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STATUS AND NEEDS STUDY REGARDING DISABLING CONDITIONS AND REHABILITATION FACTORS PRESENT IN TWO RURAL DISTRICTS OF COSTA RICA

By

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ABSTRACT

STATUS AND NEEDS STUDY REGARDING DISABLING CONDITIONS AND REHABILITATION FACTORS PRESENT IN TWO RURAL DISTRICTS OF COSTA RICA

By

Gaston de Mezerville

For most developing countries, the need for providing adequate health and rehabilitation services to all of their citizens is clearly affected by the limited resources available to them for the accomplishment of this task. Costa Rica is not an exception. According to the Costa Rican National Council of Rehabilitation and Special Education, N.C.R.S.E., the existing resources in the field of rehabilitation are not enough to offer adequate services to more than 25% of the disabled population. Consequently, there is a need for adopting a more efficient and workable rehabilitation model in order to further diminish the impact of disability.

The long-term purpose of this study, therefore, was to contribute to the development of such a model, by providing a description of the status and needs of a particular rural area in regard to disabling conditions and rehabilitation factors.

The specific objectives of the study were (1) Identification of functional limitations and assessment of the different dimensions of the resultant disability; (2) Conducting of a more complete assessment of the functional development of children, ages 0 - 6; (3) Identification of possible prevention factors of disability; and (4) Exploration of some current practices and resources in the community in dealing with disability and rehabilitation issues.

In reviewing the literature related to this study, the role played by evaluative research and needs assessment was presented in the context of a larger framework such as W.H.O.'s intervention model in rehabilitation. The assessment of community needs was described as an essential component of evaluative research, and a necessary first step in adequate program planning when conducted prior to intervention. Theoretically, a needs assessment was defined as the process by which one identifies needs and decides upon priorities among them. The present status and needs study related exclusively to the first task of this definition, laying the foundation for future research regarding the second task of needs assessment: the decision about priorities.

The design of the study was introduced by a description of the method employed in collecting the data. Three approaches were selected as a part of the method, each of them adding to the others an alternative and necessary dimension for the description of the status and needs of the districts with regard to disability and rehabilitation.

Concerning the subjects and sampling procedures utilized in this study, two samples of 100 dwellings in the district of San Antonio, and one sample of 50 dwellings in the district of Quebrada Honda were selected through systematic random sampling out of a total population of 1,400 dwellings located in both districts.

The instruments used for assessing disabling conditions and rehabilitation factors fall under the following three categories:

1. A "Household Questionnaire on Disability and Rehabilitation," which was developed for the purpose of identifying functional limitations and assessing the different dimensions of the resultant disability in terms of the rehabilitation care received, the activity level and

self-care of the disabled, and the attitudes toward the limitation. This instrument was patterned after the "W.H.O. Model of Interventions to diminish the impact of disability."

2. Psychological and developmental testing of children using The Denver Developmental Screening Test, The Wechsler Intelligence Scale for Children, and The Beery's Developmental Test of Visual-Motor Integration.

3. Structured interviews were designed for the purpose of assessing current rehabilitation practices and resources, as well as community needs, as they are viewed by the people of the communities themselves, or according to the opinion of three experienced local professionals whose work deals specifically with disability and rehabilitation issues in that geographical area. In this way, the available and potential resources in the area of rehabilitation were surveyed. Also, the "attributed needs" or "desired state of affairs" as judged by the specialists in the field were evaluated, thus complementing the expressed rehabilitation needs as they were perceived by the communities ("consumer's view") and assessed through the other methods mentioned above.

The main findings of the study concerning the rehabilitation needs of the districts can be summarized as follows:

1. Lack of rehabilitation treatment other than medical treatment which is usually limited to the prescription of medicines.

2. Lack of orthopaedic treatment for persons who suffer from physical limitations.

3. Lack of any type of program or rehabilitation strategy for problems concerning alcoholism.

4. Lack of adequate stimulation in children as a consequence of

cultural deprivation in some of the homes which appears to be the determinant factor related to developmental delays in language and fine-motor control.

5. Lack of school and/or community resources for diagnosing and properly dealing with most disabilities in children.

6. Lack of community awareness regarding the incidence of disabling conditions in the districts and the available means for dealing with them.

7. Lack of adequate rehabilitation treatment received by disabled persons in the communities due, to a certain extent, to defective components in the present delivery system.

In summary, the first two steps of an evaluation study[1] have been achieved: (a) the detection of community problems and identification of unmet needs, and (b) the surveying of available and potential resources.

The following step, which can be defined as the establishment of priority goals, should consist of implementation of activities such as (a) matching identified needs and resources, (b) developing alternative strategies of intervention, and (c) selecting the most appropriate programs to be used in the rural communities.

[1]Directed by Dr. John E. Jordan, College of Education, Michigan State University, East Lansing, Michigan 48824.

I dedicate this thesis to my father, Dr. Jorge de Mézerville Quirós, and to my uncle, don Alfredo Esquivel Carranza. They lovingly taught me the right meaning of work, and helped me to start my walk as a man on paths of integrity and responsibility.

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CHAPTER ONE: THE PROBLEM

For most developing countries, the need for providing adequate health and rehabilitation services to all of their citizens is clearly affected by the limited resources available to them for the accomplishment of this task. Costa Rica is not an exception. In order to meet this challenge it has enacted legislation mandating a fully socialized health delivery system.

Under the current social security legislation, most of the population is entitled to receive health and rehabilitation care. This law, furthermore, foresees the universalization of services to all citizens of the country within a few years.

The dimensions of the problem in Costa Rica are illustrated by the fact that there are only 1,500 physicians to serve the country's population of two million inhabitants; besides, 80% of these physicians are concentrated in the urban areas. In this context, sophisticated medicine and basic research, both relying on and requiring high levels of technological support, clearly fail to meet the health and rehabilitation needs of the country.

Dr. Rodrigo Sanchez-Ruphuy (1977), Director of the Division of Behavioral Sciences of the Costa Rican Social Security System, contends that the utilization of an inadequate health care system, instead of contributing to the solution of the problem, is in fact generating a vicious cycle of underdevelopment (Figure 1): "Underdevelopment or low socioeconomic level," he says, "produces poor diet which causes malnutrition, leading to sickness, disabilities, and shortened life expectancy. This in turn causes low economic production that contributes

further to social and economic underdevelopment" (Sanchez, 1977, pp. 910-911).

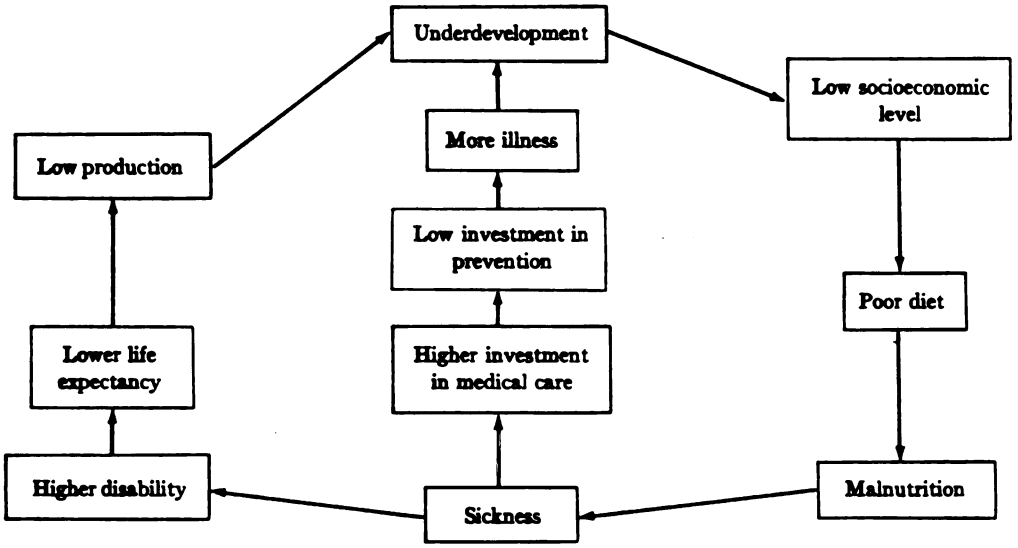


Figure 1. The cycle of underdevelopment.

The Costa Rican Social Security System as well as the Ministry of Public Health have started to recognize the need for promoting a new approach to health and rehabilitation in order to facilitate advances in community socioeconomic development. Thus, new strategies are being devised, and the task of designing a more comprehensive health model is already underway.

The "Rural Community Comprehensive Health Program of San Antonio" in the province of Guanacaste, sponsored by the Social Security System, and the "San Ramon Rural Health Program" in the province of Alajuela, sponsored by the Ministry of Public Health are two current examples in Costa Rica of the previously described trend toward the establishment of a new health model.

In the development of such a model the following aspects have

been given special emphasis:

A preventive approach, which tends to identify and promote health-sustaining and disability prevention factors, instead of focusing only on the delivery of services exclusively directed toward health recovery, after the onset of illness or disability.

A community approach, which focuses initially on the rural areas, in order to counteract the existing centralization of services in and around the more heavily populated cities.

A cooperative approach, which attempts to coordinate the services of different types of professionals in the health field, as well as community resources, in order to better meet the complex needs of the people in the communities.

In summary, the emphasis on prevention, smaller communities, and cooperation constitutes the core of the projected comprehensive health model.

Need

Having considered the general health situation in Costa Rica, it is possible to better understand now the specific rehabilitation needs of the country.

Several specialized agencies within the United Nations (the World Health Organization, W.H.O.; the United Nations Educational Scientific and Cultural Organization, U.N.E.S.C.O.), as well as other organizations such as the International Society for Rehabilitation of the Disabled, I.S.R.D., state that at least 10% of any country's population suffers some type of physical or mental disability. According to this estimate, Costa Rica faces the challenge of providing rehabilitation

services to approximately 200,000 disabled persons.

In this regard, the Costa Rican National Council of Rehabilitation and Special Education, N.C.R.S.E., has recently stated that the existing resources in the field of rehabilitation are not enough to offer adequate services to more than 25% of the disabled population (N.C.R.S.E., 1977). This lack of resources is particularly acute in the rural areas due to the high concentration of available services in and around the country's largest cities.

In response to this need for increasing rehabilitation services and resources, W.H.O. has suggested a general strategy of intervention to diminish the impact of disability. In W.H.O.'s Report on Specific Technical Matters on Disability Prevention and Rehabilitation (1976) the disability problem in the world is closely examined and proposals for its solution are reformulated. These proposals, however, are meant to be adapted to the specific conditions of each country. In this regard, there seems to be a high degree of agreement between the W.H.O. suggestions and the essential elements of the health model presented in the beginning of the chapter.

In more concrete terms, the comprehensive health model currently considered by the Costa Rican Social Security System makes provision for the development of specific strategies in the fields of rehabilitation and mental health which can be incorporated within the overall model.

The National Council of Rehabilitation and Special Education is the leading entity in Costa Rica responsible for directing and coordinating these efforts. This Council represents the Social Security System as well as a dozen other institutions, and works in

collaboration with the Ministry of Public Health, the Ministry of Education, and the Ministry of Labor and Welfare. In fulfilling this role, the N.C.R.S.E. is taking into account the basic guidelines suggested internationally by the World Health Organization, and is seeking to direct the rehabilitation and special education fields towards adopting an efficient and workable model.

Consequently, a great deal of attention is currently being given to the need of developing a strategy or model that could better serve the country in the area of rehabilitation services. This model refers specifically to the field of disability prevention and rehabilitation, but is also meant to be incorporated within the larger framework of a comprehensive health model like the one described in the beginning of the chapter.

A first step in the development of a model such as this implies the conducting of status and needs studies which are meant to serve as a foundation for the diagnosis and analysis of some variables in rehabilitation that need to be taken into account in the implementation of such a model.

According to the W.H.O.'s report on specific technical matters mentioned before, the conducting of this type of a research study prior to the implementation of a new model contributes significantly to overcome those planning deficiencies that most conventional services in rehabilitation have had in the past (W.H.O., 1976, p. 25).

Purpose

In the context of the need previously described, the purpose of this study is viewed as an attempt to contribute to a first stage in

in the development of a rehabilitation model by providing a description of the status and needs of a particular rural area in Costa Rica in regard to disabling conditions and rehabilitation.

Due to the emphasis given in this study to the rehabilitation conditions of rural districts, the research has been set up in collaboration with the Costa Rican Social Security System which is particularly committed to the development of a comprehensive health model in those areas.

In this regard, the International Rehabilitation - Special Education Network, I.R.S.E.N., is presently carrying out an evaluation research project in Costa Rica, which intends to measure the impact of a pilot implementation of the proposed Costa Rican Social Security Comprehensive Health Model, by assessing the health status and needs of the populations of the district of San Antonio (setting of the pilot implementation) and the comparative district of Quebrada Honda.

As stated previously, the purpose of the present study is more specific than the one pursued by the I.R.S.E.N. evaluation research project. It consists exclusively of addressing the disabling conditions and rehabilitation factors present in the two rural districts of San Antonio and Quebrada Honda. It is not within the scope of the purpose of this study, however, to evaluate the Comprehensive Health Program in regard to the areas of disability and rehabilitation.

Special Definitions

In an attempt to improve communication in dealing with disability prevention and rehabilitation issues, some of the guidelines and terminology suggested by W.H.O. have been adopted within the context

of this research (W.H.O., 1976).

The following definitions from the W.H.O. report are particularly relevant for understanding the objectives of the study:

Impairment: "It is a permanent or transitory psychological, physiological, or anatomical loss and/or abnormality, such as an amputated limb, paralysis after polio, myocardial infarction, cerebrovascular thrombosis, restricted pulmonary capacity, diabetes, myopia, disfigurement, mental retardation, hypertension, perceptual disturbance, etc..."

Functional Limitation: "It is the partial or total inability to perform those activities necessary for motor, sensory, or mental functions within the range of which a human being is normally capable, such as walking, lifting loads, seeing, speaking, hearing, reading, writing, counting, taking an interest in and making contact with surroundings, etc..."

Disability or Disabling Condition: "It is an existing difficulty in performing one or more activities which, in accordance with the subject's age, sex and normative social role, are generally accepted as essential, basic components of daily living, such as self-care, social relations, and economic activity" (W.H.O., 1976, p. 7-8).

Also, considering that the raison d'etre of a rehabilitation program consists of diminishing the impact of disability, it becomes clear that rehabilitation prevention not only implies the intervention immediately prior to the onset of disability, but must also include those actions taken to reduce the occurrence of impairment, as well as the interventions directed towards the prevention of further development in existing functional limitations (See Figure 2.4 in Chapter Two).

According to W.H.O. terminology, then, disability prevention includes all action taken to reduce the occurrence of impairment (First Level Prevention), its development into functional limitations (Second Level Prevention), and, finally, to prevent the transition of functional limitation to disability (Third Level Prevention).

Finally, although it is widely accepted that the field of Special Education deals specifically with the impact of disability on individuals of preschool and school age, for the particular purposes of this study the term "Rehabilitation" will encompass all actions in regards to disabling conditions affecting persons of all ages, whether they be children, youth, or adults.

Objectives

Therefore, this study attempts to fulfill the purpose defined previously by setting up the following objectives:

1. Identification of types of functional limitations present in the districts of San Antonio and Quebrada Honda, focusing on the different dimensions of the resultant disability in terms of the rehabilitation care received, the activity level and self-care of the disabled, and the attitudes toward disability.

2. Conducting of a more complete assessment of the functional development of the children in both districts, ages 0 - 6, in the areas of personal-social, language, fine and gross motor development, as well as intelligence and visual-motor integration.

3. Identification of possible prevention factors of disability.

4. Exploration of some of the practices and resources currently utilized by, and/or available to the community in dealing with

disability and rehabilitation issues, and tentatively pointing out areas in which there is a need for improving the present delivery system of services within their particular context.

Overview

In Chapter Two, a review of the literature is presented; it deals particularly with status and needs studies which exemplify the general rehabilitation model suggested by W.H.O. Also, the use of specific developmental and psychological tests cross-culturally is considered.

In Chapter Three, the method, subjects and instrumentation, as well as the procedures and statistical analysis adopted as a part of the study design are described.

In Chapter Four, the results of the research are analyzed and discussed in the context of the practices and resources currently available to the communities.

Finally, the summary and recommendations concerning this study are presented in Chapter Five.

CHAPTER TWO: REVIEW OF LITERATURE

Since the long-term purpose of this study was to contribute to the development of a rehabilitation model in Costa Rica, it seemed appropriate to include in the beginning of the chapter some basic literature regarding the establishment of an intervention model in rehabilitation.

The role that evaluative research and needs assessments play in such a model is then presented, giving special consideration to the international research conducted in this field.

Particular attention is given at the end of the chapter to the issue of cross-cultural research methods, and its importance in assessing rehabilitation needs throughout the world.

A Model of Intervention in Rehabilitation

The consideration of a larger framework in rehabilitation within which each part of the whole plays its individual role appears to be a necessary starting point for this review of literature.

Disability cannot be adequately understood out of the context of a process in which successive phases are ordered in a cause-effect relationship. As formulated by Chapin, "Cause and effect, or causality as a system of ideas, is an explanation of successive events by a set of assumed antecedent-consequent relationships...The concept of cause and effect...is used as a shorthand device to represent a kind of association between factors in time sequence which has a determinable probability of occurrence" (In E. A. Suchman, 1967, p. 171).

Suchman (1967) defines this type of a process as including four phases: preconditions, causes, effects and consequences. Thus, three major independent-dependent subgroupings are formed: (a) the

relationship between the precondition and causal variables, (b) the relationship between the cause-and-effect variables, and (c) the relationship between the effect and the consequence variables. According to Suchman, treatment can occur at any one of these three stages acting as an intervening variable which modifies the relationship between independent and dependent variables (see Figure 2.1).

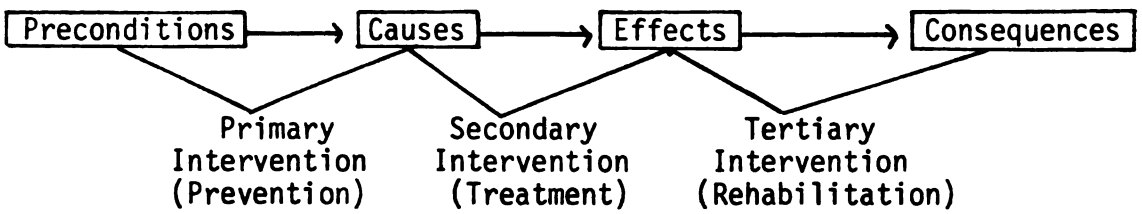


Figure 2.1. Suchman's Model of Applications of Intervening Variable.

As a way of illustrating this theoretical model, Suchman applies it to the disease process in the health field: "Traditionally," he contends, "the field of health or medicine is largely concerned with the treatment process; physicians provide medical care to patients who have already developed the causes of illness and the objective of medical 'intervention' is to prevent the full effects of the disease - death or disability - from developing. Thus, the current emphasis of medical programs is predominantly upon secondary prevention. However, with the increasing importance of the chronic, degenerative diseases (such as heart disease or diabetes) where medical treatment offers little promise of any cure, the shift of future programs is toward tertiary prevention or rehabilitation of the patient who has already suffered the effects of the disease or disability, and to a lesser degree, upon primary prevention to decrease the probability of the development of causes of the degenerative disease" (Suchman, 1967, pp. 173-174).

In this context, Haber (1966) contributes to the definition of the

different phases of the disability process by identifying a cause-effect relationship between impairment, functional limitation and disability. According to Haber, certain preconditions cause the occurrence of impairments which may or may not lead to important functional limitations. A functional limitation, then, is characterized by a restriction or activity loss which interferes in an important manner with the normal physical or mental functioning of an individual in his daily life. In those cases when an impairment leads to functional limitations in the ability to care for oneself or to perform a key expected social role, particularly when the condition is of a permanent nature, then the impairment can be described as a disability (Haber, 1966).

The Rehabilitation Services Administration, R.S.A., in its Report of the Comprehensive Service Needs Study (1975), explains the term "handicap," within this context, in the following manner: "A handicap is an event or environmental condition which interacts with a disabled person, causing a barrier to goal accomplishment that a nondisabled may not face, and which would not impede the disabled person if the world could change" (D.H.E.W., p. 24).

Figure 2.2 represents an application of Suchman's theoretical model of intervention, using Haber's concepts of impairment, functional limitation, and disability.

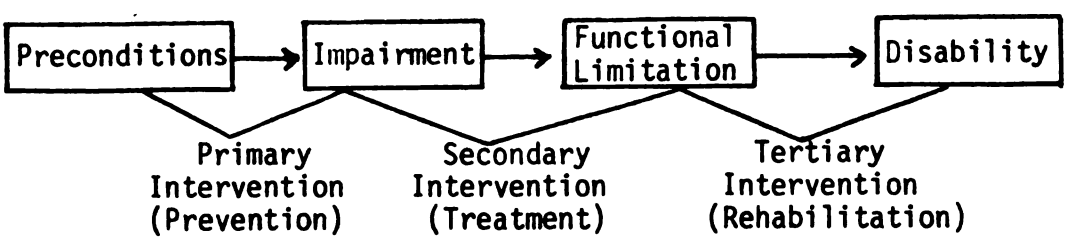


Figure 2.2. A Theoretical Model of Intervention in Rehabilitation.

Within this framework, intervention can be described as the implementation of an activity at some stage of the process - precondition, impairment, functional limitation, disability - for the purpose of attaining a previously defined objective.

The following are a few illustrative examples of intervention in rehabilitation:

1. Vaccination of children against polio at the phase of preconditions, which can achieve the objective of preventing the occurrance of impairment.

2. Early treatment of trachoma at the phase of impairment, which can achieve the objective of preventing the occurrance of functional limitation.

3. The use of adequate prosthetic devices at the phase of functional limitation, which can achieve the objective of preventing the occurrance of disability.

The World Health Organization, W.H.O. (1976), has adopted the basic components of this model, and has developed them further as it can be seen in Figures 2.3 and 2.4.

Concerning the disability process (Figure 2.3), W.H.O.'s model emphasizes the role that causative factors play, not only upon the phase of impairment, but also upon each one of the different stages in the process. Also, it elaborates further the individual, family and societal consequences of disability in terms of the following three basic components:

1. Self-care (daily living skills, such as feeding and dressing self, mobility, etc.)

2. Activity level (loss of productivity, economic liability, participation in leisure activities, etc.)

3. Social integration and attitudes toward disability (W.H.O., 1976, pp. 7-12)

Since the aim of the W.H.O. model of intervention is to describe

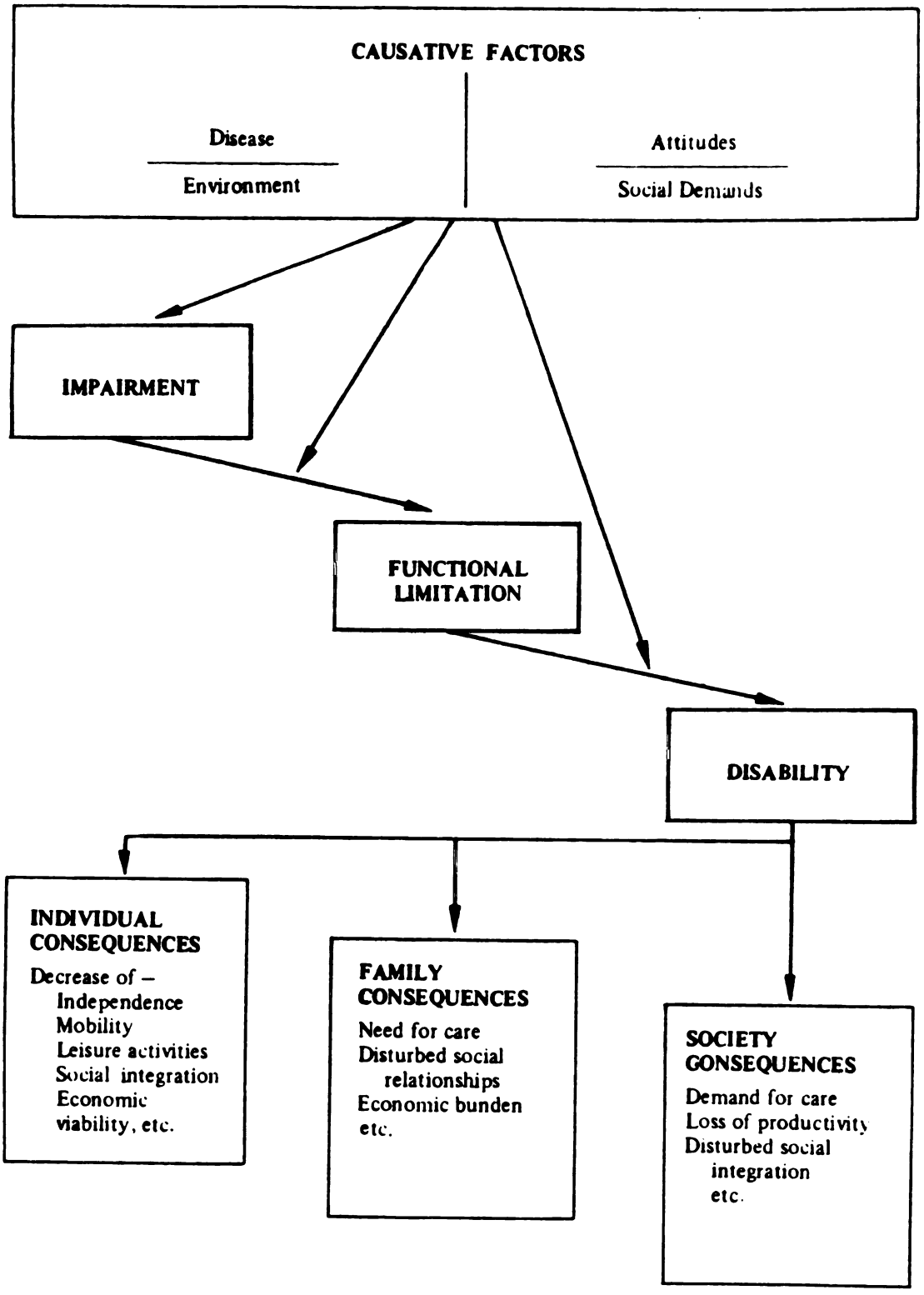


Figure 2.3. The Disability Process according to W.H.O.'s Model.

