data Processing was utilised.

Chapter three presents findings of the base line survey which essentially highlight socio-economic profile of the sample besides some related statistics on the health of underfives in the community. Frequency and percentage distribution; means and standard deviation; and mode are the statistical measures used herein.

Discussion of impact of social interventions on health and growth of study children is presented in chapter four. Student's t-test was applied to verify relevant hypotheses from one to seven as given in section 1.6.3. Multiple regression analysis was used to study the effect of independent variables like household size, mother's age, mother's education and per capita monthly income on the indexed dependent variables like Weight/Height^2 x 100; haemoglobin status and nutritional status.

Chapter five presents analysis of impact of health education programme conducted for treatment mothers. As in earlier chapter four, student's t-test was applied to verify the relevant hypothesis from eight to thirteen as given in section 1.6.3 and multiple regression analysis was used to study the effect of independent variables like house hold size, mother's age, per capita monthly income and mother's education on dependent variables like change in aggregate scores of knowledge, attitude and practice of target mothers.

1.6.9 Need, Selection and Role of Community Health Volunteer

Health and growth surveillance of 55 children involving a broad range of interventions over a period of six months as the

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cornerstone of the present study demanded a live day-to-day contact with the field and target people. In search of a suitable device fulfilling the above requirement, we decided to keep the trusted counsel of reaching the community through a local, well-liked, responsible, resident volunteer. The researcher having known Pensionpura people for some years had three suitable women candidates in mind and had been seeking students' opinion regarding who would suit the role best when the selection issue clinched itself an the first day of clinical examination. Kanuben (one of the three candidates) doing a marvellous job of helping the medical and social workers team on her own drew everybody's attention. It was a good demonstration of a situation throwing up leadership potential from the community. All of us present there felt that the part time post of CHV should be first offered to Kanuben. Only in case she declined it, should we approach others. Besides, her quiet leadership abilities, Kanuben was literate and in the past had done a meticulous job of account keeping as the treasurer of Sardargram mahila mandal. Soon the offer was made to her alongwith the explanation of what was expected of her. We were indeed happy when she readily agreed to join us.

Following tasks were assigned to the CHV :-

(a) Visit target families every Tuesday to inquire about the health of study children and report to the researcher the following day with the morbidity data register. In case of emergencies, she was to report immediately anytime during the week.

(b) To help field work students in extending follow up or referral service to the ailing child.

(c) To guide treatment group mothers in completing immunisation of their children from time to time as advised by the researcher.

(d) To distribute vitamins, iron supplements and 'placebos' to children as advised by the researcher.

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(e) To help researcher in collecting height and weight of all children once in two months.

(f) To help researcher and students during health education sessions by taking care of small children accompanying their mothers.

The necessary training for the above listed tasks was personally given by the researcher through demonstration and discussions with the CHV.

In a summary evaluative comment on the performance of CHV it may be said that she not only did a commendable job but that her own personality also showed growth as the project progressed.

1.7 Limitations of the Study

First and foremost, the, limitations built into our conceptual framework itself.

To begin with, let us scrutinise the issue of delineating several children with very poor general health (as indicated by their low haemoglobin levels)into control group of the study design; thus receiving only 'placebos' for three months. Was it so essential to have matched samples for treatment and control groups? Even at the cost of knowingly neglecting health of the said children ? Was it not feasible to select some criterion other than haemoglobin status for sampling purposes ? We debated at length over the above posers amongst ourselves as well as with the medical consultants. And obviously, having failed to come up with a superior alternative reconciled to compromise our humanitarian concern for sake of an un-ambiguous research model.

Secondly, research scientists can always argue (and quite justifiably) that the sample size for study of impact of health education programme was too small. There were only 13 (though we started with 15, there were 2 drop-outs) and 15 mothers in

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treatment and control groups respectively and one can always question the worth of generalisations based on t-test results for both independent and paired samples. The extenuating circumsance was however this that the decision on the sample size of mothers' groups in a sense, was not left to us. The total number of both groups was 30 and they were the mothers of 55 children who were our main research clients under the study. Several mothers were having two children under 51 months of age but got included in the sample size only once. The relatively low mean age of mothers i.e. 25.441 years with the standard deviation of the sample as 3.895 years clarifies further how it came to be that many mothers had two or occasionally three children below 5 years.

Lastly, paucity of earlier experimental research in this field particularly on Indian soil, was a real handicap.