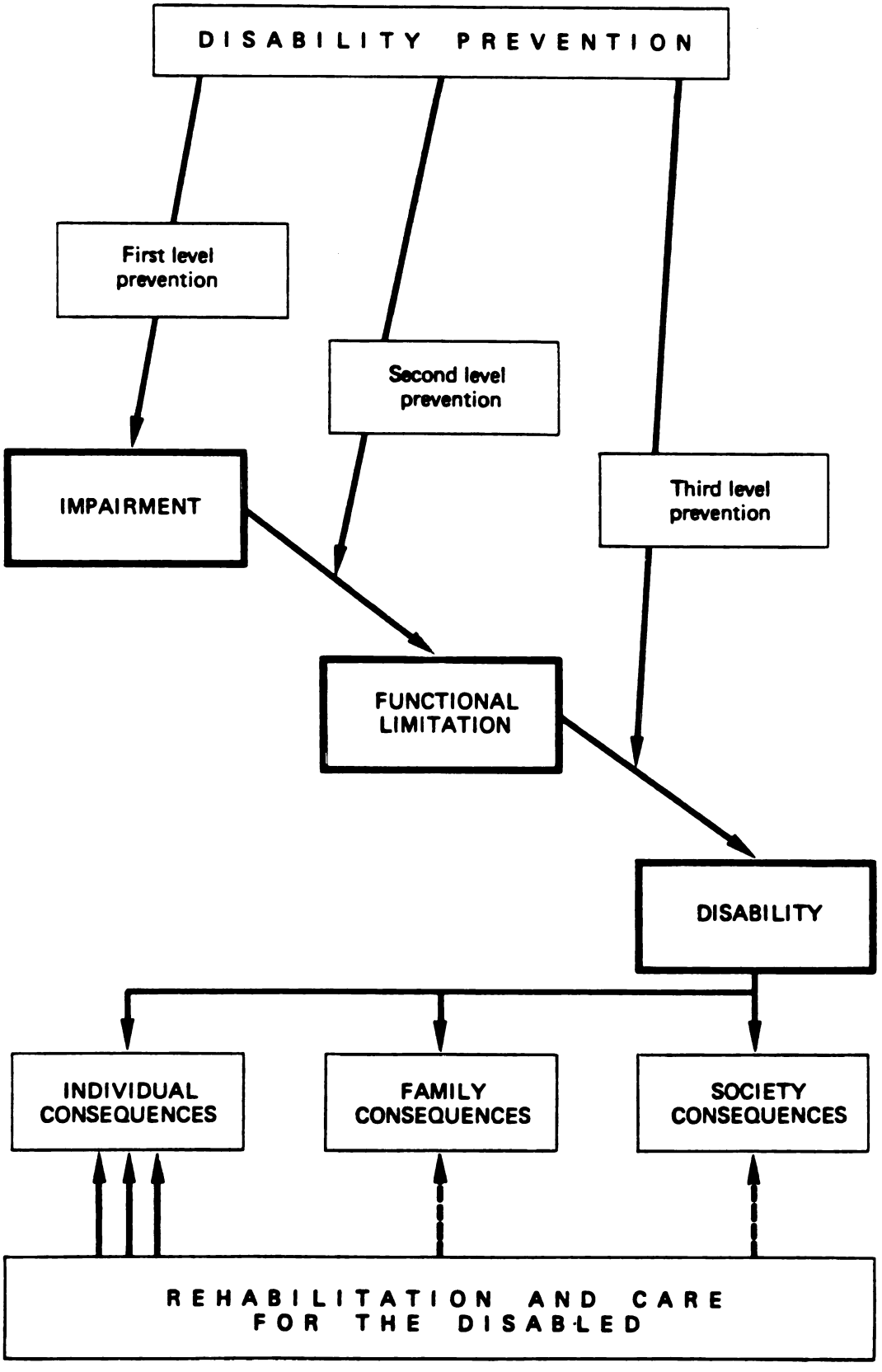


Figure 2.4. W.H.O.'s Model of Interventions to diminish the impact of Disability.

the measures that are necessary to diminish the impact of disability, it becomes clear at this point that the field of rehabilitation should not be limited only to tertiary interventions. Therefore, W.H.O. has proposed the concepts of First, Second and Third Levels of disability prevention, as different stages of intervention in an overall rehabilitation strategy (see Figure 2.4).

Each one of these three levels relates closely to the concepts used in Suchman's diagram as "primary," "secondary," and "tertiary" interventions, illustrated in Figure 2.2. However, these latter stages have been mainly associated in the past with disease states, while W.H.O.'s new terminology includes factors outside the medical sector, such as social, vocational, educational, legislative, etc.

Finally, all three types of interventions (first, second, and third) act upon the individual directly as well as upon the individual's immediate surroundings (family, community, etc.) or upon society as a whole (W.H.O., 1976, pp. 13-16).

In a proposed disability prevention and rehabilitation program with special reference to cerebral palsy persons in Jordan, Dr. E. Helander, a W.H.O. consultant, suggests the following steps, which are illustrative of the W.H.O. model of intervention in a concrete setting:

1. A survey to find out the size of the problem, analyze the needs of the population, the possible preventative measures and strategies feasible for the delivery of services;

2. the setting up of pilot activities to assess the effectiveness of prevention;

3. the setting up of pilot activities for delivery of the most essential services for CP victims, and the assessment of their effectiveness;

4. finally, when needs are known, and pilot activities

> have revealed the cost/effectiveness of various different possibilities to achieve the aims: to programme and implement a full-scale effort to prevent CP and rehabilitate CP victims (Helander, 1977, p. 2).

The first step recommended by Helander consists of a status and needs assessment of the Jordanian disability situation. Steps two, three, and four elaborate upon that foundation by setting up a strategy of intervention which starts with first level prevention, and gradually goes on to include all other levels of disability prevention.

It appears important at this point to study the role that evaluation research in general and needs assessments specifically play as a part of a rehabilitation model in light of current literature written on the subject.

The Role of Evaluative Research

According to Trantow (1970), "Evaluation is essentially an effort to determine what changes occur as the result of a planned program by comparing actual changes (results) with desired changes (stated goals) and by identifying the degree to which the activity (planned program) is responsible for the changes" (p. 3).

In the context of the rehabilitation model described before, a program can be defined as an organized strategy of intervention which selects and performs one or more activities, with the support of specific resources, for the purpose of attaining previously defined objectives.

Such a program, therefore, is the concrete expression of a theoretical model, from which it derives the organization of its overall strategy. It is the role of evaluative research, then, to contribute to program development by defining and assessing community needs, and

by showing the extent to which the program activities do in fact attain the previously stated objectives.

Suchman (1967) finds that evaluative research blends itself particularly well to the cause-effect nature of a model such as the one described in this chapter. The concept of causality in the disability prevention and rehabilitation model is characterized by a chain or nexus of events related along a time dimension: impairment, functional limitation, disability. Thus, the relationship between independent and dependent variables prepares the stage for the conducting of a social experiment in which a program activity plays the role of intervening variable, and evaluative research measures its impact by analyzing the changes brought about into the process.

Considering some of the implications of this appraoch, Suchman affirms that "...the longitudinal panel design comes closest to satisfying the methodological requirements of the experimental model and offers the greatest promise for evaluative research. This is largely because evaluation over time provides a technique for making 'before' and 'after' measurements and for placing the independent, intervening, and dependent variables in proper sequence" (Suchman, 1967, p. 175).

In the article, An Introduction to Evaluation, Program Effectiveness and Community Needs (1970), Trantow suggests a "Program Planning Cycle" which illustrates also the relationship between intervention and evaluation over time within a well-developed program. This ideal process has the following steps:

1. Detect and define community problems and identify unmet needs.

2. Survey available and potential resources (facilities, financial support, personnel).

3. Establish priority goals (match needs and resources, develop alternative programs, choose most appropriate programs).

4. Formulate and implement necessary administrative activities to achieve program goals.

5. Relate results to goals by periodic or continuing evaluation studies, or both.

6. Repeat the process (redefine problems, reassess unmet needs, resources) (Trantow, 1970, p. 7).

The R.S.A.'s Report of the Comprehensive Service Needs Study (1975, p. 1-834), which was developed in compliance with the directions given by the Rehabilitation Act of 1973, contains many program evaluation studies conducted at all different levels of Trantow's "Planning Cycle."

Most of these studies, however, refer to community needs assessments and evaluation projects in the context of already existing rehabilitation programs. The purpose of those studies was to evaluate the appropriateness, adequacy, efficiency, and/or effectiveness of the programs and to made recommendations concerning possible ways for improving them.

Matthews' Community Health Survey Project (1974), on the contrary, exemplifies a needs assessment of Black communities living in the Mississippi Delta prior to an organized strategy of intervention. In this study, a group of 75 houses was selected at random, and all the household heads were given a questionnaire which evaluated different aspects such as poverty, housing, education, physical health, early life experiences, and mental health. The results of this project provide identification and analysis of important facts related to the health needs and resources of the Black communities. This information

could be used later as a foundation for initiating health programs geared toward the fulfillment of those needs.

It is in the context of assessments conducted prior to intervention that the specific topic of needs assessment is reviewed in this chapter.

Needs Assessment

The assessment of needs constitutes a necessary first step in program planning and program evaluation. According to Anderson, Ball, Murphy, and associates (1975), "Needs assessment is the process by which one identifies needs and decides upon priorities among them." In this regard, a need can be defined as a discrepancy between a current state of affairs and a desired state of affairs (English and Kaufman, 1975, p. 64).

The first task in conducting a needs assessment, therefore, is characterized by the identification of community needs. This may be done either in an objective or subjective way. Anderson, et al. define these two approaches as follows: "In the case of an objective needs assessment...the level of measured performance is compared with the level judged acceptable. In the second case (subjective needs assessment), selected judges are asked to indicate the extent to which needs exist in a given area. However, the line between the two approaches is somewhat blurred, for a value judgement is necessary in either case... (Consequently) it is possible to have various combinations of 'objective' and 'subjective' needs assessments" (Anderson, et al., 1975, p. 254).

Whichever approach is adopted, the identification of community needs essentially implies the conduction of a status and needs study whose purpose is to define the current state of affairs as opposed to

that judged to be desirable and/or acceptable.

Once the needs have been identified, the second task consists of an assessment of priorities among those needs for the purpose of defining action programs.

Matthews's status and needs study of Black people in the Mississippian Delta refers only to the first task of a needs assessment as it is clearly stated in its final paragraph regarding future plans: "In our results," Matthews says, "we have only indicated the existing poor mental health rather than the remedy for such a result (though we indicated the need). Our future investigations will include studies to identify the solutions to the existing problems" (Matthews, 1974, p. 6).

In Helander's proposed disability prevention and rehabilitation program in Jordan, the second task of a needs assessment, identification of priorities, is also included within the program design. Among his recommendations regarding conducting a needs assessment prior to the development of program activities, he suggests the following strategy:

> (To gather information regarding)...the needs for rehabilitation, as perceived by the patients themselves, their families and communities. This would serve to get "the consumer's view." At the same time, the needs for actions should be defined by specialists, to get the "attributed needs." Implementation should preferably start with meeting the most pressing needs, as preceived by the population itself, and gradually change its emphasis towards meeting attributed needs (Helander, 1977, p. 2).

In this report, Helander also mentions two other needs assessments being presently conducted by W.H.O. in the state of Maharashtra, India, and in Jakarta, Indonesia. These two status and needs studies have been developed following the general rehabilitation strategy proposed by W.H.O. in its Report on Specific Technical Matters Regarding

Disability Prevention and Rehabilitation (1976).

The questionnaire prepared by the Institute of Health Research and Development in Jakarta, for instance, approaches the assessment of disability in a sequential manner: starting with the task of recording the presence of specific chronic impairments, identifying then the existence of functional limitations, and finally, analyzing the resultant disability in terms of individual, family and societal consequences (Indonesia - W.H.O., 1977, pp. 1-33).

It is a fact, however, that very little research has been done internationally following the general strategy suggested by W.H.O. in 1976. The status and needs studies mentioned before are still underway, and consequently, results are not available yet.

The conducting of international research studies, in this case needs assessments, adds another dimension not considered so far in this chapter: the utilization of cross-cultural research methods.

Cross-Cultural Research Methods

W.H.O. (1976) has stressed the need for conducting needs assessments prior to program intervention as a first step in the implementation of a rehabilitation strategy in different countries of the world (p. 25).

The general model proposed by W.H.O., however, needs to be adapted to the particular circumstances and cultural characteristics of each country. Also, the methods utilized in conducting a needs assessment may vary in each case depending on the type of problem to be measured, the samples used, the resources available, etc. Helander (1977), for instance, suggests three different approaches for collecting the data

related to cerebral palsy and general disability in Jordan:

1. To include a question regarding mobility disturbances in the 1978 national census in Jordan.

2. To have the persons identified by the census as presenting mobility disturbances examined by an expert to determine whether the functional limitations in use of the extremities depends on cerebral palsy or on other impairments.

3. To conduct a parallel general disability survey with a sample of some 4,000 households (or a total of 25,000 to 30,000 individuals) (Helander, 1977, pp. 2-3).

Conducting this type of a survey in Jordan exemplifies the fact that different methods can be utilized in assessing needs such as household surveys, developmental or psychological testing, professional assessment of individuals, etc. In choosing the appropriate methods to be applied in international settings, careful consideration must be given to the culture where the research is conducted.

Arici, from Hacettepe University in Ankara, affirms that "as cultural factors affect an individual's behavior in many ways, behavior cannot be measured or analyzed independent of culture... Differences between cultures and differences among subcultures within a culture should always be given due attention in developing tests or adapting instruments from other cultures" (In L. J. Cronbach, 1972, p. 20).

Instrument adaptation becomes especially relevant in the field of rehabilitation when attempting to measure the psycho-social components of disability. As Ortar (1972) has stated, "Most countries do not produce their own psychological tests and have to adapt instruments developed elsewhere. Change is needed to make the test suitable in circumstances different from those for which it was originally prepared. Modifications vary in kind and extent, and 'adaptation' may range from

rewording of a few items to construction of a virtually new test based on the original model. The most frequent procedure, translation into a different language with changes in some items, is a specific point on the continuum" (In L. J. Cronbach, 1972, p. 111). Ortar's adaptation of the Wechsler Intelligence Scale for Children (WISC) to Israel clearly illustrates the point she makes in her previous statement (pp. 117-120).

Translations of well-known tests into different languages are often available to the researcher who finds himself in the planning stages of the design of a cross-cultural study. In the book Cross-Cultural Research Methods, Brislin and associates stress the fact that a translation of a test, however, "by no means constitutes a license to apply it without first carefully considering its validity and reliability for its current cross-cultural use" (Brislin, et al., 1973, p. 115).

Attention must be given also to the subcultural context within a culture where a particular instrument of measurement is going to be used. Differences between urban and rural populations, between higher and lower socio-economic classes as well as between the educated and the uneducated in society deserve special consideration in the process of selecting and interpreting psychological tests.

In a study conducted by Greenfield, Reich, and Olver with the Wolof tribe of Senegal, significant differences were found in the development of symbolic processes between city and rural school children. Bruner and his associates believe that the difference between the city child and the rural child derives from "differential exposure to problem solving and communication in situations that are not supported by context, as in the case with, for example, most reading and writing, the use of monetary exchange, and schooling" (In J. S. Bruner, et al.,

1966, p. 315).

In the article Social Class Differences in the Performance of Nigerian Children on the Draw-A-Man Test, Bakare reports that the upper-class children in every grade significantly outperformed their lower class counterparts. The scores of upper-class Nigerian children on the Goodenough Test, however, did not differ significantly from those scores of the American and English children going to the same school (In L. J. Cronbach, 1972, pp. 355-363).

These studies, as well as many others mentioned by Lesser and associates in a monograph entitled Mental Abilities of Children from Different Social-Class and Cultural Groups (1965), present enough evidence supporting the need for taking special precautions in the utilization of psychological tests.

As a final comment concerning this topic, Brislin, et al. offers the following areas as important for consideration in the proper selection and use of a psychological test:

1. The Selection of Tests
2. Administration and Response Elicitation
3. Behavioral Representativeness of Samples Responses (Content Validity)
4. The Existence of a Measurable Construct
5. Suitable Measurement and Evaluations Scales (Norms) (Brislin, et al., 1973, pp. 139-142).

Summary

In this chapter the role played by evaluative research and needs assessment has been presented in the context of a larger framework such as W.H.O.'s intervention model in rehabilitation.

The cause-effect nature of this model has been found to add relevance to conducting social research by defining independent-dependent subgroupings at different stages of the process. In this way, the introduction of a program activity plays the role of an intervening variable, and evaluative research performs the task of measuring its impact by analyzing the changes brought about into the process.

The assessment of community needs was presented as an essential component of evaluative research, and a necessary first step in adequate program planning when conducted prior to intervention.

In this respect, the first point suggested by W.H.O. Consultant Dr. E. Helander concerning the conducting of a needs assessment coincides almost identically with the objectives of this study (see p. 16 of this chapter).

Theoretically, a needs assessment was defined as "the process by which one identifies needs and decides upon priorities among them" (Anderson, et al., 1975). The present status and needs study related exclusively to the first task of this definition, laying up the foundation for future research regarding the second task of needs assessment: the decision about priorities.

Finally, the implications of using research methods cross-culturally was discussed, emphasizing the need for adaptation to the particular circumstances and cultural characteristics of each country where research is to be conducted.

CHAPTER THREE: DESIGN OF THE STUDY

The purpose of this study was to describe the status and needs of a particular rural area in Costa Rica regarding disabling conditions and rehabilitation factors. In the present chapter, the method, subjects, and instruments, as well as the procedures and statistical analysis employed in the study are presented.

Method

In designing the procedures for collecting the information for the study several different approaches were considered, ranging from longitudinal to cross-sectional surveys, and from clinical assessments of disability to unstructured interviews regarding community practices and resources in rehabilitation.

After considering these approaches, three of them were chosen due to their intrinsic potential for supplying the desired information within the particular constraints and limitations of the study. Thus, each approach was meant to complement the others by providing different perspectives on the same topic.

These approaches are:

1. A household survey of functional limitations and resultant disabilities.
2. A psychological and developmental evaluation of children, ages 0 - 6.
3. Structured interviews regarding community practices, resources and needs.

The Household Survey

The first approach is related to objectives 1 and 3 of the study as stated in Chapter One.

This approach dealt with the identification and assessment of functional limitations and resultant disabilities, as well as possible disability prevention factors.

By using a survey design with a representative sample of households in the designated geographical districts, the basic information concerning disabling conditions such as the activity level and self-care of the disabled, attitudes toward disability, and the rehabilitation care received could be systematically investigated.

The Children Evaluation

The second approach relates to objective 2 of this study, and consists of a more complete assessment of selected children in the districts with the aid of developmental and psychological tests. Thus, the functional development of all children younger than six years of age who were part of the sample of households chosen previously was assessed. The testing involved areas such as personal-social, language, fine and gross motor development, as well as intelligence and visual-motor integration.

The rationale behind this approach was to get an in-depth clinical assessment of the disability situation in the districts, which the household survey by itself could not offer.

The Structured Interviews

This final approach, which specifically refers to objective 4 of the study, complemented the other approaches by describing the current practices and resources utilized by and/or available to the communities in dealing with disability and rehabilitation issues.

Three prominent individuals from the fields of medicine, education,

and social sciences in the community were interviewed concerning the impact of each one of their specialty areas on the disability situation of the districts.

As a counterpart to the opinion of these authorities in the helping professions, an opinion poll of the households in the districts was also conducted within the household survey. It addressed those "felt needs" of the population regarding health and rehabilitation services, education, family diet, housing, and working situations, as well as their available means of social action for bringing about changes in the system.

In summary, each one of the approaches utilized within the methodology of this study added to the others a different and necessary dimension for the description of the status and needs of the districts in regards to disability and rehabilitation.

Subjects and Sampling Procedures

The districts of San Antonio and Quebrada Honda, which are part of the Nicoya County in Costa Rica (see Figures 3.1 and 3.2), were selected as the sites for the present status and needs study. These two districts, therefore, constitute the population to which the findings of this study are to be generalized.

San Antonio is known as the third district of Nicoya, a county of the province of Guanacaste in Costa Rica. Its extension is 204 square kilometers, with seven thousand inhabitants living in approximately 1,200 dwellings (see Figure 3.3). For the past two years, San Antonio has been the site for a pilot implementation of the Social Security Comprehensive Health Model described in Chapter One.

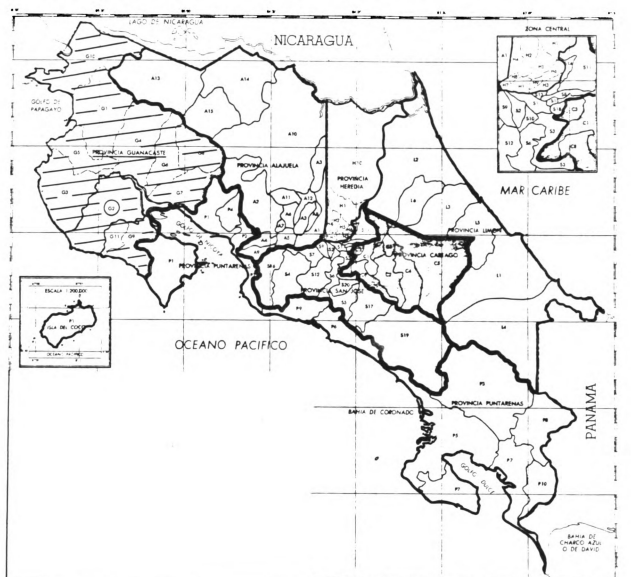


Figure 3.1. Nicoya County (G2) in the province of Guanacaste, Costa Rica.

Figure 3.2. Districts of San Antonio and Quebrada Honda in Nicoya County, Guanacaste.

Figure 3.3. District of San Antonio, divided by Sectors. Sample 1.

The fourth district of Nicoya County, Quebrada Honda, was also selected to be a part of this study (see Figure 3.4). Quebrada Honda is a neighboring district of San Antonio. It is smaller than the latter, with a population of about one-third that of San Antonio. The proximity of this district to the city of Nicoya, the methods of transportation and its geographical location, among other characteristics, are similar to those of San Antonio. The distinguishing feature between the two districts is the fact that Quebrada Honda is not included as a part of the initial piloting of the Comprehensive Health Model. Consequently, this district was chosen to be a comparison group for the Evaluation Project that IRSEN was conducting in Nicoya.

A first priority for the present sample design was the building of an adequate sample frame. It had been decided since the beginning of the pilot implementation of the Comprehensive Health Model in San Antonio to utilize maps on which every dwelling could be drawn. Also, specific information about each household in the district was recorded and kept in the files of the rural health centers in the towns. This information was gathered according to the needs of the project, and in a fashion that would be easy to replicate for other districts or counties where the Comprehensive Health Model could also be implemented. The household information recorded was:

1. Name of the sector
2. Name of the subsector
3. Number of the dwelling
4. Distance from the dwelling to the nearest health center
5. Total number of members of the dwelling
6. Total number of preschool age children
7. Total number of school age children
8. Total number of adults
9. Participation of the members of the dwelling in community associations.

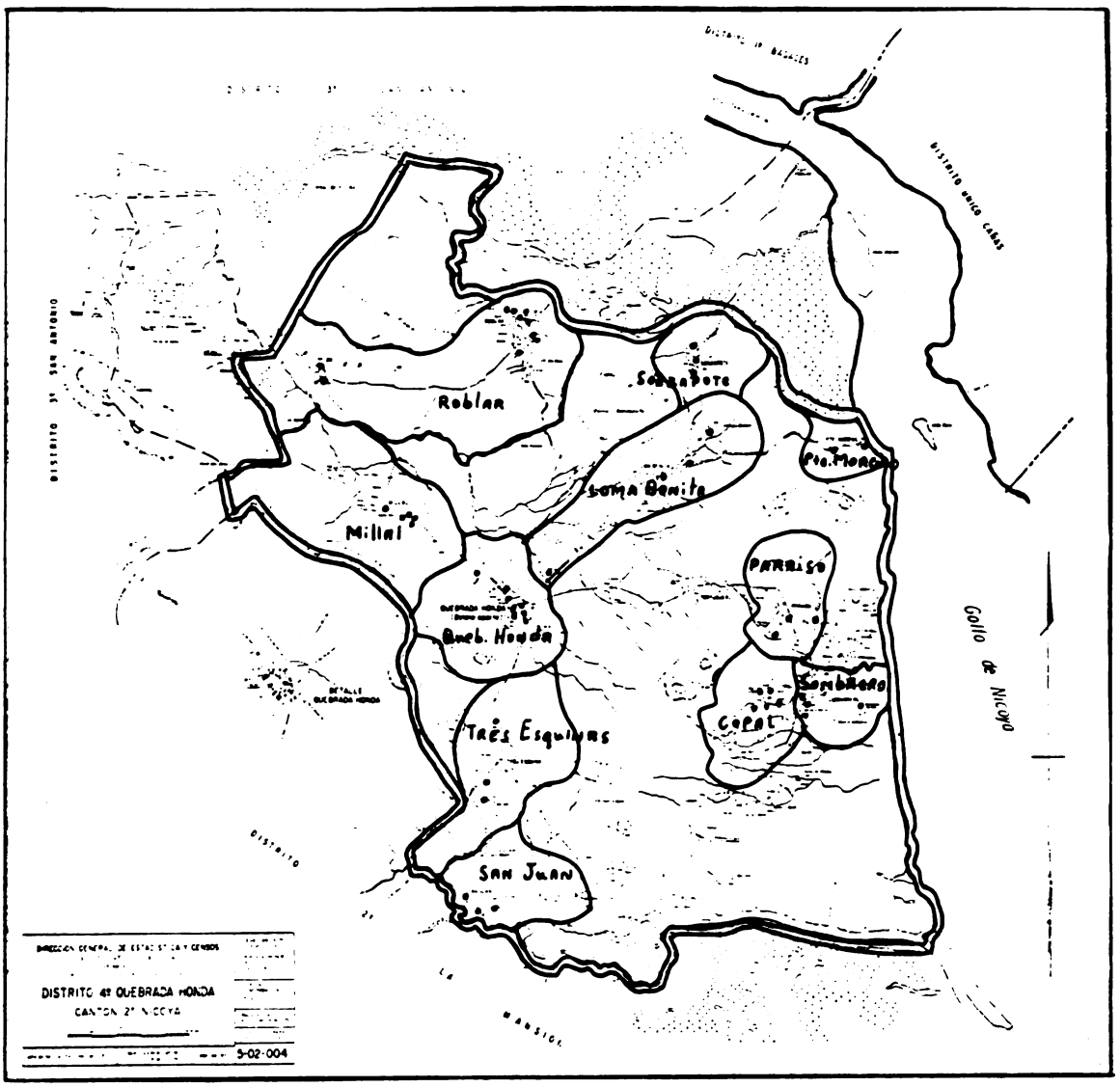


Figure 3.4. District of Quebrada Honda, divided by Subsectors. Sample 1.

Prior to the implementation of this study, a similar sample frame was constructed for about 75% of the dwellings in the district of Quebrada Honda. Due to the lack of necessary resources, not all of the dwellings in Quebrada Honda were recorded, although, as can be seen in Figure 3.4, the dwellings included in the sample frame are well distributed throughout the district and appear to be an adequate representation of it.

The type of information gathered regarding each household in both districts reflects the criteria originally used by the program coordinators in conducting the piloting of the Comprehensive Health Model. The following assumptions were basic in the organization of the data included as a part of the sample frame:

1. It was assumed that the farther the distance between the dwelling and the closest health center, the lower would be the level of health prevention in the house. Thus, for the purpose of conducting research, this variable had to be adequately controlled.

2. A second assumption indicated that the age composition of the family had an impact on the level of health prevention in the house. Families with preschool age children and/or school age children were expected to show a higher level of health prevention than those families represented only by adult members. Therefore, this variable needed to be controlled also in the design of the research study.

3. A third assumption was related to participation in community associations. Experience in the health field in Costa Rica seems to indicate that those families whose members participate actively in community associations have a higher level of health prevention than those who do not. Thus, this variable had to be controlled also in

order to account for its influence on the results of this study.

Within the sample frame for San Antonio and Quebrada Honda the districts were subdivided into geographic sectors and subsectors. A sector included several localities with a total number of about 200 dwellings. Taking into account the main centers of population within each sector, they were subdivided again into subsectors, each of which included a different number of dwellings, depending mainly on their geographical characteristics. The limits of sectors and subsectors were clearly defined and indicated on the maps (see Figures 3.3 and 3.4), and each house was adequately numbered within the subsector and the sector to which it belonged.

Thus, San Antonio was subdivided into five sectors and twenty subsectors as follows:

1. San Antonio - 4 subsectors
2. San Lazaro - 5 subsectors
3. Moracia - 5 subsectors
4. Pozo do Agua - 3 subsectors
5. Corralillo - 3 subsectors

Quebrada Honda was not subdivided into sectors due to the fact that its recorded number of dwellings was only 222. This district, however, was subdivided into eleven subsectors following the same criteria used in the district of San Antonio. The subsectors of Quebrada Honda are the following: Quebrada Honda, Copal, Loma Bonita, Millal, Paraíso, Puerto Moreno, Sonzapote, Roblar, San Juan, Tres Esquinas, and Sombrero.

According to the criteria described above, all the dwellings in the population were classified by district as follows:

1. Family composition:

   - Preschool age, school age children, and adults

- Preschool age children and adults only
- School age children and adults only
- Adults only

2. Participation in community associations:

   - Yes
   - No

3. Distance from the dwelling to the nearest health center (as measured by the time that it takes for a person to get there, while using the most common type of transportation available to the members of the house):

   - Less than half an hour
   - Half an hour to one hour
   - More than one hour

4. Sectors:

   - San Antonio
   - San Lazaro
   - Moracia
   - Pozo de Agua
   - Corralillo

   - Quebrada Honda

The population of dwellings in each district was, therefore, divided into four groups in regard to the four categories of "Family composition." These four groups were then divided into eight according to its "Participation in community associations." The eight groups just mentioned above were divided again into twenty-four in relation to the three categories of "Distance to the nearest health center." Finally, these twenty-four groups were divided into 120 groups in the case of San Antonio, which has five sectors, but were not divided further in the case of Quebrada Honda, which includes only one sector.

Once the dwellings had been ordered through the procedure previously described, the samples were obtained by systematic random sampling. Thus, two samples of 100 dwellings were chosen for San Antonio, and one sample of 50 dwellings was selected for Quebrada Honda.

The following tables present in detail the number of persons included as a part of the sample in relation to the total number of persons in the population (Table 3.1) as well as a break-down by age of the persons that participated in this research project (Table 3.2):

Table 3.1. Number of persons and dwellings of the population and sample population in the districts of San Antonio and Quebrada Honda.

AREA	POPULATION		SAMPLE	
	Dwellings	No. of Persons	Dwellings	No. of Persons
San Antonio	1,176	7,221		
Sample 1			100	646
Sample 2			100	588
Quebrada Honda	222	1,291	50	312

Table 3.2. Sample population according to developmental age groups in the districts of San Antonio and Quebrada Honda.

AREA	SAMPLE				
	Dwellings	No. of persons	less than age 7	ages 7-15	over age 15
San Antonio					
Sample 1	100	646	126	174	356
Sample 2	100	588	113	153	322
Quebrada Honda	50	312	54	84	74

A representation of the distribution of the dwellings throughout the districts of San Antonio and Quebrada Honda can be seen in Figures 3.3 and 3.4.

In summary, the dwellings selected through systematic random sampling for the purpose of this study accurately represent the population in its selected characteristics. Therefore, the findings reported in Chapter Four can be generalized to the entire population.

Instrumentation

The different means employed for measuring the disabling conditions and rehabilitation factors in the districts were designed according to the nature of each one of the three approaches previously described in this chapter. Each instrument is presented at this point.

The Household Survey

A general health questionnaire was developed by IRSEN-M.S.U. and IRSEN-C.R. for the purpose of evaluating the pilot implementation of the Comprehensive Health Model.

A specific section regarding disability and rehabilitation was exclusively developed according to the objectives of this study and built into the more general health questionnaire. This section specifically sought to identify functional limitations and to assess the different dimensions of the resultant disability (see Appendix A).

Both questionnaires, the General Health Questionnaire and the Household Questionnaire on Disability and Rehabilitation, were conducted as a single questionnaire, both contributing to and complementing one another in the fulfillment of their particular objectives.

The areas investigated by the General Health Questionnaire,

including disability and rehabilitation, were the following:

I. Identification Data

II. General Information about the Household

- II.A. Housing
- II.B. Nutrition
- II.C. Environmental factors
- II.D. Hygiene habits
- II.E. Family planning
- II.F. Communication and information system
- II.G. Habits and needs

III. Individual Health Status

- III.A. Antecedents
- III.B. Actual state of health
- III.C. Medical assistance
- III.D. Functional limitations
- III.E. Pre-natal control and births
- III.F. Child development and growth control
- III.G. Immunizations

IV. Mortality

V. Psychosocial Aspects

- V.A. Mental disorders
- V.B. Disorders in preschool age children
- V.C. Disorders in school age children
- V.D. Alcohol consumption
- V.E. Norms of punishment
- V.F. Harmful patters of interpersonal relating

VI. Sociological Aspects

- VI.A. Employment and income
- VI.B. Migration

VII. Disability and Rehabilitation

- VII.A. Persons with important functional limitations
- VII.B. Rehabilitation care received
- VII.C. Perception of limitation
- VII.D. Existing dependency
- VII.E. Assistance concerning limitation
- VII.F. Activity level
- VII.G. Attitudes

The questionnaire which specifically pertains to this study (see Appendix A), or Household Questionnaire on Disibility and Rehabilitation

includes Sections III.A. and III.D. regarding "Individual Health Status," all of Section V. on "Psychosocial Aspects" (with the exception of V.D. "Norms of punishment"), and the complete Section VII on "Disability and Rehabilitation," of the General Health Questionnaire. Sections III.A. and III.D., as well as all of Section V. identify the physical, psychological, developmental, and/or social functional limitations present in the dwellings, which are assessed later in Section VII, in regard to the rehabilitation care received, the activity level and self-care of the disabled (Sections VII.D., VII.E., and VII.F.), and the attitudes toward the limitation (Sections VII.C. and VII.G.).

A review of the literature regarding the problem of assessing disability and rehabilitation, particularly the World Health Organization approach explained in Chapter Two, assisted in the identification of the variables which were to be investigated. These variables were related to the three stages of the disability process: (a) Impairment, (b) Functional Limitation, and (c) Disability, as well as to the different categories and levels by which the extent of the resultant disability was to be assessed (see Figure 2.3 in Chapter II). Within this framework, the Household Questionnaire on Disability and Rehabilitation focused specifically on the stages of functional limitation and disability.

Functional limitations were recorded in the following areas: physical, mental, preschool and school age limitations, alcoholism, and harmful patterns of interpersonal relating. The criteria used in the selection of these areas was due mainly to the need to include those limitations more prevalent in a rural district at the household level.

In order to arrive at the decision of which types of functional limitations would be included in the questionnaire several authorities in the districts were consulted. The physicians involved in the Comprehensive Health Program, for instance, reported no incidence of drug addition in the communities. On the other hand, they stressed the need of including a section on functional limitations related to excessive alcohol consumption due to the great incidence of alcoholism in the towns. The civil authorities, also, described juvenile delinquency as an almost non-existant phenomenon in the area. They reported, however, that harmful patterns of interpersonal relating were common, particularly among males, and constituted a source of concern for the authorities in the community. The teachers made a point regarding the incidence of learning and developmental problems in the children.

Therefore, the different types of functional limitations included in the questionnaire were considered to be common in the districts and worthy of being given special attention by a status and needs study on disabling conditions and rehabilitation factors. For systematic purposes they were classified as follows:

AREAS	FUNCTIONAL LIMITATIONS
(Basically) PHYSIOLOGICAL	Physical
	Preschool Age
	School Age
(Basically) PSYCHOLOGICAL	Mental
	Alcoholism
(Basically) SOCIAL	Harmful Relating

Figure 3.5. Basic classification of Functional Limitations.

These functional limitations identified through the earlier sections of the questionnaire were then classified and assessed in Section VII on "Disability and Rehabilitation." The rehabilitation care received by the persons in the past was evaluated through Section VII.B. Then, the three categories referred to as Self-care (Sections VII.D. and VII.E.), Activity level (Section VII.F.), and Attitudes regarding the limitation (Sections VII.C. and VII.G.) were analyzed at three different levels: Individual Level, Family Level, and Community Level.

Figure 3.6 was developed for the purpose of securing a high level of content validity to items included in the questionnaire. Thus, the specifications concerning the item content and form in the questionnaire were written down and planned carefully prior to the preparation of the first draft of the questionnaire. These specifications were derived from the basic elements of the W.H.O. approach to disability prevention and rehabilitation (see p. 15 in Chapter Two), and organized in terms of the categories and levels described in the previous paragraph (see Figure 3.6).

The descriptive nature of this study made it particularly relevant to stress content validity over the other types of validity: predictive and construct validity. Therefore, although no quantitative estimates of the validity of the questionnaire can be offered, face and content validity can be determined by a thorough inspection of the items as well as of the categories and levels within which those items were developed. Ultimately, the content validity of the questionnaire can be checked against the basic elements of the approach to disability prevention and rehabilitation from which these categories and levels

LEVELS	CATEGORIES		
	SELF-CARE	ACTIVITY LEVEL	ATTITUDES
INDIVIDUAL	VII.D.1a Feeds self VII.D.1b Dresses self VII.D.1c Mobility without human assistance VII.E. Seeks assistance by him/herself in: 1a. Professional services 2a. Informal guidance 3a. Frequency of the above	VII.F.1 Use of time VII.F.2 Range of mobility (home-bound, neighborhood...)	VII.C.1 Perception of limitation VII.G. Sense of burden: 1. Mood 2. Objectivity in self-evaluation VII.G.3 Experience of strain in interpersonal relations
FAMILY	VII.D.1a Assists in feeding VII.D.1b Assists in dressing VII.D.1c Assists in mobility VII.E. Assists in obtaining: 1b. Professional services 2b. Informal guidance 3b. Frequency of the above	VII.F.3 Assertiveness in household chores	VII.C.2 Perception of limitation VII.G.4 Sense of burden VII.G.5 Experience of strain in interpersonal relations
COMMUNITY	VII.D.2a Assists in feeding VII.D.2b Assists in mobility VII.E. Assists in obtaining: 1c. Professional services 2c. Informal guidance 3c. Frequency of the above	VII.F.4 Participation in work activities VII.F.5 Participation in community activities (leisure, social...)	VII.C.3 Perception of limitation VII.G.6 Sense of burden VII.G.7 Experience of strain in interpersonal relations

Figure 3.6. Content Analysis by Levels and Categories of Items in Section VII of the Questionnaire.

were derived (W.H.O., 1976, pp. 7-12).

A numerical range concerning the degree of existence of disability-related aspects was built into the pattern of response for each one of the items of Section VII. A lower number in a specific item's range indicated a severe disability-related condition, while a higher number implied a relatively mild or non-existing condition. Typically, it ranged from 1 to 3 as can be seen in the following example:

VII.F.4. Regarding the normal work activities (outside the house, house work, studying), there are many activities that the person cannot perform as a result of the limitation. ☐ 1

There are some activities that the person cannot perform, or they take a great deal of effort. ☐ 2

There are very few activities that the person cannot perform. ☐ 3

This range of item response, within the context of the different categories and levels, constitutes the foundation for the description of the resultant disability.

A first draft of the Household Questionnaire on Disability and Rehabilitation was piloted through a sample of fifteen households in Nicoya County - outside the geographical boundaries of the districts participating in the study. Based on the results of this pilot test of the questionnaire, all the items were qualitatively reanalyzed regarding content and form and a revised draft was produced.

Due to the nature and short length of the questionnaire it was not possible to derive a reliability coefficient of the instrument. However, in order to increase the degree of scorer reliability, printed detailed instructions were handed out well in advance of the scheduled

time for the field work and several training sessions were conducted for learning how to accurately record the desired information.

The "Field Manual" used for the training of the interviewers included the following sections:

1. General approach to the study
2. Organization of the research
3. General concepts and definitions (such as sample, dwelling, respondents, etc.)
4. Content of the questionnaire and recording procedures
5. Detailed description of main functional limitations researched through the questionnaire (C.C.S.S., 1977).

During the one-week training period prior to the field work, the questionnaires were distributed to the interviewers, and each one of the sections of the Field Manual was carefully reviewed. By the end of the week all the interviewers were able to show their proficiency in handling the questionnaire by performing simulated interviews under close supervision.

Finally, the questionnaire was administered to the whole sample of dwellings: San Antonio 1 and 2, and Quebrada Honda 1 (see Table 3.1).

The Children Evaluation

The children evaluation was adopted as a part of the study design in an attempt to secure an in depth assessment of the disability situation in the districts which the household survey by itself could not offer.

In choosing the appropriate instruments for measuring the functional development of children younger than six years of age many cultural considerations were taken into account. As it was discussed in Chapter Two, a very careful selection of the instruments was necessary in order to control those intervening variables which are always

present in cross-cultural research. Also, the tests chosen for this study needed to provide the best possible assessment of the children in areas such as gross-motor and fine-motor development, language and intelligence, visual-motor integration, and social skills, etc.

Based on these considerations the following three tests were selected:

1. The Denver Developmental Screening Test, DDST
2. The Wechsler Intelligence Scale for Children, WISC
3. The Beery's Developmental Test of Visual-Motor Integration, VMI

The Denver Developmental Screening Test, DDST. This test was devised to provide a simple method of screening for evidences of slow development in infants and preschool children. In the selection of the items that constitute the test, twelve well-known developmental tests and preschool intelligence tests were surveyed. Then the 105 items finally selected were classified under four different areas: gross motor, fine motor-adaptive, language and personal-social (see Figure 3.7). The process of standardization of the DDST was carried out with a sample of 1,036 children in Denver, Colorado, between the ages of 2 weeks and 6.4 years (Frankenburg, 1967, pp. 188-189).

The test-retest reliability coefficient computed for the DDST over a one week interval was 0.95. Also, the percentage of agreement among examiners, or scorer reliability, ranged from 80 to 95 with the average percentage of agreement being 90. In regards to validity the DDST was found to correlate highly with the Revised Yale Developmental Schedule with the highest correspondence in the gross motor area and the poorest correspondence, although still significant, $P < 0.01$, in the personal-

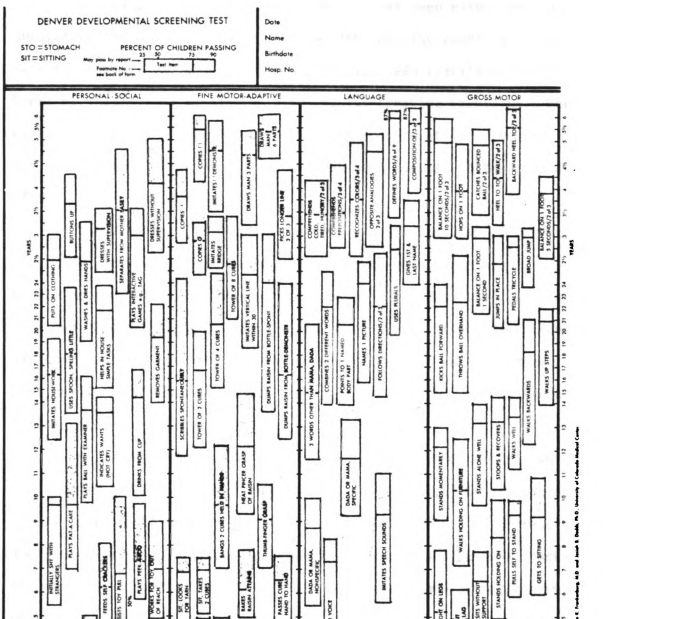


Figure 3.7. The Test Form of the Denver Developmental Screening Test (copyright 1969, William K. Frankenburg,M.D. and Josiah B. Dodds, Ph.D., University of Colorado Medical Center)

social area (Frankenburg, 1967, 1971).

Since its publication in 1967, the DDST has been extensively used throughout the United States and in English-speaking countries. The Reference Manual and the Test Forms have also been translated into Spanish, thus making it available to Spanish-speaking countries. However, the Spanish version of the DDST continues to utilize the original DDST development norms which have not yet been adapted to the standards of different cultural areas.

In the National Children's Hospital in Costa Rica, which operates under the Social Security System, the DDST has been successfully used by the medical staff for diagnostic purposes during the last two years.

For these reasons, and despite the fact of not having been standardized yet in a Spanish-speaking country, the DDST was considered the most complete developmental test available for studying the children in this study.

When looking at the family background of the 1,036 children which constituted the sample used in Denver for standardization procedures, it was possible to observe the similarities and differences of results among children whose fathers belonged to different occupational backgrounds. By comparing the norms obtained for children whose fathers were in professional, managerial, and sales occupations (white collar) in relation to those whose fathers were in skilled or unskilled jobs, service jobs, and unemployed (blue collar), the results were the following: there seemed to be no consistent trends favoring either group in the areas of gross motor, fine motor-adaptive, and personal-social. Regarding language development, however, after the age of two years children whose fathers' occupations were in the white-collar

category performed many language items sooner than children whose fathers were in blue-collar jobs (Frankenburg, 1967).

These results seemed to indicate that in testing developmental traits through this test, the existing cultural differences in the DDST population did not significantly influence the results in most developmental areas with the exception being in the area of language. Taking this fact into account, the Denver Developmental Screening Test was adopted as one of the three tests to be used for the evaluation of the children in the districts.

The Wechsler Intelligence Scale for Children, WISC. This test is the most well-known intelligence test for children available at the present time. It was originally designed in 1949 by David Wechsler for children between the ages of 5 and 14 years. The WISC provides verbal and performance scales which include a total of 12 different measures or subtests (Wechsler, 1949).

The WISC was standardized in its Spanish version in Puerto Rico. A sample of 128 children from San Juan, Santurce, and Cataño in Puerto Rico was used for standardization purposes in 1951. The results of this research study showed reliability and validity coefficients similar to those of the original English version (Wechsler, 1951, pp. 90-129).

In Costa Rica the psychologists of the Social Security System have been using this Spanish version of the WISC for many years, considering it the most reliable intelligence test available for children in the country.

Based on these facts, the verbal scale of the WISC was selected for the purpose of measuring intelligence in the children, ages 4 to 6,

of the districts. The verbal scale consists of the following six subtests: Information, Comprehension, Arithmetic, Similarities, Digit Span, and Vocabulary. The performance scale had to be eliminated from this study due to the lack of materials necessary for adequately administering it in a rural location.

In making use of the WISC, the following considerations needed to be taken into account:

1. A more recent version of the Wechsler Intelligence Scale was published in 1967 for children of ages 4 to 6½; however, it could not be used in this study because there is no Spanish adaptation in the present time (Wechsler, 1967).

2. Caution is required in interpreting the results of the WISC because the means found in standardizing the test with the American and the Puerto Rican populations did not exactly coincide; in fact, it was found that the mean for children in Puerto Rico falls about ten points lower than the mean computed for American children. Furthermore, only the verbal scale was used in the present study, which decreases the level of reliability of the test.

The Beery's Developmental Test of Visual-Motor Integration, VMI. This paper and pencil test, developed in 1967 by Keith Beery and Norman A. Buktenica, consists of 24 geometrical forms which are arranged in an order of increasing difficulty (Beery, 1967). The Beery can be administered to children between the ages of 2 and 15 years although it was originally designed for preschoolers and school children in the first grades. The purpose of the VMI consists of evaluating the development of visual-motor behavior in children by analyzing the

degree of integration of other behaviors such as visual perception and motor coordination.

The VMI has proven to be a reliable test in the United States as well as in other nations. Georgas and Georgas (1972), for instance, found that the VMI had a reliability coefficient ranging from 0.66 at age six to 0.80 at age ten in a study conducted in Athens, Greece.

Regarding validity, in the American standardization of the VMI a correlation of 0.89 was found between the Beery scores and the chronological age of the children tested. Also, a correlation coefficient of over 0.90 was found in relation to the children's mental age (Beery, 1967).

The VMI seems to be particularly adequate when utilized in cross-cultural research because of its use of geometrical forms instead of numbers or letters which ensures a high degree of familiarity with the figures of the test on the part of children coming from different previous experiences and backgrounds.

In the study conducted by Georgas and Georgas with Greek children from 16 schools, public and private, in metropolitan Athens it was found that there was no difference between the Greek and American means on the VMI for either sex at age 6 or 7 (In L. J. Cronbach, 1972, pp. 217-222).

The VMI has also been used in Costa Rica for several years although no attempts have been made to adapt it to Costa Rican norms.

Based on these facts the Beery's VMI was incorporated into the study design for the children's evaluation and was administered to all the preschoolers, ages 4 to 6, in the sample.

In summary, the DDST, the WISC, and the VMI were the tests chosen to be given to the children in the districts. The number of

children that took each one of the tests can be seen in Table 3.3.

These children represent the complete sample 1 for San Antonio and Quebrada Honda of ages 0 to 6.

Table 3.3. Number of children assessed with the DDST, WISC, and VMI tests, by category according to sex and age.

TESTS	SEX		AGE			Totals
	Male	Female	0-2	2-4	4-6	
DDST	69	71	42	51	47	140
WISC	23	23	-	-	46	46
VMI	23	23	-	-	46	46

The Structured Interviews

The structured interviews served the purpose of collecting information concerning current practices and resources utilized by and/or available to the communities in dealing with disability and rehabilitation issues. It was necessary to add these interviews to the data gathered through the Household Survey and the Children Evaluation in order to complete the status and needs pictures of the districts.

The structured interviews were designed with a two-fold purpose: to take a look at those practices and resources utilized by the people in the communities, as well as to consider those potential practices and resources which are available, but for any particular reason are not being fully used. In order to accomplish this task two different types of structured interviews were devised. The first type included in its design all of the 250 households which were chosen as a part of the sample for the Household Survey. The second

type, on the contrary, focused exclusively on three key persons in the districts whose professional competence and experience in dealing with disability and rehabilitation issues in the area made their responses highly valuable in the context of the rest of the data gathered in this study.

The household interviews were coordinated with the administration of the General Health Questionnaire described earlier in this chapter. Thus, Section II.G. of the questionnaire on "Habits and Needs" provided the appropriate format for gathering the opinions of the people in the towns regarding the following issues:

1. Awareness of the presence of disability in the community and quality of rehabilitation services.
2. Quality of medical services.
3. Quality of educational system.
4. Quality of family diet.
5. Quality of housing conditions
6. Quality of working situation.

Two questions were asked in relation to each area; one concerning its impact on the members of the household, and the other regarding its impact on the life of the community. One final question was added at the end dealing with potential action for bringing about changes in the system (see Appendix B).

The inclusion of the household interview within the General Health Questionnaire implied that all aspects regarding instrument development, field manual, training of interviewers, etc. were conducted in a similar fashion to the ones already considered in the description of instrumentation of the Household Survey on Disability and Rehabilitation.

The interview of the three prominent professionals in this particular rural area was the counterpart to the interview of households.

The persons interviewed were:

1. The Director of the Rural Community Comprehensive Health Program.
2. The Senior Principal of the Pozo de Agua Elementary School in San Antonio.
3. The Head of the Social Work Unit in the Hospital la Anexion in Nicoya, Guanacaste.

These interviews were planned in advance, adopting an open-question format to allow for a maximum instrument potential in recording the information. There was a common denominator in the questions asked to each professional inasmuch as they were all concerned with the basic core of this study which centers on disabling conditions and rehabilitation factors. However, a large segment of each interview focused on the particular experience of every person, and the impact of his/her specialty area on the disability picture of the districts.

The interviews of these key individuals were recorded on the spot and are discussed in Chapter Four.

Procedure

The field work for the Household Survey on Disability and Rehabilitation was conducted by a group of 25 medical, psychology, and nursing undergraduate students from the University of Costa Rica. Each student played the role of interviewer, visiting a number of the dwellings chosen as a part of the sample. The interviewers were trained to observe and record appropriate information regarding functional limitations and resultant disabilities present in the households as well as to transcribe the respondent's replies to the questionnaire.

The field work stage of this research study was carried out during a period of four weeks. Throughout that time, and for two weeks afterwards, discrepancies regarding location of the dwellings, membership in

households, mistakes in recording procedures, etc. were corrected by visiting those specific households for a second time. This effort, however, was limited due to the lack of sufficient resources allocated to this stage of the project.

For a month and a half following the field work the staff of IRSEN-C.R. collaborated in the process of coding the data gathered; during this time, a Costa Rican physician diagnosed the cases where there was a physical functional limitation based on the information collected by the General Health Survey (see page 118 in Appendix A).

The developmental and psychological evaluation of children younger than 6 years of age was carried out by undergraduate students in psychology, who personally evaluated each one of the children in their assigned households. The group of 40 psychology students from the University of Costa Rica that participated in the project was carefully trained by the author regarding the use of the chosen psychological and developmental tests mentioned previously in this chapter.

Besides administering the tests in the children's homes, the psychology students recorded their personal observations regarding the child's behavior during testing. In order to approach these observations in a systematic way the students received specific training concerning the types of abnormal behaviors that needed to be recorded. Abnormal behavior was defined as a set of actions and/or the outward disposition on the part of the child (or the parents and relatives) which seriously interfered with the normal administration of the tests in the following areas:

1. The child's behavior during testing:

    a. Child shy, silent, nervous...
    b. Uncooperative child...
    c. Child hyperkinetic and/or inattentive...
    d. Child not confident and/or dependent on parents/others...

2. The child's mental and physical disposition at the time of testing:

    a. Child affected by illness or pain (viral infection such as cold, chicken pox, etc.; bacterial infection such as wounds, eye infection, etc.; head or stomach aches...)
    b. Child affected by mood (tired, sleepy, overly excited...)

The child's immediate environment during testing was also recorded as a part of the observations, when it was considered that it had affected the child's performance in the test. Two main categories were reported in this area:

    a. Parental pressure, anxiety and/or overly critical attitude...
    b. Disturbing physical and/or social surroundings...

Finally, the students were asked to include as a part of their observations the case of those children who obviously presented a functional limitation in the following areas:

    a. Language limitation (speech handicap or immature language development)
    b. Sensorial limitation (sight, hearing...)
    c. Motor-anatomical limitation (legs, arms, fine-motor...)
    d. Mental limitation (extremely slow learner, lack of memory...)
    e. Multi-cap (more than one of the previous functional limitations)

The psychological and developmental evaluation of the children was conducted in the districts during a three day period, four months in advance to the administration of the Household Questionnaire on

Disability and Rehabilitation. The testing situation in the homes lacked many of the conditions which are desirable in order to isolate the variables that are attempted to be measured. However, the familiar environment, as apparently disturbing as it may have seemed, contributed also to the child's feeling of personal ease and self-confidence which could not have been achieved in a foreign setting.

During a period of four weeks following the evaluation of the children the tests collected were carefully evaluated, and in cases of inappropriate administration of a test, it was repeated to the child by visiting the home for a second time. Experienced staff from the Psychometrics Unit in the San Jose's main Social Security Hospital contributed to the final computation of the tests results which are presented in Chapter Four.

Finally, the structured interview of the households was conducted following the same procedure previously described for the Household Survey on Disability and Rehabilitation.

In the case of the structured interview to the three professionals in the districts each one of the interviews was carried out by the author of this study after six months of personal involvement in the life of the communities.

Statistical Analysis

The data collected for the purposes of this study were analyzed with the help of descriptive statistics such as frequencies, percentages, measures of central tendency (means, medians, modes), and variability measures. This analysis includes all aspects related to physical, mental, developmental and social functional limitations,

and the assessment of resultant disability.

With regard to the information gathered through the Household Questionnaire on Disability and Rehabilitation, an arbitrary range of scores was created for the evaluation of the following categories of resultant disability (see Figure 3.6, page 44):

1. Self-Care, which comprised a measure of proficiency in performing basic daily living skills, as well as initiative taken by the person in obtaining professional assistance and/or informal guidance regarding the limitation.
2. Activity Level, as expressed by a compound measure of different aspects of "active behavior" such as use of time, range of mobility (including the variable of home-boundness), assertiveness in household chores, and participation in work and leisure community activities.
3. Attitudes regarding the limitation, as estimated by the addition of item scores related to the disabled person's perception of his/her limitation, sense of burden, and experience of strain in interpersonal relations.
4. An overall Disability-Related category, which is a compound measure of the added item scores of the three previous categories into one.

This arbitrary range, adopted for describing severe, moderate, and mild or none disability-related conditions, was the product of adding up the individual numerical ranges built within each one of the items of Section VII of the questionnaire.

In cases where a sufficient number of severe disability-related conditions were found within a particular type of functional limitation, a more thorough analysis of the family and community variables involved was conducted.

Some functional limitations were further divided into subtypes, as in the case of physical limitations which were subdivided according to W.H.O.'s international classification of diseases (W.H.O., 1967, pp. 3-25), and frequency and percentage counts were estimated.

Finally, the frequencies and percentages of different types of rehabilitation care received by the persons who presented functional limitations was also analyzed.

The data collected through the psychological and developmental evaluation of children, aged 0 - 6, was analyzed in several different fashions:

Frequency counts were tabulated concerning the diagnostic categories offered by each test. The mean, median and mode for the distribution of scores in the WISC and VMI were computed, as well as the standard deviation around the mean of the children's I.Q. scores.

The children who were found to present one or more delays in the four sectors of development in the Denver Test (gross motor, fine motor-adaptive, language, and/or personal-social) were compared to those diagnosed as normal with regard to different factors such as:

1. Distance of household to nearest health center.
2. Participation of family members in community associations.
3. Use of toothbrush and/or shoes by the preschool children in the family.
4. Participation of the child in the "Growth and Development" medical consultation program offered in the district of San Antonio.
5. Physician's clinical diagnosis concerning the presence/absence of undernourishment in the case of each individual child who received consultation in the district of San Antonio.

Those factors that appeared to be associated with the presence of disability are discussed in Chapter Four in an attempt to link the disability process to possible prevention factors.

Finally, the opinion survey regarding Habits and Needs, as they are experienced by the community itself, was analyzed in terms of frequencies and percentages, and compared to the "attributed needs" as viewed by the three professionals in the districts who were consulted

in relation to current practices and resources.

Summary

In this chapter, the design of the study was presented beginning with a description of the method employed in collecting the data. The following three approaches were selected as a part of the method, each of them adding to the others a different and necessary dimension for studying the status and needs of the districts with regard to disability and rehabilitation:

1. A household survey of functional limitations and resultant disabilities.
2. A psychological and developmental evaluation of children, ages 0 - 6.
3. Structured interviews regarding community practices, resources and needs.

Concerning the subjects and sampling procedures utilized in this study, two samples of 100 dwellings in the district of San Antonio and one sample of 50 dwellings in the district of Quebrada Honda were selected through systematic random sampling out of a total population of 1,400 dwellings located in both districts.

The instruments used for assessing disabling conditions and rehabilitation factors fall under the following three categories:

1. A household Questionnaire on Disability and Rehabilitation, which was developed for the purpose of identifying functional limitations and assessing the different dimensions of the resultant disability in terms of the rehabilitation care received, the activity level and self-care of the disabled, and the attitudes toward the limitation. This instrument was patterned after the W.H.O. Model of Interventions to diminish the impact of

disability presented in Chapter Two.

2. Psychological and developmental testing of children using the DDST, WISC and Berry's VMI tests. In this way functional development was assessed in the areas of personal-social, language, gross and fine-motor adaptive, as well as intelligence and visual-motor integration.

3. Structured interviews were designed for the purpose of assessing current rehabilitation practices, resources and community needs, as they are perceived by the people of the communities themselves, or according to the opinion of three experienced local professionals whose work deals specifically with disability and rehabilitation issues in that geographical area.

The section in this chapter concerned with the procedure for collecting the information included a description of the training undergone by the different groups of interviewers, as well as of the different aspects related to the organization of the field work and the data-processing system.

Finally, a description of the statistical analysis used in this study was presented. It includes the different types of descriptive statistics employed - frequencies, percentages, measures of central tendency (means, medians, modes), and variability measures - and the ways in which they were used in analyzing all aspects related to functional limitations and resultant disability, as well as the rehabilitation practices, resources and specific needs of the communities.

CHAPTER FOUR: ANALYSIS OF RESULTS

The objectives presented in Chapter One have contributed to the conducting of this research by restating the purpose of the study in operational terms, thus providing a concrete set of directions which are analyzed at this point.

In this chapter, therefore, the analysis and interpretation of results obtained in relation to each objective are systematically presented, followed by a summary statement describing the main findings of the study concerning the rehabilitation needs of the two districts.

Objective 1

The first objective was previously stated as "the identification of types of functional limitations present in the districts of San Antonio and Quebrada Honda, focusing on the different dimensions of the resultant disability in terms of the rehabilitation care received, the activity level and self-care of the disabled, and the attitudes toward disability" (see Chapter One, page 8).

In Table 4.1 the frequencies and percentages of each type of functional limitations identified in the districts are presented. A total of 89 functional limitations were found which represent 5.76% of the total sample. The sample consisted of 1,546 persons living in the 250 dwellings surveyed. This sample represents a population of 9,512 persons who live in the districts of San Antonio and Quebrada Honda. This finding of 5.76%, much smaller than the U.N.'s worldwide estimate of 10% disabled, seems to reflect the lack of awareness in the rural areas regarding the presence of certain types of disabilities, for example, learning disabilities.

Table 4.1. Types, frequencies, and percentages of identified functional limitations assessed in terms of resultant disability.

ASSESSMENT	FUNCTIONAL LIMITATIONS					
	Physical	Mental	Pre-School	School	Alcohol	Harmful Relating
Assessed	32	15	3	7	22	4
Not assessed[a]	1	0	1	2	2	0
Total[b]	33 (37%)	15 (17%)	4 (4.5%)	9 (10%)	24 (27%)	4 (4.5%)

Note. N = 89 functional limitations
% of functional limitations = 5.76%
(Total sample = 1,546 persons)

[a]The 6 individuals classified as "Not assessed" were identified in the questionnaire as presenting a functional limitation but were not evaluated further due to mistakes on the part of the interviewers.

[b]9 of the 89 limitations were a combination of physical and 1 other functional limitation, in which case they were classified as physical.

Nine functional limitations were a combination of physical and one other functional limitation. In this situation, the instruction given to the interviewer was to assess together the sum of manifestations affecting the person in terms of resultant disability and to classify the case as physical. The rationale for making this decision was the consideration of physical limitation as a more comprehensive category as well as a more pressing condition in terms of basic need for rehabilitation.

Table 4.1 also indicates that physical, alcohol-related and mental functional limitations represent the higher frequencies in the study.

Concerning the incidence of identified physical functional limitations, the data recorded in Table 4.2 indicate the manner in which they were categorized according to the international statistical classification

Table 4.2. Types, frequencies, and percentages of physical limitations according to W.H.O.'s classification of diseases (1967).

CLASSIFICATION OF DISEASES	F.	% of total
A. Nervous system and sense organs	12	37.5
1. Disease of peripheral nerves	1	3.1
2. Visual pathology:		
Refractive errors	5	15.6
Cataracts	1	3.1
Blindness	2	6.3
3. Auditory pathology:		
Deafness	3	9.4
B. Muscoloskeletal system and connective tissue	3	9.4
1. Internal derangement of joint	1	3.1
2. Rheumatism	1	3.1
3. Other diseases	1	3.1
C. Congenital anomalies affecting multiple systems	2	6.3
D. Infective and parasitic diseases:		
Consequences of acute poliomyelitis	1	3.1
E. Circulatory system:		
Varicose veins of lower extremities	1	3.1
No medical diagnosis identified	6	18.8
Missing from medical diagnosis data	7	21.9
Total	32	100.0

of diseases, injuries, and causes of death published by W.H.O. (1967).

The greatest percentage of physical limitations corresponded to diseases of the nervous system and sense organs (37.5%), particularly in the area of visual pathology (25.0%), and followed by auditory pathology (9.4%). The classification of diseases was based on the medical diagnosis of a physician who interpreted the data recorded in the questionnaires. In the case of 6 subjects, however, the recorded information was not sufficient for formulating such a diagnostic classification, although they were assessed by the physician in more general terms regarding the need for treatment, the degree of permanence of the limitation, etc. The other 7 cases which appear as missing from the medical diagnosis data were placed in this category due to inconsistencies in the coding of the information.

Very few of the physical limitations shown in Table 4.3 were classified by the physician as temporary, regressive, and/or episodic. This can be partially explained by the fact that the physical limitations expected to be recorded in the questionnaire were specifically qualified by the adjective "important," subtly implying a more permanent, progressive, and/or continuous type of limitation (see Appendix A, page).

This rationale seems to be confirmed also by the data presented in Table 4.4 which indicate only one case as not needing medical treatment, while all the others fall under the categories of indispensable or advisable continuous medical treatment.

Table 4.3. Frequencies and percentages of medical opinion categories regarding physical limitations.

MEDICAL OPINION	F.	% of total
A. Degree of permanence	32	100.0
1. Temporary	7	21.9
2. Permanent	18	56.2
Missing data	7	21.9
B. Prognosis	32	100.0
1. Regressive	0	0.0
2. Stabilized	13	40.6
3. Progressive	12	37.5
Missing data	7	21.9
C. Degree of chronicity	32	100.0
1. Episodic	2	6.3
2. Continuous	23	71.8
Missing data	7	21.9

Table 4.4. Frequencies and percentages of suggested medical treatment categories concerning physical limitations.

MEDICAL TREATMENT	F.	% of total
1. Indispensable	12	37.5
2. Advisable	12	37.5
3. Unnecessary	1	3.0
Missing data	7	22.0
Total	32	100.0

With regard to the incidence of mental functional limitations in the districts, Table 4.5 presents the frequencies and percentages of the main types of disorders classified under this title. Mental illness, which was defined in the questionnaire as including all persons presenting a serious mental disorder or "insane" behavior, accounts for 50% of the total number of mental limitations. On the contrary, the cases of mental retardation and senility appear as representing smaller percentages in the population.

It must be noted also that 31.8% of these cases were further complicated by the presence of a physical limitation. This fact seems to indicate that, according to the data collected in this study, nearly one of every three cases of individuals suffering from a mental disorder in the districts could also be expected to present an important physical limitation.

Table 4.5. Types, frequencies, and percentages of identified mental limitations.

TYPES OF MENTAL LIMITATIONS	F.	% of total
Mental Retardation:	7	31.8%
1. Down's syndrome	3	13.6%
2. Other	4	18.2%
Senility	4	18.2%
Mental Illness	11	50.0%
Total	22[a]	100.0%

[a] 7 of these cases were complicated by the presence of physical limitations also. In assessing the resultant disability, these cases were classified under the physical limitation category.

However, as explained above, for the purpose of the statistical analysis reported here, these cases have been classified as physical limitations with regard to the evaluation of resultant disability.

All persons presenting a functional limitation in the sample of 250 households of San Antonio and Quebrada Honda were assessed in terms of the rehabilitation care received (Table 4.6.). The data presented in this table indicate that most of the institutional or professional assistance provided for the rehabilitation of the individuals falls under the categories of medical-oriented treatment or, even more specific, medicine treatment.

For the most part, the individuals presenting alcohol-related limitations do not appear to be receiving any type of rehabilitation care. The same can be said of the small number of subjects classified under the categories of school -learning problems- or harmful relating types of limitations. However, in this latter situation, as with the preschool developmental limitations, the frequency of identified cases is so small that no interpretation can be justifiably derived from the data.

It is noticeable that only 6% of the persons suffering from important physical limitations have received orthopaedic treatment, while according to the classification of diseases presented in Table 4.2. a much greater percentage seemed to require it or at least to be likely to benefit from it.

Table 4.7 was constructed in an attempt to assess the source of initiatives related to "assistance-seeking behavior" in the case of a limitation not frequently taken to the physician as the main provider of rehabilitation care: alcoholism.

Table 4.6. Incidence of different types of rehabilitation care and treatment received by persons in each category of functional limitations.

TYPES		FUNCTIONAL LIMITATIONS						Total
		Phys.	Mental	Pre-School	School	Alcohol	Harmful Relating	
Institutional:								
	Yes	12 (37%)	8 (53%)	2 (67%)	1 (14%)	1 (5%)	0 (0%)	24 (29.2%)
	No	20 (63%)	7 (47%)	1 (33%)	6 (86%)	20 (95%)	4 (100%)	58 (70.8%)
Professional Assistance:								
	Yes	12 (40%)	6 (40%)	2 (67%)	1 (14%)	2 (10%)	0 (0%)	23 (28.8%)
	No	18 (60%)	9 (60%)	1 (33%)	6 (86%)	19 (90%)	4 (100%)	57 (71.2%)
TREATMENT	Medicines:							
	Yes	10 (31%)	9 (60%)	1 (33%)	1 (14%)	2 (10%)	0 (0%)	23 (28.0%)
	No	22 (69%)	6 (40%)	2 (67%)	6 (86%)	19 (90%)	4 (100%)	59 (72.0%)
	Orthopaedic:							
	Yes	2 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (2.5%)
	No	30 (94%)	15 (100%)	3 (100%)	7 (100%)	21 (100%)	4 (100%)	80 (97.5%)
	Specialized Groups:							
	Yes	0 (0%)	1 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1.2%)
	No	32 (100%)	14 (94%)	3 (100%)	7 (100%)	21 (100%)	4 (100%)	81 (98.8%)
	Special training, exercises or other:							
	Yes	0 (0%)	0 (0%)	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (3.7%)
	No	31 (100%)	15 (100%)	0 (0%)	7 (100%)	21 (100%)	4 (100%)	78 (96.3%)
Data Missing		1	-	1	2	2	-	6
Total		32	15	3	7	22	4	83

Note. N = 89 functional limitations identified in the districts. Percentages are shown within the parentheses.

Table 4.7. Incidence of "assistance-seeking behavior" in coping with alcoholism, by categories according to individual, family and community levels.

ASSISTANCE SOUGHT	LEVELS		
	Individual	Family	Community
Yes	1 (6%)	7 (32%)	2 (9%)
No	21 (94%)	15 (68%)	20 (91%)
Total	22 (100%)	22 (100%)	22 (100%)

Neither the individual nor the community appears to be "initiator" in "assistance-seeking behavior." In fact, it is the family of the alcoholic (in 32% of the cases) who is the principal motivating agent in attempting to find rehabilitation care for these persons. However, as it was indicated in Table 4.6, only one of the 22 individuals having these circumstances has been hospitalized, and only two individuals have received professional assistance in dealing with their situation. Furthermore, no person has been a part of an organized group such as Alcoholics Anonymous of Costa Rica, which specializes in the rehabilitation of this type of disability.

The following four tables (4.8 through 4.11) deal with the assessment of resultant disability for all types of identified functional limitations.

By defining an arbitrary range of added item scores related to self-care, activity level, and attitudes toward the limitation, a compound estimate was derived for every individual in relation to each one of these areas, thus classifying the functional limitation into one of three possible categories: mild (none), moderate, or severe disability-related condition.

Table 4.8 presents the frequencies and percentages of all functional limitations with regard to a compound estimate of individual self-care level. With the exception of the physical limitations which are evenly distributed, all other limitations seem to place their highest percentages in only one or at the most two of the disability-related categories.

Table 4.8. Incidence of functional limitations, by category according to a compound estimate of individual self-care level.

	FUNCTIONAL LIMITATIONS					
SELF-CARE	Physical	Mental	Pre-School	School	Alcohol	Harmful Relating
Severe	8 (25.0%)	1 (6.7%)	2 (66.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Moderate	14 (43.8%)	6 (40.0%)	1 (33.3%)	7 (100.0%)	21 (95.5%)	4 (100.0%)
Mild (none)	10 (31.3%)	8 (53.3%)	0 (0.0%)	0 (0.0%)	1 (4.5%)	0 (0.0%)
Totals	32 (100.0%)	15 (100.0%)	3 (100.0%)	7 (100.0%)	22 (100.0%)	4 (100.0%)

The severe self-care disability-related condition was defined as the inability of an individual to be independent in performing daily living skills or activities, as well as the lack of initiative shown by the individual in trying to secure some type of assistance in order to better deal with the limitation. 25% of the cases presenting physical limitations fall under this category.

With regard to mental limitations, on the contrary, only 6.7% is classified as severe, a fact which can be interpreted as a possible higher degree of independence in mastering daily living activities on the part of those people.

The incidence of 95% of alcohol-related limitations under the moderate disability-related category is consistent with the interpretation of Table 4.7 presented earlier. It seems that even though most of the alcoholic persons can generally master the skills of daily living, almost none of them has made any attempt to find professional assistance and/or informal guidance to better deal with their problem.

All other types of functional limitations (preschool, school, harmful relating) are represented by such a small frequency of cases that no reliable conclusions could be drawn from these tables. In the analysis and interpretation of results concerning objective 2, however, much more significant data is presented in relation to the children's population of the districts.

In regard to the activity level shown in Table 4.9, the higher percentages fall under the category of mild (none) disability-related conditions, with the only exception of mental limitations where the largest percentage of individuals is categorized as moderately disabled.

This fact is particularly noticeable considering that 9 persons were identified as homebound through the questionnaire, a term which was defined as the inability to go out of the home without the help of other people.

In this context, such large percentages of individuals being classified as mildly or moderately disabled could be interpreted as a considerable degree of flexibility on the part of the communities to keep these persons somewhat active and involved in social life in spite of their sometimes precarious self-care needs and/or homebound condition.

Table 4.9. Classification of functional limitations, by category according to a compound estimate of individual activity level.

ACTIVITY LEVEL	FUNCTIONAL LIMITATIONS					
	Physical	Mental	Pre-School	School	Alcohol	Harmful Relating
Severe	7 (21.9%)	1 (7.1%)	0 (0.0%)	1 (14.3%)	2 (9.1%)	0 (0.0%)
Moderate	6 (18.8%)	8 (57.1%)	0 (0.0%)	0 (0.0%)	2 (9.1%)	0 (0.0%)
Mild (none)	19 (59.4%)	5 (35.7%)	3 (100.0%)	6 (85.7%)	18 (81.8%)	4 (100.0%)
Totals	32 (100.0%)	14 (100.0%)	3 (100.0%)	7 (100.0%)	22 (100.0%)	4 (100.0%)

Note: 7 homebound persons were classified under physical limitation and 2 were classified under mental limitation.

The data presented in Table 4.10 indicate that a very small percentage of the subjects have an attitude regarding their limitation which could be associated with a severe disability-related condition.

The attitude level was derived from items concerning the individual's perception of his/her limitations, the personal sense of burden and the experience of strain in interpersonal relating caused by the presence of the limitation.

The incidence of functional limitations according to an overall compound estimate of individual disability-related condition is indicated in Table 4.11. This table was constructed by integrating into one common range all the separate numerical ranges used in describing self-care, attitude, and activity levels.

Table 4.10. Classification of functional limitations, by category according to a compound estimate of individual attitude level regarding the limitation.

ATTITUDE LEVEL	FUNCTIONAL LIMITATIONS					
	Physical	Mental	Pre-School	School	Alcohol	Harmful Relating
Severe	2 (6.7%)	1 (6.7%)	0 (0.0%)	1 (14.3%)	2 (9.1%)	0 (0.0%)
Moderate	4 (13.3%)	7 (46.7%)	1 (33.3%)	3 (42.9%)	4 (18.2%)	0 (0.0%)
Mild (none)	24 (80.0%)	7 (46.7%)	2 (66.7%)	3 (42.9%)	16 (72.7%)	3 (100.0%)
Totals	30 (100.0%)	15 (100.0%)	3 (100.0%)	7 (100.0%)	22 (100.0%)	3 (100.0%)

Table 4.11. Incidence of functional limitations, by category according to an overall compound estimate of individual disability-related condition.

OVERALL DISABILITY-RELATED CONDITION	FUNCTIONAL LIMITATIONS					
	Physical	Mental	Pre-School	School	Alcohol	Harmful Relating
Severe	2 (6.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Moderate	12 (37.5%)	5 (33.3%)	3 (100.0%)	1 (14.3%)	6 (27.3%)	1 (25.0%)
Mild (none)	18 (56.3%)	10 (66.7%)	0 (0.0%)	6 (85.7%)	16 (72.7%)	3 (75.0%)
Totals	32 (100.0%)	15 (100.0%)	3 (100.0%)	7 (100.0%)	22 (100.0%)	4 (100.0%)

The trend already indicated by the previous tables regarding higher percentages of limitations categorized as moderate or mild is even more clearly shown by this table. More than 50% of the individuals appear as mildly disabled despite the more sobering facts indicated before concerning the self-care needs and the homebound condition of an important number of persons in the districts.

The attitude and activity levels of the persons who suffer from different types of functional limitations seem to be the determinant factor lessening the impact of such a physical, mental, or social condition upon the lives of the subjects.

Tables 4.12 and 4.13 were constructed in order to further analyze other variables related to the incidence of physical, mental, and alcohol-related limitations.

Table 4.12 shows a breakdown by sex and age of all physical, social, and alcohol-related limitations identified in the districts.

With regard to physical limitations, Table 4.12 indicates 60% in the case of males and 40% for females. Precisely the opposite is found concerning mental limitations, where females are represented by 60% of the cases in comparison with 40% for males.

There appears to be also a very low frequency of mental conditions past age 60. This result, however, can be questioned in light of the high percentages of physical limitations shown for these same age brackets (60-80 and 80+). As it was indicated previously, an important number of mental cases were complicated by a physical condition, in which case they were classified as physical. It is likely that the frequencies concerning physical limitations in older persons may also include a number of individuals who suffer from a mental disorder in

Table 4.12. Incidence of physical, mental, and alcohol-related functional limitations, by category according to sex and age.

SEX AND AGE	FUNCTIONAL LIMITATIONS		
	Physical	Mental	Alcoholism
Males:	20 (60.0%)	6 (40.0%)	24 (100.0%)
0-20 years	6 (18.1%)	2 (13.3%)	2 (8.3%)
21-40 years	3 (9.1%)	3 (20.0%)	11 (45.9%)
41-60 years	1 (3.0%)	1 (6.7%)	8 (33.3%)
61-80 years	8 (24.2%)	0 (0.0%)	3 (12.5%)
81+ years	2 (6.1%)	0 (0.0%)	0 (0.0%)
Females:	13 (40.0%)	9 (60.0%)	0 (0.0%)
0-20 years	3 (9.1%)	3 (20.0%)	0 (0.0%)
21-40 years	2 (6.1%)	4 (26.6%)	0 (0.0%)
41-60 years	3 (9.1%)	1 (6.7%)	0 (0.0%)
61-80 years	2 (6.1%)	0 (0.0%)	0 (0.0%)
81+ years	3 (9.1%)	1 (6.7%)	0 (0.0%)
Total	33(100.0%)	15 (100.0%)	24 (100.0%)

Note. Percentages are shown within the parentheses.

addition to their physical condition.

The statistics concerning alcohol-related limitations indicate an incidence of 100% for males and 0% for females. Furthermore, nearly 80% of the alcoholic persons are between 20 and 60 years. This result clearly reflects the "machismo" tendency so rooted in the culture which compels the males to prove their masculinity by the amount of alcohol that they are able to consume. Some of the unfortunate consequences of this cultural trait have already been indicated as a part of the interpretation to previous tables regarding alcohol-related limitations.

In Table 4.13 family and community attitude levels regarding each one of the three more frequent types of limitations are presented.

As with the case of individual attitudes, the family and community attitude levels toward disability were derived from items concerning perception of the limitation, as well as sense of burden and experience of strain in interpersonal relating.

Regarding those individuals who have a physical limitation, their families seem to view that limitation as a more serious problem than the persons themselves (see Table 4.10). This can be appreciated by the fact that even though the largest percentage of cases is categorized under moderate or mild disability-related condition, 56.2% of the limitations are viewed by the families as moderate, while four out of every five physical limitations are perceived as mild by the individuals themselves.

The families' attitudes regarding mental limitations coincide very closely to those of the persons who experience the limitation. This is not the case with alcohol-related conditions, where 77.3% of the families categorize the problem as moderate or severe, compared to the

Table 4.13. Incidence of physical, mental and alcohol-related functional limitations, by category according to separate compound estimates of family and community attitudes regarding the limitation.

ATTITUDES	FUNCTIONAL LIMITATIONS		
	Physical	Mental	Alcoholism
Family:			
Severe	7 (21.9%)	0 (0.0%)	6 (27.3%)
Moderate	18 (56.2%)	8 (53.3%)	11 (50.0%)
Mild	7 (21.9%)	7 (46.7%)	5 (22.7%)
Total	32 (100.0%)	15 (100.0%)	22 (100.0%)
Community:			
Severe	2 (11.8%)	3 (27.3%)	4 (28.6%)
Moderate	8 (47.0%)	5 (45.4%)	8 (57.1%)
Mild	7 (41.2%)	3 (27.3%)	2 (14.3%)
Total[a]	17 (100.0%)	11 (100.0%)	14 (100.0%)

[a]In the case of 27 functional limitations (15 physical, 4 mental, and 8 alcohol-related), people in the families offered no opinion concerning community attitudes toward the limitation of a family member.

figure of 27.3% which represents the way the alcoholic individuals classify themselves according to the same two categories.

Regarding the community dimension, there is a very high rate of non-response (39%) due to the fact that, in many instances, the people interviewed in the families offered no opinion concerning community attitudes toward the limitation of a family member.

The data gathered on community attitudes, however, offers some interesting evidence concerning community attitudes as compared to family or individual attitudes.

While only 21.9% of the identified physical limitations were viewed by the families as mild, 41.2% were placed under this same categroy by the community. This discrepancy might logically be interpreted as a lack of awareness on the part of the community concerning the magnitude of the limitation or the sense of burden and experience of strain in family relationships caused by important physical limitations.

With regard to alcoholism, however, there seems to be a similar pattern of response between family and community attitudes. In fact, the percentages for each category (mild, moderate, severe) are practically the same, although they differ widely from those corresponding to the attitudes of the alcoholics themselves (see Table 4.10).

Objective 2

The second objective of this study was previously stated as follows: "Conducting of a more complete assessment of the functional development of the children in both districts, ages 0 - 6, in the areas of personal-social, language, fine and gross motor development, as well as

intelligence and visual-motor integration" (see Chapter One, page 8).

Table 4.14 indicates the developmental status of children in San Antonio and Quebrada Honda according to the diagnostic categories of the Denver Developmental Screening Test, DDST. The percentages representing each category show a high degree of stability across the table. The estimate of 64.5% of children classified as normal appears to be what would generally be expected from a normal distribution, especially if we consider the relatively high percentage of children categorized as untestable, meaning by this that they refused to cooperate with the examiner during testing although no diagnosis of abnormality could necessarily be applied to them.

The DDST diagnostic terminology identifies as "abnormal" any child who presents a two-tests-delay in at least two sectors of development (gross motor, fine motor-adaptive, language and/or personal-social), while the term "questionable" applies to all children who show a two-tests-delay in one sector of development only, as diagnosed by DDST standards (Frankenburg, 1973, p. 26; see also Figure 3.7 in Chapter Three, page 48).

The sample of 141 children tested with the DDST represents 10.4% of the total population of children, ages 0 - 6, in the districts.

As indicated in this table, 4.3% of the children were diagnosed as abnormal. This estimate, however, would tend to be higher in light of the relatively large percentage of children categorized as questionable (21.3%). These results correspond closely to the following general statement issued by the United Nations, U.N., in its Report on Children: "It is estimated that 5 per cent of the child population suffers from severe handicaps, whereas an additional 10 to 15 per cent may need

Table 4.14. Incidence of different overall diagnostic levels attained by children on the Denver Developmental Screening Test, by category according to district.

DDST OVERALL DIAGNOSTIC LEVELS	San Antonio n = 103	Quebrada Honda n = 38	Total N = 141
Normal	65 (63.1%)	26 (68.4%)	91 (64.5%)
Abnormal	4 (3.9%)	2 (5.3%)	6 (4.3%)
Questionable	22 (21.4%)	8 (21.1%)	30 (21.3%)
Untestable	11 (10.7%)	2 (5.3%)	13 (9.2%)
Missing Data	1 (1.0%)	0 (0.0%)	1 (.7%)
Total	103 (100.0%)	38 (100.0%)	141 (100.0%)

Note. San Antonio population = 1,150 children ages 0-6 (approx.)
Quebrada Honda population = 200 children ages 0-6 (approx.)
Total population = 1,350 children ages 0-6 (approx.)

special attention so as to overcome less severe handicaps" (U,N, 1976).

In Table 4.15, the frequencies and percentages of the different diagnostic levels attained by the children are presented according to each one of the four sectors of development. The diagnostic categories for individual sectors were defined for the purposes of this study as follows: (a) Normal: no delays, (b) Abnormal: at least two delays within a sector, (c) Questionable: one delay within a sector only, and (d) Untestable: two or more "refusals."

Table 4.15. Incidence of different diagnostic levels attained by children on Denver Developmental Screening Test, by category according to four sectors of development.

DDST DIAGNOSTIC LEVELS	SECTORS OF DEVELOPMENT			
	Gross Motor	Fine motor-Adaptive	Language	Personal-Social
Normal	129 (91.5%)	112 (79.4%)	119 (84.4%)	134 (95.0%)
Abnormal	1 (.7%)	11 (7.8%)	12 (8.5%)	4 (2.8%)
Questionable	1 (.7%)	9 (6.4%)	5 (3.5%)	2 (1.4%)
Untestable	10 (7.1%)	9 (6.4%)	5 (3.5%)	1 (.7%)
Total	141 (100.0%)	141 (100.0%)	141 (100.0%)	141 (100.0%)

It is clear that the percentage of normal children found in the areas of gross motor and personal-social development is much higher than 90%. On the contrary, there appears to be a significantly smaller number of children diagnosed as normal in the fine motor-adaptive and language sectors (79.4% and 84.4%). Accordingly, the rates of "abnormal" and "questionable" categories are much higher in these two sectors than those corresponding to the gross motor and personal-social sectors.

The lower rates of untestable children in relation to the language and personal-social sectors of development reflect the fact that many of the individual tests of the DDST in these areas do not demand a great deal of activity from the child and/or can be passed by report from the parents. The gross and fine motor developmental areas, on the contrary, require active participation from the child, and is clearly noticeable in the results when a child refuses to cooperate.

Table 4.16 was constructed in order to indicate the examiners' observations regarding disrupting conditions during testing, such as child's abnormal behavior (actions or outward disposition) and disturbing physical/social surroundings.

A large number of children were found to show behaviors such as shyness, silence, nervousness, uncooperativeness, etc., which may reflect the fact that they had never been tested before. Also, most of their past experience in dealing with strangers who examined them was related to home-visits conducted by medical staff who would cause them discomfort by treating their wounds, giving shots, or making them drink different types of unpleasant tasting medicines.

Further, considering that the testing was conducted in the child's natural environment, surrounded by relatives and all kinds of domestic animals, and usually sitting in a smoke-filled kitchen where the only table in the house had been placed, it is to be expected that the examiners would report the types of frequencies of disrupting environment that are shown in Table 4.16.

All of these abnormal conditions, however, need to be analyzed in the context of the constraints imposed on a study which attempted to assess functional development of children in rural areas. The

Table 4.16. Incidence of disrupting conditions during psychological testing, as observed by examiners.

DISRUPTING BEHAVIOR	Frequency[a]	Total[a]
A. Child's disrupting behavior:		
1. Shy, silent, nervous...	37 (26%)	140 (100%)
2. Uncooperative...	28 (20%)	
3. Hyperkinetic, inattentive...	11 (8%)	
4. Not confident, overly dependent...	20 (14%)	
B. Child's disrupting outward dispostion:		
1. Affected by illness or pain...	9 (6%)	140 (100%)
2. Tired, sleepy, overly excited...	4 (3%)	
C. Child's disrupting environment:		
1. Parental pressure, anxiety, overly critical attitude...	16 (11%)	140 (100%)
2. Disturbing physical and/or social surroundings...	27 (19%)	

[a]Percentages are shown within the parenthesis.

Note. Disrupting conditions overlap (they should not be added up vertically).

isolation of the children during testing in a laboratory type of environment would have made the experience much more traumatic on the child, and possibly decreased the reliability of the results.

The incidence of physical and mental functional limitations observed by the examiners during psychological testing are represented in Table 4.17. It should be noted that the frequency of cases of language immaturity found in children older than 3 years is very large. In Table 4.18 all those children presenting language limitations (9 language immaturity cases and 2 language-sensory "multicaps") are examined in relation to their diagnostic level attained in the DDST Language sector.

Table 4.17. Incidence of functional limitations observed by examiners during psychological testing.

OBSERVED FUNCTIONAL LIMITATION	Frequency	% of total
Language limitations (immaturity)	9	11.8%[a]
Sensory limitations	1	.7%
Motor-anatomical limitations	4	2.8%
Mental limitations	2	1.4%
"Multicap" (more than one limitation)	2	1.4%
Total	18	12.8%

[a]Language immaturity was recorded in children older than 3 years only. n = 76.
(All other observed functional limitations apply to the whole sample tested. n = 140.)

Table 4.18. Observed language limitations compared with language diagnostic level achieved by children on the Denver Developmental Screening Test.

DDST LANGUAGE DEVELOPMENT DIAGNOSIS	Frequency[a]	Total[a]
Abnormal	5 (45%)	
Normal	6 (55%)	11[b] (100%)

Note. n = 76 children older than 3 years.

[a]Percentages are shown within the parentheses.

[b]This total represents 9 language limitations + 2 multicap (language-sensory) observed by examiners during psychological testing.

The results indicate that only 45% of the children were considered "abnormal" according to DDST standards. However, this can be explained by the fact that the language sector in the DDST relies mainly on a "conceptual" understanding of the language. In this regard, most of the children reported by the examiners as immature were found to be correct in the mastering of concepts although very poor in language articulation and proper enunciation of words, just as it would be expected from children of a much younger age.

As a whole, the incidence of abnormality shown by the Denver Developmental Screening Test appears to be related to the experience of cultural deprivation in a significant number of homes in the districts. Many cases were reported of children older than 3 years never having taken a pencil in their hands or playing with toys before, not knowing how to count or tell the colors, and even lacking the ability to properly answer easy questions seemingly because they are never paid much attention to as individuals by parents or relatives.

The analysis of I.Q. scores according to the WISC (Table 4.19)

shows a perfectly normal distribution with a mean of 97.125 and a standard deviation of 12.21. As compared to the norms of the WISC in the United States, the mean of the distribution of scores in this study is only about 3 points below the U.S. standard mean, and 7 points above the mean found for children in Puerto Rico (see Chapter Three, page 50). The standard deviation computed for the children population in San Antonio and Quebrada Honda is 2.79 points smaller than the WISC's standard deviation of 15 as computed for U.S. children.

Table 4.19. Frequencies and percentages of WISC I.Q. scores, by standard intelligence categories.

WISC INTELLIGENCE CATEGORIES		Frequency	% of total
Borderline	(I.Q. 70-80)	2	4.3%
Slow-normal	(I.Q. 80-90)	9	19.6%
Normal	(I.Q. 90-110)	15	32.6%
Bright-normal	(I.Q. 110-120)	5	10.9%
Superior	(I.Q. 120-130)	1	2.2%
Untestable		14	30.4%
Total		46	100.0%

Note. Mean = 97.125
Median = 95.500
S.D. = 12.210
Valid cases = 32

The results of the children evaluation with the Visual-Motor Integration Test do not conform at all to the original norms computed by Beery in the U.S. The paramount difficulty encountered in administering the VMI was the fact that many children had not had the opportunity of using paper and pencil before for scribbling, drawing or writing anything. This is not the case of most city children with

whom the VMI test has been extensively researched cross-culturally.

Therefore, a high discrepancy was found between the children's Chronological Age and their Mental Age as identified by the Beery's VMI Test (see Figure 4.1).

For these reasons the results of the VMI could not be used in describing the Mental Age of the children in the districts, although the difficulties encountered in testing them are descriptive in themselves of their situation.

In Table 4.20 the I.Q. level of children who were diagnosed as "Abnormal" on the DDST's language sector is analyzed.

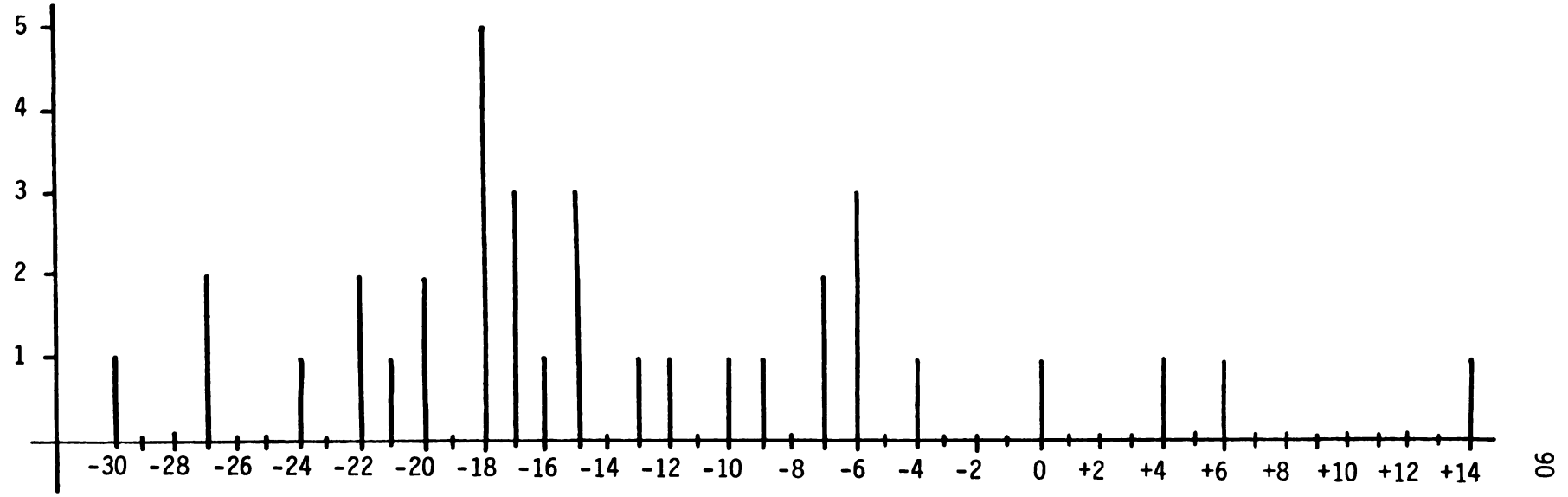
Table 4.20. Incidence of children diagnosed as "Abnormal" on the DDST's language sector, by category according to I.Q. level.

I.Q. LEVEL	DDST LANGUAGE DEVELOPMENT DIAGNOSIS "Abnormal"
Less than 90	5
90 - 100	1
More than 110	-
Total[a]	6

[a]The other 6 cases diagnosed as "Abnormal" on the DDST's language sector did not take the WISC.

Note. Only 1 of the 11 children diagnosed as "Abnormal" on the DDST's fine motor-adaptive sector was given the WISC. This child had an I.Q. of 77.

It is unfortunate that only children older than 4 years could take the WISC, constituting a total of 32 valid cases in both districts. Thus, very few children were both diagnosed as "Abnormal" according to the DDST's language sector (12 cases) and at the same time given the WISC (6 cases only). However, it is evident in Table 4.20 that



Note. N = 35 children, ages 4 - 6.
$\bar{x}$ = -13.46
SD = 9.68
Discrepancy between Chronological Age and Mental Age (MA-CA), in months.

Figure 4.1. Frequency distribution of discrepancy scores expressed in months on the Beery's VMI test of all 4 - 6 year old children in the sample.

most everyone of them was classified under the "less than 90" category, which can be interpreted as reflecting a relatively subnormal intelligence level.

This last result, although far from being conclusive, suggests that there is a direct relationship between the diagnoses of abnormality given by both tests: the DDST and the WISC.

Consequently, the use of both tests as a part of this study seems justified. They served the purpose of describing the preschool population of both districts in terms of potential disabilities in the areas of language and intelligence, as well as personal-social, gross and fine motor development. The DDST and the WISC appeared to validate each other, especially with regard to language development. Furthermore, the fact that abnormality has been identified in the same children by both measures lends support to the notion that both tests may be considered useful in a cultural setting such as the one studied here.

Also, the observations recorded by the examiners were in accordance with most of the results achieved by the tests. The Mental Age of the children, based on the VMI, could not be derived due to the lack of reliability of the test in this particular context.

The main findings of the study with regard to Objective 2 showed a developmental delay in some children concerning the areas of fine motor adaptive and language development. Lack of proper stimulation as a consequence of cultural deprivation in many of the homes seems to be the determinant reason behind these results. The socioeconomic factors involved in the situation, however, are very complex. In this context, the present study has simply served the purpose of laying a first foundation upon which more can be built in the future.

Objective 3.

This objective was originally defined in Chapter One as the "identification of possible prevention factors of disability" (see page 8).

Tables 4.21 through 4.23 were constructed while attempting to link the disability process to possible prevention factors. Each table compares "Questionable-Abnormal" vs. "Normal" children, according to DDST diagnostic categories, in regard to specific factors which seemed likely to be associated with the presence or absence of disability.

The results found through the Household Questionnaire on Disability and Rehabilitation could not be used for this purpose due to the small frequencies of the different types of functional limitations identified in the districts.

In Table 4.21 all the "Questionable-Abnormal" and "Normal" children in both districts were compared concerning "distance from their households to the nearest health center" and "participation of household members in community associations." No significant differences were found.

The other two tables (4.22 and 4.23) refer exclusively to the district of San Antonio where special programs have been established for improving the health level of the children populations, and educational campaigns conducted concerning the practicing of hygiene habits in daily life.

None of these tables seems to indicate any significant differences between the two groups of children in regard to the several factors considered. The only important discrepancy found between the two groups is in relation to the physician's diagnosis of malnutrition (see Table 4.22). This table indicates that a larger percentage of

Table 4.21. "Questionable-Abnormal" versus "Normal" DDST diagnosed children, by category according to two household factors.

HOUSEHOLD FACTORS	DDST DIAGNOSTIC CATEGORIES			
	"Questionable-Abnormal"		"Normal"	
	F.	% of total	F.	% of total
A. Distance of household to nearest health center:				
1. less than ½ hour	17	47.2	48	52.7
2. ½ hour to 1 hour	8	22.2	19	20.9
3. more than 1 hour	11	30.6	24	26.4
Total	36	100.0	91	100.0
B. Participation of household members in community associations:				
1. yes	19	52.8	44	48.4
2. no	17	42.2	47	51.6
Total	36	100.0	91	100.0

Note. San Antonio and Quebrada Honda - Sample 1.

Table 4.22. "Questionable-Abnormal" versus "Normal" DDST diagnosed children, by category according to two health-related factors.

FACTORS	DDST DIAGNOSTIC CATEGORIES			
	"Questionable-Abnormal"		"Normal"	
	F.	% of total	F.	% of total
A. Attendence at Community Child Development program:				
1. Yes	13	81.2	43	87.8
2. No	3	18.8	6	12.2
Total	16	100.0	49	100.0
B. Physician's diagnosis of malnutrition:				
1. Yes	4	25.0	20	44.4
2. No	12	75.0	25	55.6
Total	16	100.0	45	100.0

Note. San Antonio - Sample 1 only.

Table 4.23. "Questionable-Abnormal" versus "Normal" DDST-diagnosed children, by category according to four factors: "Use of shoes," "Use of toothbrush," "Regularity of bathing/washing" and "Regularity of changing clothes."

FACTORS	DDST DIAGNOSTIC CATEGORIES			
	"Questionable-Abnormal"		"Normal"	
	F.	% of total	F.	% of total
A. Use of shoes:				
1. None have/none wear	1	5.3%	6	9.7%
2. Not all have/not all wear	14	73.7%	32	51.6%
3. All have/all wear	4	21.0%	24	38.8%
Total	19	100.0%	62	100.0%
B. Use of toothbrush for dental hygiene:				
1. None have/none use	6	31.6%	25	44.7%
2. Not all have/not all use	4	21.0%	1	1.8%
3. All have/all use	9	47.4%	30	53.5%
Total	19	100.0%	56	100.0%
C. Regularity of bathing/washing:				
1. Sometimes a week	2	10.5%	3	4.9%
2. Daily	17	89.5%	59	95.1%
Total	19	100.0%	62	100.0%
D. Regularity of changing clothes:				
1. Sometimes a week	2	10.5%	8	12.9%
2. Daily	17	89.5%	54	87.1%
Total	19	100.0%	62	100.0%

Note. San Antonio - Sample 1 only.

"Normal" children have been given a diagnosis of malnutrition by the physician as compared with the group of "Questionable-Abnormal" children. This result, however, does not seem to make any sense in the context of disability prevention factors.

Objective 4.

The fourth objective of the study was previously stated as the "exploration of some of the practices and resources currently utilized by, and/or available to the community in dealing with disability and rehabilitation issues, and tentatively pointing out areas in which there is a need for improving the present delivery system of services within their particular context" (see Chapter One, page 8).

The second part of this objective is referred to in the description of the rehabilitation needs of the districts at the end of this chapter.

With regard to the community's current practices and resources the data were gathered in a two-fold manner: (a) By conducting a systematic interview of 250 households in the districts, and (b) by interviewing three professionals with particular experience in dealing with disability and rehabilitation issues in that geographical area.

The results of the systematic interview of the families are presented in Tables 4.24 through 4.27.

Concerning the incidence of family awareness of disabled people in the districts, Table 4.24 indicates that more than 50% of the families in San Antonio and Quebrada Honda have had no previous contact with, nor were aware of the presence of disabled persons in the community.

Table 4.24. Incidence by family of awareness of disabled people in the district.

CONTACT AND/OR AWARENESS OF DISABLED	F.	% of total
Yes	121	48.4
No	129	51.6
Total	250	100.0

This fact is confirmed in Table 4.25 by a percentage of 68.4% of the families not offering any opinion regarding the medical attention received by disabled persons in the districts.

Table 4.25. Frequencies and percentages of peoples' opinions regarding medical attention received by disabled persons in the districts.

OPINION REGARDING MEDICAL ATTENTION TO DISABLED	F.	% of total
Adequate medical attention	48	19.2
Inadequate medical attention	13	5.2
No medical attention	18	7.2
No opinion	171	68.4
Total	250	100.0

The opinions offered by the families in relation to other issues, however, had a very low rate of non-response. In Table 4.26 the means and standard deviations derived from the families' opinions regarding different issues are presented based on a scale of 1 to 4.

There seems to be no difference between the peoples' opinions concerning the way that these issues affect their family life as compared with the manner in which they affect community life.

Table 4.26. Means and standard deviations of peoples' opinions regarding different issues, as these pertain to family and community life.

ISSUES		CATEGORIES	
		Family	Community
Medical attention[a]:	$\bar{x}$	3.084	3.107
	SD	.749	.631
Family diet[b]:	$\bar{x}$	2.183	2.060
	SD	.628	.584
Elementary school education[b]:	$\bar{x}$	2.837	2.832
	SD	.596	.657
High school education[b]:	$\bar{x}$	2.993	2.786
	SD	.599	.645
Housing conditions[b]:	$\bar{x}$	2.045	2.218
	SD	.695	.607
Working situation[b]:	$\bar{x}$	2.016	1.895
	SD	.772	.748

Note. Sample = 250 households
Population = 1,400 households

[a]Criteria for interpretation:
4 = very good
3 = good
2 = inadequate
1 = not received

[b]Criteria for interpretation:
4 = very good
3 = good
2 = not very good
1 = inadequate

Due to a mistake in the printing of the questionnaire, medical attention was given a range of response slightly different from all the others. Most of the opinions regarding these issues, however, fell in between 2 and 3 (fair to good) according to the criteria for interpretation shown at the bottom of Table 4.26.

Finally, in Table 4.27 the incidence of family opinions regarding different means of action for bringing about changes in the system is presented.

Table 4.27. Frequencies and percentages of peoples' opinions regarding most effective means of action for community improvement.

MEANS OF ACTION	F.	% of total
Through influential local people	61	24.4
Through government employees (or other institutions)	14	5.6
Through local groups	101	40.4
Through goverment programs	64	25.6
Other	4	1.6
No opinion	6	2.4
Total	250	100.0

The highest percentage is attributed to the influence of local groups (40.4%), followed by a 25% given to both the intervention of government programs and that of influential local people in the community.

As an alternative method to the systematic interview of a large number of households in the area, interviews were also conducted with three key professionals whose experience is closely related to the disability problem and the rehabilitation needs of the districts.

Interview with the Director of the Rural Community Comprehensive Health Program in San Antonio.

Practices and Resources: The Costa Rican Social Security System and the Ministry of Public Health are the two main institutions that provide health services in the area.

The Social Security "Hospital de la Anexion" in Nicoya is a modern medical center that serves the peoples of Nicoya County and neighboring counties in Guanacaste. It is also the home base of the San Antonio Comprehensive Health Program.

In order to obtain services from the Social Security System employers are required by law to set aside a small amount of each employee's monthly check to cover the health needs of the worker and his/her immediate family members. Those persons who are unemployed, and consequently not covered by Social Security, can pay directly a small amount to the System or demonstrate their lack of material resources and apply for free medical services which are then charged to the Government.

The Social Security System operates five health centers in the district of San Antonio, which are served by five nurses, one of them in each town, working under the daily supervision of the Director of the Program. Each person in the district, covered or not by the Social Security Legislation, is entitled to receive services at the town's health center as a part of the new rural comprehensive health program. When there is a need for further treatment the person is referred to the "Hospital de la Anexion." Other Social Security hospitals, however, will not serve this person unless he/she is duly covered by the Social Security Legislation.

The Ministry of Public Health is the main institution providing health care in the district of Quebrada Honda. It has staffed one health center in the town of Quebrada Honda, and delivers services throughout the district by means of "mobil units" which visit periodically each outlying town. Persons needing special treatments are referred also to the "Hospital de la Anexion," when they are covered by Social Security Legislation, or to the hospitals of Liberia or Puntarenas which are run by the Ministry of Public Health.

Many people in the districts are unaware of the health services that they are entitled to receive or ignore the ways to go about in soliciting them. The law is not strong enough in enforcing social security legislation and many employers do not comply with their obligation to have all of their employees covered by Social Security. People in the rural areas do not know much either about their right to receive free health services if they abide by the government's provision concerning social security services to persons who do not have the means to secure these services on their own through the normal channels.

Need: There is an important incidence of physical and mental disabilities. Many of them are diagnosed as congenital, possibly linked to poor living conditions and inter-marriages among close relatives.

Concerning physical disabilities, whether they are of a congenital nature or caused by old age, accidents, etc., there is no orthopaedic treatment offered at the "Hospital de la Anexion," nor the availability of prosthesis, orthesis, etc. If the person is covered by the Social Security legislation then he/she can use the services of other hospitals in the country. Otherwise, the person remains at home, and is cared for by his/her relatives. There are exceptions to this rule,

consisting of people who have had the means to get professional rehabilitation care by traveling to urban centers.

With regard to mental disabilities, two types of cases are consistently referred to the psychiatrist at the "Hospital de la Anexion":

1. Psychosomatic disorders, particularly stomach ulcers and tension headaches.
2. Problems that require drug treatment:
    a. Epilepsies (some of them related to mental retardation or psychiatric problems).
    b. Schizophrenias or other types of psychotic disorders.

The psychotherapy provided in conjunction with the drug treatment is very limited and in most cases non-existent.

Psychoneurotic problems are seen by general practitioners who customarily prescribe tranquilizers as their only way of treatment.

The highest incidence of referrals received by the Rural Community Comprehensive Health Program are classified in the following order:

1. Heart diseases and hypertension.
2. Psychosomatic problems, depressive, anxious, and/or menopausic states.
3. Rheumatoid arthritis and allied conditions.
4. Digestive system disorders: ulcers, parasites, etc.

There is very little done concerning the incidence of alcoholism as a source of disability in the rural areas. Over-drinking is culturally accepted, especially in males, and therefore reinforced in many different ways. There is no Alcoholics Anonymous organization in the districts and people seem to be unaware of the magnitude of this problem.

Interview with the Senior Principal of the Pozo de Agua Elementary School in the district of San Antonio.

Practices and Resources: In Costa Rica there is compulsory elementary education as mandated by the law; therefore, all children are expected to attend school. Over the past twenty years there has been a gradual change of attitude in the rural areas regarding the concept of usefulness of an elementary school education. Currently, parents want their children to attend school, although it implies in some cases that poor families will not be able to count on their individual contribution to the family income. Consequently, there has been a decreasing number of absentees every year. The children are given free lunch at school, prepared by the "Patronato Escolar," which is a very concrete incentive in relation to school attendence.

The Pozo de Agua Elementary School is a typical small town school similar to all others throughout the districts of San Antonio and Quebrada Honda. It counts on the services of three teachers, including the principal, who teach a total of 115 students. The first, third and fifth graders come to school in the mornings, and the second, fourth and sixth graders attend in the afternoons.

There is only one secondary school in the district of San Antonio, in the town of Corralillo, which is just starting its first year. The 125 students currently enrolled are meeting in a "rancho" for the present time, while the school building is being finished.

Need: Concerning the area of learning disabilities, there are no special education classrooms or schools in the districts of San Antonio and Quebrada Honda. Although some teachers have listened to talks on this topic, none has special training in this area. A specialist from

the Ministry of Public Education is responsible for visiting the schools every few months, but the effects of his intervention are very limited. The nearest special education school is in the county of Santa Cruz (see County G3 in Figure 3.1, page 30). There are also two specialized classrooms at the elementary school in the city of Nicoya, one for deaf-mute children and the other for children with different types of learning disabilities. Two special education teachers are in charge of these classrooms.

The Pozo de Agua Elementary School has no means of evaluating learning disabilities. Most of the parents are uneducated and interpret the presence of learning disabilities in their children as plain lack of interest in school and a sure sign that they are meant to be trained for doing manual labor. Sight and hearing malfunctions, when discovered, are referred to the physician who visits the town.

Children are automatically promoted to the following level at the end of each school year, up to the fifth grade, and those who present any learning disability follow the same educational process that the other nondisabled children do. The only exception mentioned was the case of a hearing-disabled child, daughter of one teacher at the San Antonio School, who was referred by her mother to the special education classroom for deaf-mute children in Nicoya.

Interview with the head of the Social Work Unit at the Hospital de la Anexion.

Most of the information regarding practices and resources is identical to that included in the interview with the Director of the Comprehensive Health Program. Therefore, it has been deleted from the

beginning of this interview.

Practices, Resources, and Needs: The Social Work Unit at the Hospital de la Anexion has been staffed with three social workers who serve in that capacity to the needs of people in Nicoya County and other neighboring counties. One of their main responsibilities consists of writing a complete case study on those individuals whose particular situation and type of disability seems to indicate that special measures must be taken in order to provide the rehabilitation services that the persons require.

Therefore, a case study is written by the Unit workers after visiting the home of persons who present the following needs:

1. In the case of children who: (a) suffer malnutrition and/or gastrointestinal disorders, and (b) do not seem to benefit from periodic medical treatment. In these circumstances the social worker tries to educate those persons involved by stressing the factors that need to change in order to solve the situation.
2. A case study is also conducted to determine the need for prosthetic devices in the case of different physical disabilities. The case study can also determine the need for government aid, in the appropriate cases, and for making the person eligible to receive Social Security Health Services. In these particular cases, the persons need to travel to a different medical center to receive the rehabilitation treatment and prosthetic devices that are required by their specific type of disability.

Summary Statement of the Need

The first task in conducting a needs assessment is characterized by the identification of community needs. A "need," as it was defined in Chapter Two, is a discrepancy between a current state of affairs and a desired state of affairs.

In this chapter, the current state of affairs with regard to disabling conditions in the districts was presented in the context of the results obtained through the implementation of three independent objective methods of evaluation: (a) a household survey on disability and rehabilitation, (b) a psychological evaluation of children, and (c) systematic interviews of 250 households regarding practices and needs.

A fourth, however more subjective view of the status and needs of the community was also gathered through the interview of three professionals who are deeply involved through their work with the people in the districts. In this way, the available and potential resources in the area of rehabilitation were surveyed. Also, the "attributed needs" or "desired state of affairs" as judged by the specialists in the field were evaluated, thus complementing the expressed rehabilitation needs as they were perceived by the communities ("consumer's view") and assessed through the other methods mentioned above.

The four specific objectives stated at the beginning of this study served the purpose of providing a systematic structure for the presentation of results throughout the chapter.

The main findings of the study concerning the rehabilitation needs of the districts include the following:

1. In relation to the status of general disability in the districts, the data gathered through this study show that the only type of

treatment offered disabled persons in the community seems to be related to medicine treatment, and limited exclusively to the intervention of the professionals in the medical field. Evidence of this situation is revealed in the analysis and interpretation of the results presented in Table 4.6.

2. With regard to physical disability, only 6% of the persons suffering from important physical limitations have received orthopaedic treatment although a much greater percentage seem to require it or at least may be likely to benefit from it. The results presented in Table 4.2 and 4.6 indicated clear evidence concerning this situation as well as the opinion on the issue of the Director of the Rural Community Comprehensive Health Program, R.C.C.H.P.

3. In the case of alcohol-related functional limitations, no concrete action of any type is being implemented toward the rehabilitation of these individuals. This problem was analyzed in detail according to the results shown by Tables 4.6 and 4.7, as well as through the opinions concerning the issue offered by the Director of the R.C.C.H.P.

4. Lack of adequate stimulation in children as a consequence of cultural deprivation in some of the homes appeared to be the determinant factor related to the incidence of developmental delays in areas such as language and fine-motor control. The results of the DDST and the WISC as well as the examiner's observations during testing, while not conclusive, are descriptive of this situation.

5. Concerning the incidence of abnormality in the functional development of children in the districts, the existing schools as well as the communities lack the necessary resources for diagnosing and properly dealing with most children who present any type of disability.

This specific issue was raised in the interview with the principal of the Pozo de Agua Elementary School.

6. There is a general lack of community awareness regarding the incidence of disabling conditions in the districts, and further, of the means available to the community in dealing with disability and rehabilitation issues. The community's lack of awareness about disability is indicated by the results presented in Tables 4.24 and 4.25. In addition to this, the interviews with the Director of the R.C.C.H.P. and the head of the Social Work Unit show specific instances where lack of community awareness concerning available resources is manifested.

7. Finally, a large number of disabled persons are not receiving adequate rehabilitation treatment due to defective components in the present service delivery system. Evidence concerning areas of failure in resource utilization and program effectiveness is given through the description of practices and resources offered by the three professionals interviewed. Consequently, in many cases the resources are not being used to their maximum potential even though they already exist within the system.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The long-term purpose of this study was to contribute to the development of a rehabilitation model in Costa Rica by providing a description of the status and needs of a particular rural area with regard to disabling conditions and rehabilitation factors. The results of the study, therefore, were designed to serve as a foundation for the diagnosis and analysis of some rehabilitation variables that need to be taken into account in the implementation of such a model. The specific objectives of the study were: (1) Identification of functional limitations and assessment of the different dimensions of the resultant disability; (2) Conducting of a more complete assessment of the functional development of children, ages 0 - 6; (3) Identification of possible prevention factors of disability, and (4) Exploration of some current practices and resources in the community in dealing with disability and rehabilitation issues.

In Chapter Two the role played by evaluative research and needs assessment was presented in the context of a larger framework such as W.H.O.'s intervention model in rehabilitation. The assessment of community needs was described as an essential component of evaluative research, and a necessary first step in adequate program planning when conducted prior to intervention. Theoretically, a needs assessment was defined as "the process by which one identifies needs and decides upon priorities among them" (Anderson, et al., 1975). The present status and needs study related exclusively to the first task of this definition, laying the foundation for future research regarding the second task of needs assessment: the decision about priorities.

The implications of using research methods cross-culturally was also discussed, emphasizing the need for adaptation to the particular circumstances and cultural characteristics of each country where research is to be conducted.

The design of the study was presented in Chapter Three, beginning with a description of the method employed in collecting the data. Three approaches were selected as a part of the method, each of them adding to the others an alternative and necessary dimension for the description of the status and needs of the districts with regard to disability and rehabilitation.

Concerning the subjects and sampling procedures utilized in this study, two samples of 100 dwellings in the district of San Antonio, and one sample of 50 dwellings in the district of Quebrada Honda, were selected through systematic random sampling out of a total population of 1,400 dwellings located in both districts.

The instruments used for assessing disabling conditions and rehabilitation factors fall under the following three categories:

1. A "Household Questionnaire on Disability and Rehabilitation," which was developed for the purpose of identifying functional limitations and assessing the different dimensions of the resultant disability in terms of the rehabilitation care received, the activity level and self-care of the disabled, and the attitudes toward the limitation. This instrument was patterned after the "W.H.O. Model of Interventions to diminish the impact of disability" presented in Chapter Two.

2. Psychological and developmental testing of children using the DDST, WISC, and Beery's VMI tests. Thus, functional development was assessed in the areas of personal-social, language, gross and fine

motor-adaptive, as well as intelligence and visual-motor integration.

3. Structured interviews were designed for the purpose of assessing current rehabilitation practices and resources, as well as community needs, as they are viewed by the people of the communities themselves, or according to the opinion of three experienced local professionals whose work deals specifically with disability and rehabilitation issues in that geographical area.

The section on procedures for collecting the information included a description of the training undergone by the different groups of interviewers who gathered the data, as well as of the different aspects related to the organization of the field work and the data-processing system.

At the end of Chapter Three, the statistical analysis used for interpreting the data was described. It included the different types of descriptive statistics employed (frequencies, percentages, measures of central tendency, and variability measures) and the ways they were used in analyzing all aspects related to functional limitations and resultant disability, as well as the rehabilitation practices, resources, and specific needs of the communities.

In Chapter Four, the current state of affairs in regard to disabling conditions in the districts was presented in the context of the results achieved through the implementation of three different objective methods of evaluation: (a) a household survey on disability and rehabilitation, (b) a psychological evaluation of children, and (c) systematic interviews of 250 households regarding practices and needs.

A fourth, however more subjective view of the status and needs of the community was also gathered through the interview of three

professionals who are deeply involved through their work with the people in the districts. In this way, the available and potential resources in the area of rehabilitation were surveyed. Also, the "attributed needs" or "desired state of affairs" as judged by the specialists in the field were evaluated, thus complementing the expressed rehabilitation needs as they were perceived by the communities ("consumer's view") and assessed through the other methods mentioned above.

Conclusions

The main findings of the study concerning the rehabilitation needs of the districts can be summarized as follows:

1. Lack of rehabilitation treatment other than medical treatment, which is usually limited to the prescription of medicines.

2. Lack of orthopaedic treatment for persons who suffer from physical limitations.

3. Lack of any type of program or rehabilitation strategy for problems concerning alcoholism.

4. Lack of adequate stimulation in children as a consequence of cultural deprivation in some of the homes which appears to be the determinant factor related to developmental delays in language and fine-motor control.

5. Lack of school and/or community resources for diagnosing and properly dealing with most disabilities in children.

6. Lack of community awareness regarding the incidence of disabling conditions in the districts and the available means for dealing with them.

7. Lack of adequate rehabilitation treatment received by disabled persons in the communities due, to a certain extent, to defective components in the present delivery system.

Recommendations

In the context of Suchman's statement concerning the ideal design for conducting evaluative research, "before" and "after" measurements with regard to program intervention need to be considered as essential elements in the process of evaluating the extent and quality of changes brought about into a system (Suchman, 1967, p. 175).

In this study, the status and needs regarding disabling conditions and rehabilitation factors present in two rural districts of Costa Rica have been assessed. Furthermore, this research was conducted prior to the implementation of any organized strategy of intervention in the field of rehabilitation in this particular rural area. This fact implies that the results of the present study can be treated as a pretest measure, which Suchman views as the first step in the conduction of experimental social research.

The stage is now prepared for the conducting of subsequent phases in the process.

In this regard, the first two steps of Trantow's "Program Planning Cycle" have been achieved: (a) the detection of community problems and identification of unmet needs, and (b) the surveying of available and potential resources.

The following step, which can be defined as the establishment of priority goals, should consist of the implementation of activities such as (a) matching identified needs and resources, (b) developing

alternative strategies of intervention, (c) selecting the most appropriate programs to be used in the rural communities, etc.

Two facts should be taken into account in establishing priorities and planning solutions to the needs identified in this study:

1. One of the main strengths of the Social Security System Comprehensive Health Program in San Antonio consists in the effective utilization of the community's own potential for working cooperatively and applying existing resources to the solving of their needs. In fact, the community people themselves suggested, in the Household Interview conducted as a part of this study, that the activities carried out by their local associations constituted the most effective means of action for community improvement. Therefore, the active participation of the people in the towns should be considered an essential element in the planning of any program designed to meet their needs.

2. The lack of human resources in the rural areas, trained in the fields of rehabilitation and special education, seems to encompass all other needs identified in this study and should be given careful consideration in the conceptualization of future programs. Presently, the National Council of Rehabilitation and Special Education, N.C.R.S.E., and the University of Costa Rica are giving special emphasis to the creation of a Master's Degree training program in comprehensive rehabilitation, as well as to the improvement and expansion of the existing Special Education Program. Through these efforts, more professionals will be available in the future to contribute to the solution of the rehabilitation needs of the country. However, there seems to also be a need for the training of paraprofessionals who could be placed in the rural towns, where they are needed, working under the periodic

supervision of professionals in the field. In the article Psychology and Medicine: A New Approach for Community Health Development, Dr. Rodrigo Sánchez-Ruphuy suggests a tentative training program and intervention strategy for this type of paraprofessionals in Costa Rica (Sánchez-Ruphuy, 1977, pp. 910-913).

Although the results of the present study were designed to be interpreted in the context of the two rural districts involved, they could also be analyzed in a much broader context, provided that the characteristics of the area investigated here be similar to those of other rural areas in the country. With regard to this point, further studies should be conducted in an attempt to gather more information concerning these two, as well as other rural districts in all relevant variables descriptive of their populations.

This strategy follows the basic assumption that the results of this research can be generalized to a larger hypothetical population characterized by the same types of variables which are present in San Antonio and Quebrada Honda.

Finally, this study has attempted to serve as a foundation for the diagnosis and analysis of some variables in rehabilitation which should be taken into account in the implementation of a rehabilitation model in Costa Rica.

Considered from this perspective, future research and program activities related to disability and rehabilitation in rural areas must be conducted following the general strategy adopted by the overall rehabilitation model in the country.

APPENDICES

APPENDIX A

APPENDIX A. HOUSEHOLD QUESTIONNAIRE ON DISABILITY AND REHABILITATION.

III A. ANTECEDENTS

Fill out Section III for each person in the dwelling separately.

1. Sex _____ Age ____ (years/months)

2. Has the person been hospitalized during the last twelve months?

   No ☐ 2 Yes ☐ 1 How many times? _____

3. As a total, how many days was the person hospitalized? _____

4. Has the person suffered any accidents?

   No ☐ 2 Yes ☐ 1

   Describe its effects _____

   _____

5. Has the person been operated on?

   No ☐ 2 Yes ☐ 1

   Describe _____

   _____

6. Physical defects, malformations and disibilities

   No ☐ 2 Yes ☐ 1

   Describe _____

   _____

7. Does the person suffer (or have suffered) of:

   a) Diabetes No ☐ 2 Yes ☐ 1

   b) High blood pressure No ☐ 2 Yes ☐ 1

   c) Mental illness No ☐ 2 Yes ☐ 1

8. Does (did) the person smoke?

   At present ☐ 2 Before ☐ 1 Never ☐ 3

9. Alcohol consumption (in excess or very frequent)

   At present ☐ 1 Before ☐ 2 Never ☐ 3

10. Does (has) the person use(d) products that create habit?

    At present ☐ 1 Before ☐ 2 Never ☐ 3 Doesn't know ☐ 4

Only for women 12 years or older:

11. Menstruation

    a) How old when it started _____

    b) How old when it finished _____

    c) How often it happens _____

    d) How long does it last _____

    e) Is it painful? No ☐ 2 Yes ☐ 1

12. Has she had a Papanicolan test in the last twelve months?

    No ☐ 1 Yes ☐ 2

13. Pregnancies

    a) Present pregnancy _____

    b) Children born alive _____

    c) Children born dead _____

    d) Miscarriages or abortions _____

    Total _____

14. Has she had a caesarean operation?

    No ☐ 2 Yes ☐ 1

III D. FUNCTIONAL LIMITATIONS

1. Does the person have any important functional limitations (deafness, blindness, lack of a limb, etc.)?

   No ☐ 2 (Go to Section III E) Yes ☐ 1

2. Describe limitation(s) in detail:

DESCRIPTION OF LIMITATIONS	MEDICAL OPINION A	B	C	D

CODES FOR MEDICAL OPINION

A Limitations		C Limitation	
permanent	1	episodic	2
temporary	2	continuous	1
B Limitation		D Medical treatment	
regressive	1	indispensible	1
stabilized	2	advisable	2
progressive	3	unnecessary	3

3. Record the personal number(s) of persons who present functional limitations in Section VII A.1.

V - PSYCHOSOCIAL ASPECTS

V A. MENTAL DISORDERS

1. Anyone in the dwelling with mongolism?

   No ☐ 2 Yes ☐ 1 Personal number _____

2. Anyone in the dwelling with severe mental retardation?

   No ☐ 2 Yes ☐ 1 Personal number _____

3. Anyone in the dwelling with mental disorders of old age (senility)?

   No ☐ 2 Yes ☐ 1 Personal number _____

4. Anyone in the dwelling with serious mental disorder, mentally ill, insane?

   No ☐ 2 Yes ☐ 1 Personal number _____

Record the personal number in Section VII A.1.

V B. DISORDERS IN PRESCHOOL AGE CHILDREN

For each child 4-7 years old, ask:

☐ There are no children this age.

1. The child had an important problem in learning to:

Personal number(s)			
a) To walk	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
b) To talk	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
c) Toilet training	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2

2. Is there reason to indicate impossibility to attend school? (Indicate the reason):

Personal number(s)			
a) Mental	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
b) Emotional problems	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
c) Language problems	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
d) Physical limitations	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
e) Sensory limitations	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
f) Behavioral problems	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
g) Hyperactivity	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2
h) Other	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2	Yes☐ 1 No☐ 2

3. The personal numbers of children with affirmative answers to these questions are to be recorded in Section VII A.1.

V C. DISORDERS IN SCHOOL AGE CHILDREN

For each child 7-14 years old, ask:

☐ There are no children this age.

1. What is the present school status of the child:

Personal number(s)			
a) He finished elementary school	☐ 5	☐ 5	☐ 5
b) He is in elementary school	☐ 4	☐ 4	☐ 4
c) He is not in school yet	☐ 3	☐ 3	☐ 3
d) He quit school for a while	☐ 2	☐ 2	☐ 2
e) He quit school definitively	☐ 1	☐ 1	☐ 1

For each child whose answer to the last question is c), d), or e), ask:

2. Indicate the reason(s) that keep(s) the child out of school:

Personal number(s)			
a) Mental	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
b) Emotional problems	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
c) Language problems	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
d) Physical limitations	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
e) Sensory limitations	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
f) Behavioral problems	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
g) Hyperactivity	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
h) Works (or helps in the house)	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
i) Other	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2

For each child whose answer to question 1 is b) or d), ask:

3. School situation:

Personal number(s)			
a) It is likely that child won't finish elementary school due to problems at school.	☐1	☐1	☐1
b) It is likely that child will finish elementary school despite some problems at school.	☐2	☐2	☐2
c) The child has no major problems at school.	☐3	☐3	☐3

For each child whose answer to question 3 is a) or b), ask:

4. Types of problems at school:

Personal number(s)			
a) It is hard for the child to write, spell, or read.	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
b) The child has trouble with arithmetic.	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
c) The child seems to forget everything.	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
d) Child has very bad behavior.	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
e) Sickly child	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
f) Easily distracted, never speaks, loner	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
g) Other	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2

5. The personal numbers of children with affirmative answers to question 2, or question 3a, should be recorded in Section VII A.1.

V D - ALCOHOL CONSUMPTION

(For persons 15 years and older)

Personal number(s)				
1. For each person who drinks alcoholic beverages, indicate frequency:				
It can be said that person drinks:				
a) Every day	☐ 1	☐ 1	☐ 1	☐ 1
b) Every week	☐ 2	☐ 2	☐ 2	☐ 2
c) Every month	☐ 3	☐ 3	☐ 3	☐ 3
d) Rarely	☐ 4	☐ 4	☐ 4	☐ 4
Nobody drinks (Go to Section V E) ☐				
2. When person starts drinking, for how long does he continue?				
It can be said that the person:				
a) Never stops	☐ 1	☐ 1	☐ 1	☐ 1
b) Four days or more	☐ 2	☐ 2	☐ 2	☐ 2
c) Two or three days	☐ 3	☐ 3	☐ 3	☐ 3
d) A day (or just a while)	☐ 4	☐ 4	☐ 4	☐ 4
3. When drinking, estimate amount of alcohol usually consumed in one day:				
Beer:				
a) Bottles	____	____	____	____
Rum (or other types of alcohol):				
b) Glasses	____	____	____	____
c) Quarts	____	____	____	____
d) Liters	____	____	____	____
4. How many times has the person gotten drunk in the last 6 months?				
a) Six or more	☐ 1	☐ 1	☐ 1	☐ 1
b) Less than six	☐ 2	☐ 2	☐ 2	☐ 2
c) None (Go to Sec. VII A)	☐ 3	☐ 3	☐ 3	☐ 3

Personal number(s)				
5. When person was drunk (during last 6 months) he/she:				
a) forgot what he/she did under the effects of alcohol	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
b) experienced nervousness or hallucinations	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
c) didn't come back home to sleep at night	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
d) didn't go to work for a day or more	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
e) got into quarreling with people in the dwelling	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
f) got into quarreling with people in the town	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2
g) abused or maltreated children	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2	Yes☐1 No☐2

6. The personal numbers with affirmative answers to question 5, or question 4a, should be recorded in Section VII A.1.

V F - HARMFUL PATTERS OF INTERPERSONAL RELATING

1. There is serious arguing or quarreling in the dwelling:

   a) Between spouses — Yes ☐ No ☐

   b) Among brothers and sisters — Yes ☐ No ☐

   c) Among parents and children — Yes ☐ No ☐

   d) Among other members of the dwelling — Yes ☐ No ☐

2. As a result of this:

   a) Someone has left home (in the last 6 months) — Yes ☐ No ☐

   b) Persons completely ignore one another — Yes ☐ No ☐

   c) Persons sometimes attack each other physically — Yes ☐ No ☐

   d) Persons keep a hostile attitude — Yes ☐ No ☐

3. Someone in the house has serious animosities or relationship problems:

   a) With relatives outside the dwelling — Yes ☐ No ☐

   b) With neighbors — Yes ☐ No ☐

   c) With people at work — Yes ☐ No ☐

4. Indicate the personal number(s) of those who show harmful patterns of interpersonal relating.

   None ☐

   Personal numbers _____

   Record them in Section VII A.1.

VII - DISABILITY AND REHABILITATION

VII A. PERSONS WITH IMPORTANT FUNCTIONAL LIMITATIONS

1. Mark an "X" at the appropriate cell regarding the functional limitations detected previously in the questionnaire, according to the section where it was detected.

   It is possible for a person to have more than one functional limitation.

Personal Numbers	TYPE OF LIMITATION AND SECTION OF ORIGIN					
	Physical	Mental	Pre-School Age	School Age	Alcoholism	Harmful Patterns of Relating
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						

2. Enclose in a circle the number of each person that presented at least one important functional limitation; answer the remaining questions of the questionnaire in relation to these persons, dealing with each one's limitation or sum of limitations together.

   There are no persons who have important limitations. ☐

(End of questionnaire)

VII B. REHABILITATION CARE RECEIVED

Personal Number(s)			
1. The person has been institutionalized in a rehabilitation center (or unit within an institution).	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
2. The person has been seen by a professional in the field of his/her limitation.	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
3. The person has undergone regular rehabilitation treatment, such as:			
a) Drug treatment (or medicines)	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
b) Orthopaedic	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
c) Specialized groups	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
d) Exercises or some type of training to better adjust to the limitation	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1
e) Other type of treatment	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1	Yes☐ 2 No☐ 1

VII C. PERCEPTION OF LIMITATION

Personal number(s)			
1. The person perceives his/her limitation as:			
a) Very serious	☐ 2	☐ 2	☐ 2
b) Serious	☐ 3	☐ 3	☐ 3
c) Not very serious	☐ 4	☐ 4	☐ 4
d) Cannot give opinion	☐ 1	☐ 1	☐ 1
2. In the household the limitation is perceived as:			
a) Very serious	☐ 1	☐ 1	☐ 1
b) Serious	☐ 2	☐ 2	☐ 2
c) Not very serious	☐ 3	☐ 3	☐ 3
3. The neighbors and community people perceive the limitation as:			
a) Very serious	☐ 1	☐ 1	☐ 1
b) Serious	☐ 2	☐ 2	☐ 2
c) Not very serious	☐ 3	☐ 3	☐ 3
d) They don't know about it	☐	☐	☐

VII D. EXISTING DEPENDENCY

Personal number(s)			
1. When the person is in the house:			
a) The person feeds himself/herself:			
Alone	☐ 2	☐ 2	☐ 2
With the help of others	☐ 1	☐ 1	☐ 1
b) The person dresses:			
Alone	☐ 2	☐ 2	☐ 2
With the help of others	☐ 1	☐ 1	☐ 1
c) The person moves around:			
Alone	☐ 2	☐ 2	☐ 2
With the help of others	☐ 1	☐ 1	☐ 1
2. When the person is outside the house:			
The person is homebound	☐ 1	☐ 1	☐ 1
a) The person feeds himself/herself:			
Alone	☐ 3	☐ 3	☐ 3
With the help of others	☐ 2	☐ 2	☐ 2
b) The person moves around:			
Alone	☐ 3	☐ 3	☐ 3
With the help of others	☐ 2	☐ 2	☐ 2

VII E. ASSISTANCE CONCERNING LIMITATION

Personal Number(s)			
1. There has been interest in seeking professional services regarding the limitation by:			
a) The person himself/ herself	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
b) Person(s) in the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
c) Person(s) outside the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
2. There has been interest in obtaining informal guidance regarding the limitation by:			
a) The person himself/ herself	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
b) Person(s) in the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
c) Person(s) outside the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
3. Has this interest in seeking assistance regarding the limitation been shown in a regular way by:			
a) The person himself/ herself	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
b) Person(s) in the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1
c) Person(s) outside the household	Yes☐2 No☐1	Yes☐2 No☐1	Yes☐2 No☐1

VII F. ACTIVITY LEVEL

Personal Number(s)			
1. The person is inactive most of the time.	☐ 1	☐ 1	☐ 1
The person gets busy sometimes during the day.	☐ 2	☐ 2	☐ 2
The person is active most of the time.	☐ 3	☐ 3	☐ 3
2. The person stays at home a lot as a result of the limitation.	☐ 1	☐ 1	☐ 1
The person stays at home more than if he/she did not have a limitation.	☐ 2	☐ 2	☐ 2
The limitation has no relationship to the person's staying at home or going out at any time.	☐ 3	☐ 3	☐ 3
3. Regarding those household chores expected to be performed by someone of the same sex and age, the person needs help in doing most of them.	☐ 1	☐ 1	☐ 1
The person needs a little help in doing a few of them.	☐ 2	☐ 2	☐ 2
The person can do almost everything by himself/herself.	☐ 3	☐ 3	☐ 3
4. Regarding the normal work activities (outside the house, housework, studying), there are many activities that the person cannot do as a result of the limitation.	☐ 1	☐ 1	☐ 1
There are some activities that the person cannot perform, or take a great deal of effort.	☐ 2	☐ 2	☐ 2
There are very few activities that the person cannot perform.	☐ 3	☐ 3	☐ 3
5. As a result of the limitation, the person does not participate in community activities (entertainment, social, etc.).	☐ 1	☐ 1	☐ 1
As a result of the limitation, the person participates little in community activities.	☐ 2	☐ 2	☐ 2
The limitation does not affect at all the person's participation in community activities.	☐ 3	☐ 3	☐ 3

VII G. ATTITUDES

Personal Number(s)			
1. The person's mood has been affected by the limitation (in relation to before the onset of limitation, or what is normally expected).	☐ 1	☐ 1	☐ 1
The person's mood has been affected, although not seriously.	☐ 2	☐ 2	☐ 2
The person's mood remains fairly normal, not seemingly affected by the limitation.	☐ 3	☐ 3	☐ 3
2. The person perceives the limitation in a very dramatic and pessimistic way.	☐ 1	☐ 1	☐ 1
The person is pessimistic without exaggerating or augmenting the effects of the limitation.	☐ 2	☐ 2	☐ 2
The person perceives the limitation in a fairly realistic and positive way.	☐ 3	☐ 3	☐ 3
3. The person feels that people do not want to relate to him/her because of the limitation.	☐ 1	☐ 1	☐ 1
The person feels that a few people do not want to relate to him/her because of the limitation.	☐ 2	☐ 2	☐ 2
The person does not feel that the limitation is an obstacle for interpersonal relating.	☐ 3	☐ 3	☐ 3
4. The person constitutes a difficult burden for the persons in the house to cope with.	☐ 1	☐ 1	☐ 1
The person does not constitute a burden to the persons in the house, although he/she is somewhat demanding of them.	☐ 2	☐ 2	☐ 2
The persons in the house do not consider that the person constitutes a burden at all.	☐ 3	☐ 3	☐ 3

Personal number(s)			
5. It is hard for the people in the house to relate to the person who has the limitation.	☐ 1	☐ 1	☐ 1
Sometimes it is a little hard for the people in the house to relate to the person who has the limitation.	☐ 2	☐ 2	☐ 2
The person who has the limitation relates well, and it is easy for the people in the house to relate to him/her.	☐ 3	☐ 3	☐ 3
6. The functionally limited person:			
a) Constitutes a great burden to the people in the community.	☐ 1	☐ 1	☐ 1
b) Constitutes somewhat of a small burden to the people in the community.	☐ 2	☐ 2	☐ 2
c) Does not constitute any burden at all to the people in the community.	☐ 3	☐ 3	☐ 3
7. It is hard for the people in the community to relate to the person who has the limitation.	☐ 1	☐ 1	☐ 1
Sometimes it is a little hard for the people in the community to relate to the person who has the limitation.	☐ 2	☐ 2	☐ 2
The person who has the limitation relates well, and it is easy for the people in the community to relate to him/her.	☐ 3	☐ 3	☐ 3

APPENDIX B

APPENDIX B. STRUCTURED HOUSEHOLD INTERVIEW.

II. G. HABITS AND NEEDS

4. The best approach for improving the living conditions in your community has been:

Through local influential persons	☐	1
Through government employees (or from other institutions)	☐	2
Through participation in community associations	☐	3
Through existing government programs in the community	☐	4

Other _____

5. a) In your opinion, the medical services available to your family are:

Very good	☐	4
Good	☐	3
Inadequate	☐	2
Do not receive	☐	1
No opinion	☐	

b) In your opinion, the medical services available to your community are:

Very good	☐	4
Good	☐	3
Inadequate	☐	2
Do not receive	☐	1
No opinion	☐	

6. Do you know of any person(s) in the community who has (have) a physical or mental disability:

Yes ☐ 2 No ☐ 1 (continue with question 8)

7. Has (have) that person(s) received medical attention:

Yes, adequate

Yes, inadequate

Does (do) not receive

Does not know or no opinion

10. a) In your opinion, the family diet in your household is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate	☐ 1
No opinion	☐

b) In your opinion, the family diet in your community is generally:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate	☐ 1
No opinion	☐

11. a) In your opinion, the education received by elementary school children in your family is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate	☐ 1
Does not apply or no opinion	☐

b) In your opinion, the education received by elementary school children in your community is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate or none	☐ 1
Does not know or no opinion	☐

12. a) In your opinion, the education received by youth ages 15-19 in your family is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate	☐ 1
Does not apply or no opinion	☐

b) In your opinion, the education received by youth ages 15-19 in your community is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Inadequate or none	☐ 1
Does not know or no opinion	☐

13. a) The condition of the house where you live is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Bad	☐ 1
No opinion	☐

b) The condition of most houses in your community is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Bad	☐ 1
No opinion	☐

14. a) The working situation for the members of your family is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Bad	☐ 1
No opinion	☐

b) The working situation for most people in your community is:

Very good	☐ 4
Good	☐ 3
Not very good	☐ 2
Bad	☐ 1
No opinion	☐

APPENDIX C

APPENDIX C. SPANISH VERSION OF HOUSEHOLD QUESTIONNAIRE ON DISABILITY AND REHABILITATION.

III A ANTECEDENTES

1. Sexo _____ y edad____ años o meses.

2. ¿Ha ingresado en un hospital durante los últimos doce meses?
   No ☐ 2 Sí ☐ 1 ¿Cuántas veces?___

3. En total, ¿cuántos días estuvo hospitalizado durante los últimos doce meses? ___ días

4. ¿Ha sufrido accidentes?
   No ☐ 2 Sí ☐ 1
   Describa sus efectos _____
   _____
   _____

5. ¿Ha sido operado? No ☐ 2 Sí ☐ 1
   Describa _____
   _____
   _____

6. Defectos físicos, malformaciones e incapacidades
   No ☐ 2 Sí ☐ 1
   Descríbalos _____
   _____
   _____

7. Ha padecido o padece de:
   a) Diabetes No ☐ 2 Sí ☐ 1
   b) Alta presión No ☐ 2 Sí ☐ 1
   c) Enfermedades mentales No ☐ 2 Sí ☐ 1

8. ¿Fuma o ha fumado? Actualmente ☐ 1
   Antes ☐ 2 Nunca ☐ 3

9. ¿Toma o ha tomado licor en exceso o muy seguido? Actualmente ☐ 1
   Antes ☐ 2 Nunca ☐ 3

10. ¿Ha usado o usa productos que crean hábito?
    Actualmente ☐ 1 Antes ☐ 2
    Nunca ☐ 3 No se sabe ☐ 4

Sólo a mujeres de doce años y más

11. Menstruación (reglas)
    a) ¿A qué edad comenzó? _____
    b) ¿A qué edad terminó? _____
    c) ¿Cada cuánto viene? _____
    d) ¿Cuánto dura? _____
    e) ¿Con dolor? No ☐ 2 Sí ☐ 1

12. ¿Le han hecho en los últimos doce meses el examen de Papanicolau? (Citología)
    No ☐ 1 Sí ☐ 2

13. Embarazos
    a) Embarazo actual _____
    b) Nacidos vivos _____
    c) Nacidos muertos _____
    d) Pérdidas o abortos _____
    Total _____

14. ¿Le han hecho cesárea?
    No ☐ 2 Sí ☐ 1

III D LIMITACIONES FUNCIONALES
(Tarjeta 10)

¿Tiene alguna limitación física importante (sordera, ceguera, falta de algún miembro, etc.)

No ☐ 2 (Pase a sección III E) Sí ☐

Indique cuáles limitaciones tiene, con todos los detalles que sea posible:

DESCRIPCION DE LAS LIMITACIONES	OPINION MEDICA A	B	C	D

CODIGOS PARA LA OPINION MEDICA

A Limitaciones
- permanente 1
- temporal 2

B Limitación
- aminorable 1
- estabilizada 2
- progresiva 3

C Limitación
- episódica 2
- continua 1

D Tratamiento médico
- imprescindible 1
- aconsejable 2
- innecesario 3

PISIC 1 - 15

V – ASPECTOS SICOSOCIALES

V A – TRASTORNOS MENTALES

(Tarjeta 14)

1. Hay alguien en la vivienda con mongolismo

   No ☐ 2 Sí ☐ 1 Número familiar _____ *

2. Hay alguien en la vivienda con retraso mental severo o profundo

   No ☐ 2 Sí ☐ 1 Número familiar _____ *

3. Hay alguien en la vivienda con trastorno mental de vejez (chochando)

   No ☐ 2 Sí ☐ 1 Número familiar _____ *

4. Hay alguien en la vivienda que tenga problemas fuertes de nervios, locura o que haya estado trastornado

   No ☐ 2 Sí ☐ 1 Número familiar _____ *

* Anote este número personal en la pregunta 1 de la sección VII A en este mismo cuestionario.

V B – TRASTORNOS EN LA EDAD PREESCOLAR

Para cada niño de **cuatro a menos de siete años de edad**, pregunte:

☐ No hay niños en esas edades

1. Tuvo algún problema importante para aprender:

No.(s) personales			
a) A caminar	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
b) A hablar	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
c) A usar la letrina o la bacinilla	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2

2. Hay alguna razón por la cual se espera que no pueda asistir a la escuela cuando le corresponde (indique la razón):

No.(s) personales			
a) Mental	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
b) Problemas emocionales	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
c) Problemas de lenguaje	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
d) Limitación física	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
e) Limitación sensorial	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
f) Comportamiento inadecuado	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
g) Hiperactividad	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
h) Otros	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2

3. Los números personales de los niños con alguna respuesta positiva a estas preguntas, anóteios en la pregunta primera de la sección VII A.

PISIC 1–16

V C – TRASTRONOS EN LA EDAD ESCOLAR

Para cada niño que tiene de siete a catorce años de edad, pregunte:

☐ No hay niños en esas edades

1. **Cuál es su situación escolar actual:**

No.(s) personales			
a) Ya terminó la primaria	☐ 5	☐ 5	☐ 5
b) Está en la escuela	☐ 4	☐ 4	☐ 4
c) Aún no está en la escuela	☐ 3	☐ 3	☐ 3
d) Ha salido por un tiempo	☐ 2	☐ 2	☐ 2
e) Salió definitivamente	☐ 1	☐ 1	☐ 1

Para cada niño que en la pregunta anterior se haya marcado la respuesta c), d) o e), pregunte:

2. **Indique la razón o las razones por las cuales no está en la escuela:**

No.(s) personales			
a) Mental	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
b) Problemas emocionales	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
c) Problemas de lenguaje	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
d) Limitación física	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
e) Limitación sensorial	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
f) Comportamiento inadecuado	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
g) Hiperactividad	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
h) Trabaja o ayuda en la casa	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
i) Otra	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2

Para cada niño que en la pregunta 1, se haya marcado la respuesta b), o d), pregunte:

3. **Cuál es su situación escolar:**

No.(s) personales			
a) Tiene problemas en la escuela y es posible que no termine la primaria	☐ 1	☐ 1	☐ 1
b) Tiene problemas en la escuela, pero se espera que termine la primaria	☐ 2	☐ 2	☐ 2
c) No tiene problemas	☐ 3	☐ 3	☐ 3

Para cada niño que en la pregunta 3, se haya marcado la respuesta a) o b), pregunte:

4. Qué problemas tiene en la escuela:

No.(s) personales		
a) Le cuesta mucho escribir una copia, un dictado o leer	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
b) Le cuestan mucho las matemáticas	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
c) Le falta mucho la memoria para todo	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
d) Tiene muy mala conducta	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
e) Padece mucho (enfermo, nervios, etc.)	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
f) Es muy ido, nunca habla, se aísla	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
g) Otro	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2

5. Los números personales de los niños con alguna respuesta positiva a la pregunta 2 o respuesta a) a la pregunta 3, deben ser anotados en la pregunta 1 de la sección VII A.

V D – USO DE LICORES

(Para personas de 15 años y más)

No.(s) personales			
1. ¿Cada uno de los que toman, con qué frecuencia lo hacen? Se puede decir que:			
a) Todos los días	☐ 1	☐ 1	☐ 1
b) Todas las semanas	☐ 2	☐ 2	☐ 2
c) Todos los meses	☐ 3	☐ 3	☐ 3
d) Pocas veces	☐ 4	☐ 4	☐ 4
Ninguno toma (pase a sección V E) ☐			
2. ¿Cuando comienza a tomar, durante cuánto tiempo lo hace? Se puede decir que:			
a) Nunca para	☐ 1	☐ 1	☐ 1
b) Cuatro días o más	☐ 2	☐ 2	☐ 2
c) Dos o tres días	☐ 3	☐ 3	☐ 3
d) Un día o un rato	☐ 4	☐ 4	☐ 4
3. ¿Cuando está tomando, qué cantidad bebe en un día (corrientemente)?			
Cerveza:			
a) Botella corriente	_____	_____	_____
Ron, guaro, etc.:			
b) En copas	_____	_____	_____
c) En cuartas	_____	_____	_____
d) En litros	_____	_____	_____

4. ¿Cuántas veces se ha emborrachado en los últimos seis meses?			
a) Seis o más	☐ 1	☐ 1	☐ 1
b) Menos de seis	☐ 2	☐ 2	☐ 2
c) Ninguna (pase a sección VII A)	☐ 3	☐ 3	☐ 3

No.(s) personales			
5. Cuando se ha emborrachado (en los últimos seis meses) ha:			
a) Olvidado lo que hizo con tragos	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
b) Tenido nervios o alucinaciones	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
c) Tenido que dormir en cualquier parte	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
d) Perdido días de trabajo	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
e) Peleado con gente de la casa	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
f) Peleado con gente de afuera	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2
g) Maltratado o abusado de los niños	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2	Sí ☐ 1 No ☐ 2

6. Los que han tenido alguna respuesta positiva en esta pregunta y anotó "seis o más" en la pregunta anterior, deben ser anotados en la pregunta uno de la sección VII A.

PISIC 1–21

V F – DESARMONIA EN LA VIVIENDA

(Tarjeta 15)

1. Hay discusiones serias o peleas

   a) Entre esposos — Sí ☐ 1 No ☐ 2

   b) Entre hermanos — Sí ☐ 1 No ☐ 2

   c) Entre padres e hijos — Sí ☐ 1 No ☐ 2

   d) Entre otros miembros — Sí ☐ 1 No ☐ 2

2. Debido a esas discusiones

   a) Alguien se ha ido de la casa (en los últimos seis meses) — Sí ☐ 1 No ☐ 2

   b) Se ignoran totalmente entre sí — Sí ☐ 1 No ☐ 2

   c) A veces se van a las manos — Sí ☐ 1 No ☐ 2

   d) Mantienen una actitud hostil — Sí ☐ 1 No ☐ 2

3. Alguno de los miembros de la vivienda tiene problemas o enemistades muy serias, incluso peleas

   a) Con familiares que viven fuera — Sí ☐ 1 No ☐ 2

   b) Con vecinos — Sí ☐ 1 No ☐ 2

   c) Con personas en su trabajo — Sí ☐ 1 No ☐ 2

4. Indique los números personales de los miembros que presentan grandes muestras de belicosidad

   Ninguno ☐ 2

   Números personales _____

   Anótelos en la pregunta 1 de la sección VII A

PISIC 1-28

VII – INCAPACIDAD Y REHABILITACION

VII A – PERSONAS CON LIMITACIONES IMPORTANTES

1. Anote una X en la casilla correspondiente a la limitación importante observada, según la sección del cuestionario donde fue detectada.
   Es posible que una misma persona tenga más de una limitación importante.

NUMEROS PERSONALES	TIPO DE LIMITACION Y SECCION DE PROCEDENCIA					
	III–D–3 Físicas	V–A Mentales	V–B–3 Pre–escolares	V–C–5 Escolares	V–D–6 Alcoholismo	V–F–4 Beligerancia
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						

2. Encierre con un círculo, el número de cada persona que presentó al menos una limitación importante; haga las restantes preguntas del cuestionario en relación a cada persona así señalada, considerando, en forma conjunta, todas las limitaciones que ella tenga.

   No hay personas con limitaciones importantes ☐ (pase a **PISIC – 3**)

PISIC 1-29

VII B – REHABILITACION RECIBIDA

No.(s) personales			
1. Ha tenido tratamiento o ha sido internado en algún centro o institución para rehabilitación	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
2. Ha sido atendido por algún profesional especializado en rehabilitación	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
3. Ha seguido algún tratamiento de manera regular para lograr su rehabilitación, de tipo:			
a) Medicamentos	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
b) Ortopédico	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
c) Grupos especializados	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
d) Ejercicios, aprendizaje o entrenamiento para manejarse mejor	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
e) Otro tipo de tratamiento	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1

VII C – VALORACION DE LA LIMITACION

No.(s) personales			
1. La persona afectada piensa que la limitación es:			
a) Muy seria	☐ 2	☐ 2	☐ 2
b) Regular	☐ 3	☐ 3	☐ 3
c) Poco seria	☐ 4	☐ 4	☐ 4
d) No puede opinar	☐ 1	☐ 1	☐ 1
2. En la casa se piensa que la limitación es:			
a) Muy seria	☐ 1	☐ 1	☐ 1
b) Regular	☐ 2	☐ 2	☐ 2
c) Poco seria	☐ 3	☐ 3	☐ 3
3. Los vecinos y las personas del lugar, en general, piensan que la limitación es:			
a) Muy seria	☐ 1	☐ 1	☐ 1
b) Regular	☐ 2	☐ 2	☐ 2
c) Poco seria	☐ 3	☐ 3	☐ 3
d) No se sabe	☐	☐	☐

VII D – DEPENDENCIA EXISTENTE

No.(s) personales		
1. Cuando está en la casa, la persona:		
a) Toma sus alimentos		
Sola	☐ 2	☐ 2
Con ayuda de otros	☐ 1	☐ 1
b) Se cambia de ropa		
Sola	☐ 2	☐ 2
Con ayuda de otros	☐ 1	☐ 1
c) Se moviliza		
Sola	☐ 2	☐ 2
Con ayuda de otros	☐ 1	☐ 1
2. Cuando está en la calle, la persona:		
Nunca sale	☐ 1	☐ 1
a) Toma sus alimentos		
Sola	☐ 3	☐ 3
Con ayuda de otros	☐ 2	☐ 2
b) Se moviliza		
Sola	☐ 3	☐ 3
Con ayuda de otros	☐ 2	☐ 2

VII E – ATENCION RECIBIDA

No.(s) personales		
1. Ha habido preocupación por conseguir ayuda médica o de otro tipo para la rehabilitación de la persona		
a) Por parte de la misma persona	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
b) Por parte de miembros de la casa	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
c) Por parte de personas de fuera	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
2. Ha habido preocupación por reorientar o readaptar a la persona dada su limitación		
a) Por parte de la misma persona	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
b) Por parte de miembros de la casa	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
c) Por parte de personas de fuera	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
3. La preocupación por la atención de la persona ha tenido regularidad		
a) Por parte de la misma persona	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
b) Por parte de miembros de la casa	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1
c) Por parte de personas de fuera	Sí ☐ 2 No ☐ 1	Sí ☐ 2 No ☐ 1

VII F – ACTIVIDAD DE LA PERSONA

No.(s) personales		
1. La persona está inactiva casi todo el tiempo	☐ 1	☐ 1
La persona se las arregla para mantenerse ocupada ciertos ratos del día	☐ 2	☐ 2
La persona se mantiene activa la mayor parte del tiempo	☐ 3	☐ 3
2. La persona se ve obligada a quedarse en la casa mucho más que si no tuviera la limitación	☐ 1	☐ 1
La persona se ve obligada a quedarse en la casa un poco más que si no tuviera la limitación	☐ 2	☐ 2
La limitación no afecta el que la persona salga de casa en ningún momento	☐ 3	☐ 3
3. En cuanto a las cosas que se esperan que una persona de su mismo sexo y edad pueda hacer en la casa, la persona necesita ayuda en muchas cosas	☐ 1	☐ 1
La persona necesita ayuda sólo para ciertas cosas	☐ 2	☐ 2
La persona puede hacer casi todo sola	☐ 3	☐ 3
4. En relación a las actividades normales de trabajo (fuera de la casa, trabajo doméstico, estudios), hay muchas actividades que la persona no puede realizar debido a la limitación	☐ 1	☐ 1
Hay algunas actividades que la persona no puede realizar, o que le toman mucho esfuerzo	☐ 2	☐ 2
Son muy pocas las actividades que la persona no puede realizar	☐ 3	☐ 3
5. Como consecuencia de la limitación la persona no participa en las cosas que hace la comunidad	☐ 1	☐ 1
Como consecuencia de la limitación, la persona participa poco en las cosas que hace la comunidad	☐ 2	☐ 2
La persona participa en las cosas de la comunidad –casi– como si no tuviera limitación	☐ 3	☐ 3

VII G – ACTITUDES

No.(s) personales		
1. Se le ha afectado mucho el carácter (en relación a como era antes o a lo que se espera normalmente de una persona)	☐ 1	☐ 1
Su carácter se ha visto afectado, pero no seriamente	☐ 2	☐ 2
Su carácter ha permanecido bastante normal o se ha afectado poco a pesar de la limitación que padece	☐ 3	☐ 3
2. La persona considera su limitación de manera dramática y pesimista	☐ 1	☐ 1
La persona es pesimista, pero no exagera la situación	☐ 2	☐ 2
La persona considera su limitación de manera bastante realista y positiva	☐ 3	☐ 3
3. La persona siente que nadie se quiere relacionar con él(ella) debido a su limitación	☐ 1	☐ 1
La persona siente que hay algunos que no se quieren relacionar con él(ella) debido a su limitación	☐ 2	☐ 2
La persona no siente que su limitación sea obstáculo para que la gente se quiera relacionar con él(ella)	☐ 3	☐ 3
4. La persona con su limitación viene a ser una carga difícil de llevar para las personas de la casa	☐ 1	☐ 1
La persona con su limitación no es una gran carga, aunque causa ciertas molestias a las personas de la casa	☐ 2	☐ 2
Las personas de la casa no consideran que la limitación sea para ellas una carga de ningún tipo	☐ 3	☐ 3

No.(s) personales		
5. Para las personas de la casa es bastante difícil llevarse bien con la persona debido a su carácter	☐ 1	☐ 1
Para las personas de la casa es a veces un poco difícil llevarse bien con la persona debido a su carácter	☐ 2	☐ 2
Su carácter es bueno y ayuda a que la gente de la casa se lleve con él(ella)	☐ 3	☐ 3
6. La persona con su limitación:		
a) Es una molestia muy grande para la gente del lugar	☐ 1	☐ 1
b) Es una molestia pero no excesiva para la gente del lugar	☐ 2	☐ 2
c) No es una molestia para la gente del lugar	☐ 3	☐ 3
7. Para la gente de la comunidad es bastante difícil llevarse bien con la persona debido a su carácter	☐ 1	☐ 1
Para la gente de la comunidad es a veces un poco difícil llevarse bien con la persona debido a su carácter	☐ 2	☐ 2
Su carácter es bueno y ayuda a que la gente de la comunidad se lleve con él(ella)	☐ 3	☐ 3

APPENDIX D

PISIC 1 10

II G – NECESIDADES SENTIDAS

(Tarjeta 04)

4. El mejor camino para mejorar las condiciones de vida en esta comunidad ha sido

- gestiones de personas influyentes del lugar ☐ 1
- gestiones de empleados del gobierno o de sus instituciones ☐ 2
- participación de grupos de personas del lugar ☐ 3
- programas existentes del gobierno ☐ 4
- otro _____

5. a) En su opinión, la atención médica a su familia es

- muy buena ☐ 4
- buena ☐ 3
- inadecuada ☐ 2
- no se recibe ☐ 1
- no opina ☐

b) En su opinión la atención médica a la mayor parte de los hogares de este lugar es

- muy buena ☐ 4
- buena ☐ 3
- inadecuada ☐ 2
- no se recibe ☐ 1
- no opina ☐

6. Conoce usted a algún vecino(s) de este lugar que padezca(n) de alguna incapacidad física o mental

Sí ☐ 2 No ☐ 1 (pase a pregunta 8)

7. Sabe si esa(s) persona(s) recibe(n) atención médica

- sí, adecuada ☐ 3
- sí, pero no muy buena ☐ 2
- no reciben ☐ 1
- no está enterado o no opina ☐

10. a) En su opinión, la alimentación que se acostumbra actualmente en su casa

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena ☐ 1
- no opina ☐

b) En su opinión, la alimentación que se acostumbra en la mayor parte de las casas de este lugar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena ☐ 1
- no está enterado o no opina ☐

PISIC 1-12

11. a) En su opinión, la educación recién o actualmente recibida por los niños de 7 a 14 años de su hogar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena ☐ 1
- no opina o no se aplica ☐

b) En su opinión la educación recién o actualmente recibida por los niños de 7 a 14 años de este lugar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena o no reciben ☐ 1
- no está enterado o no opina ☐

12. a) En su opinión la educación recién o actualmente recibida por los jóvenes de 15 a 19 años de su hogar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena ☐ 1
- no opina o no se aplica ☐

b) En su opinión la educación recién o actualmente recibida por los jóvenes de 15 a 19 años de este lugar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- no es buena o no reciben ☐ 1
- no está enterado o no opina ☐

13. a) La casa en que ustedes viven

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- es mala ☐ 1
- no opina ☐

b) La mayor parte de las casas de este lugar

- son muy buenas ☐ 4
- son buenas ☐ 3
- son regulares ☐ 2
- son malas ☐ 1
- no opina ☐

14. a) La situación de trabajo suya y de su familia

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- es mala ☐ 1
- no opina ☐

b) La situación de trabajo de la mayor parte de las personas de este lugar

- es muy buena ☐ 4
- es buena ☐ 3
- es regular ☐ 2
- es mala ☐ 1
- no opina ☐

BIBLIOGRAPHY

BIBLIOGRAPHY

Anastasi, Anne. Psychological testing (3rd edition). New York: MacMillan, 1968.

Anderson, S. B.; Ball, S.; Murphy, R. T., et al. Encyclopedia of educational evaluation. San Francisco: Jossey-Bass Publishers, 1975, pp. 254-257.

Arici, Husnu. Laying the groundwork for test application in less developed countries. In Cronbach and Drenth, 1972, pp. 15-22.

Atman, I. and Epir, S. Age, socioeconomic status and classificatory behavior among Turkish children. In Cronbach and Drenth, 1972, pp. 329-338.

Babbie, Earl R. Survey research methods. Belmont, California: Wadsworth Publishing Company, Inc., 1973.

Bakare, Christopher G. M. Social-class differences in the performance of Nigerian children on the Draw-a-Man Test. In Cronbach and Drenth, 1972, pp. 355-364.

Beery, Keith. Developmental test of visual-motor integration: administration and scoring manual. Chicago: Follett Publishing Company, 1967.

Brislin, R.; Lonner, W.; and Thorndike, R. Cross-cultural research methods. New York: John Wiley & Sons, Inc., 1973.

Bruner, J. S.; Olver, R. R.; and Greenfield, P. N. Studies in cognitive growth. New York: John Wiley & Sons, Inc., 1966.

Buss, Arnold H. Psychopathology. New York: John Wiley & Sons., Inc., 1966.

Caja Costarricense de Seguro Social (Costa Rican Social Security System). Programa de investigación de salud integral comunitaria: diseño de muestro. Centro de Docencia e Investigación, San José, Costa Rica, Mayo, 1977.

Caja Costarricense de Seguro Social. Programa de investigación de salud integral comunitaria: manual para codificación. Centro de Docencia e Investigación, San José, Costa Rica, Octobre, 1977.

Caja Costarricense de Seguro Social. Programa de investigación de salud integral comunitaria: manual para los trabajos de campo. Centro de Docencia e Investigación, San José, Costa Rica, Julio, 1977.

Caja Costarricense de Seguro Social. Proyectos de investigación: convenio Michigan State University - Centro de Docencia e Investigación. Centro de Docencia e Investigación, San José, Costa Rica, Agosto, 1976.

Consejo Nacional de Rehabilitación y Educación Especial (National Council of Rehabilitation and Special Education). Propuesta para la creación de la carrera de maestría multidisciplinaria en rehabilitación. San José, Costa Rica, Agosto, 1977, pp. 2-10.

Cronbach, L. J. and P. J. D. Drenth. Mental tests and cultural adaptation. The Hague, Netherlands: Morton Publishers, 1972.

Department of Health, Education and Welfare, D.H.E.W. Report of the comprehensive service needs study. Rehabilitation Services Administration, R.S.A. Washington, D.C.: The Urban Institute, June 23, 1975.

Djukanovic, V. and Mach, E. G. Alternative approaches to meeting basic health needs in developing countries. World Health Organization, Geneva, 1975.

English, F. W. and Kaufman, R. A. Needs assessment: a focus for curriculum development. Association for Supervision and Curriculum Development, Washington, D.C., 1975.

Feurstein, Reuven. Cognitive assessment of the socio-culturally deprived child and adolescent. In Cronbach and Drenth, 1972, pp. 265-276.

Frankenburg, W. K. and Dodds, J. B. The Denver Developmental Screening Test. The Journal of Pediatrics, St. Louis, v. 71, no. 2, pp. 181-191, August, 1967.

Frankenburg, W. K.; Dodds, J. B.; and Fandal, A. W. Denver Developmental Screening Test: manual workbook for nursing and paramedical personnel. University of Colorado Medical Center, Denver, 1973.

Garrett, J. F. and Levine, E. Psychological practices with the physically disabled. New York: Columbia University Press, 1962.

Garrett, J. F. and Levine, E. Rehabilitation practices with the physically disabled. New York: Columbia University Press, 1973.

Georgas, J. and Georgas, C. A children's intelligence test for Greece: psychometric properties, intracultural effects, cross-cultural comparisons. In Cronbach and Drenth, 1972, pp. 217-222.

Haber, Lawrence D. Identifying the disabled: concepts and methods in the measurement of disability. Department of Health, Education and Welfare, Report No. 1, Social Security Survey of the Disabled, 1966.

Harrold-Stroebe, M. S. Cognitive development of children from selected ethnic, educational and language backgrounds in Malaysia. In Cronbach and Drenth, 1972, pp. 317-328.

Helander, E. Proposed disability prevention and rehabilitation programme with special reference to cerebral palsy victims, Jordan. Division of Strengthening of Health Services, World Health Organization, EM/REH/22, Geneva, 1977.

International Rehabilitation - Special Education Network, I.R.S.E.N. Evaluation of a rural community comprehensive health care program in San Antonio, Costa Rica. Unpublished manuscript, Michigan State University, 1978.

Kane, Robert L. The challenges of community medicine. New York: Springer Publishing Company, 1974.

King, Maurice Henry. Medical care in developing societies. Nairobi: Oxford University Press, 1966.

Lesser, G.; Fifer, G.; and Clark, D. Mental abilities of children from different social-class and cultural groups. Monographs of the Society for Research in Child Development, v. 30, no. 4, serial no. 102, 1965.

Ley de creación del consejo nacional de rehabilitación y educación especial. Asamblea Legislativa de la República de Costa Rica. Ley no. 5347, San José, Costa Rica, Setiembre, 1973.

Margulec and Sapira. Delivery of rehabilitation services in a rural setting: a study of five selected villages, Jewish and Arab, in Israel. Rehabilitation Services Administration, Project no. 19-P-58013-F-01, Tel Aviv, Israel, 1975.

Matthews, Fred D. Community health survey project. Mississippi Valley State University, Itta Bena, Mississippi, 1974.

Mehrens, W. and Lehmann, I. Measurement and evaluation in education and psychology. New York: Rinehart and Winston, Inc., 1973.

Mental Measurements Yearbooks: standards for educational and psychological tests and manuals. Edited by Buros, 1966.

Newell, Kenneth W. Health choices for the developing world. Internationale Entwicklung, IV, 1976.

Ord, I. G. Assessing cognitive capacities of nonliterate New Guinea adults and children. In Cronbach and Drenth, 1972, pp. 138-196.

Ortar, Gina. Some principles for adaptations of psychological tests. In Cronbach and Drenth, 1972, pp. 111-120.

Robles, Guillermo; Rosales, J. Tobías; and Verbel, Cesar. Programa de Salud Integral. Centro de Docencia e Investigación, San José, Costa Rica, 1974.

Sánchez-Ruphuy, Rodrigo. Psychology and medicine: a new approach for community health development. American Psychologist, v. 32, no. 11, November 1977, pp. 910-913.

Semin, Refia. Why certain tasks from mental tests must be adapted whereas operational tasks need not. In Cronbach and Drenth, 1972, pp. 129-134.

Solana, Emilio y Trigueros, Rafael. Applicación del análisis de factores a un programa de salud comunitaria. Facultad de Ciencias Económicas: Escuela de Estadística, Universidad de Costa Rica, Noviembre, 1977.

Stott, L. and Ball, R. Infant and preschool mental tests: review and evaluation. Monographs of the Society for Research in Child Development, v. 30, no. 3, Serial no. 101, 1965.

Stratis, Peter C. Evaluation of rehabilitation programs in Costa Rica, El Salvador, and Nicaragua. Department of Physical Medicine and Rehabilitation, New York University Medical Center, 1961.

Stutsman, Rachel. Mental measurement of preschool children. New York: World Book Company, 1931.

Suchman, Edward A. Evaluative Research. Principles and practice in public service and social action programs. New York: Russel Sage Foundation, 1967, pp. 169-177.

Trantow, Don J. An introduction to evaluation, program effectiveness and community needs. Rehabilitation Literature, vol. 30, no. 1, January 1970, pp. 1-9.

United Nations. Obstacles limiting the access of disabled children to rehabilitation services and education. Department of Economic and Social Affairs, New York, 1976.

VanDerFlier, Henk. Evaluating environmental influences on test scores. In Cronbach and Drenth, 1972, pp. 447-452.

Wechsler, David. Escala de Inteligencia Wechsler para ninos. New York: The Psychological Corporation, 1951.

Wechsler, David. Wechsler Intelligence Scale for Children (manual). New York: The Psychological Corporation, 1949.

Wechsler, David. Wechsler preschool and primary scale of intelligence. New York: The Psychological Corporation, 1967.

Weiss, Carol H. Evaluation research: methods of assessing program effectiveness. New Jersey: Prentice-Hall, Inc., 1972.

Wolman, Benjamin B. Dictionary of behavioral science. New York: Van Nostrand Reinhold Company, 1973.

World Health Organization, W.H.O. Manual of the international statistical classification of diseases, injuries, and causes of death, vol. 1, Geneva, 1967, pp. 3-42, 141-155.

World Health Organization. Reports on specific technical matters: disability prevention and rehabilitation. A29/Inf. Doc./1, Geneva, 1976, pp. 1-53.

World Health Organization. Questionnaire-disability project. Indonesia - W.H.O., Institute of Health Research and Development. Department of Health, Jakarta, 1977.

Wright, Beatrice Ann. Physical disability - a psychological approach. New York: Harper, 1960.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