A COMPARATIVE EVALUATIVE STUDY OF TWO MODELS FOR REHABILITATION OF THE HEARING IMPAIRED PERSONS IN EGYPT

By

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ABSTRACT

A COMPARATIVE EVALUATIVE STUDY OF TWO MODELS FOR REHABILITATION OF THE HEARING IMPAIRED PERSONS IN EGYPT

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The hearing impaired persons are among those who are eligible for rehabilitation services in Egypt. They are served by two models of rehabilitation facilities i.e. the rehabilitation center model and the rehabilitation office model. The rehabilitation center model is represented in a comprehensive center in Cairo city and the rehabilitation office model is represented by one office or more in each governorate of the 26 governorates of Egypt.

The present study was carried out to meet a need for comparing between the two models of service delivery on a number of variables by using an evaluative model of inputs, processes and outcomes components.

The study was carried out by a survey approach, using a stratfied cluster sample of 7 offices and the Cairo center. These eight clusters included 297 subjects who met the criterion of selection i.e. completed their rehabilitation from January 1st, 1977 to December 31st 1978. Those subjects were interviewed by trained interviewers and data were collected on inputs-process-output basis using form A of a questionnaire. Another questionnaire, form B, was used to interview with 24 managers of offices around the country and manager of the Cairo

center related to some input and process variables, also archieval data sources were used. Descriptive statistics and nonparametric approaches were the statistical analysis approaches.

Analysis of results was organized around the purposes of the study and revealed, (1) the utility of the evaluation model, (2) prevalence of high sex ratio among applicants for rehabilitation, (3) early onset of hearing impairment, (4) limited special education of applicants, (5) lack of trained staff in offices, (6) absence of counseling, work evaluation and communication services in offices, (7) need for accessibility, comprehensiveness and integrity of rehabilitation services rendered by offices, (8) high efficiency of offices, (9) no difference in occupational outcomes, (10) no difference in cost-benefit ratios between offices and centers and (11) a need to modify the rehabilitation center model and the rehabilitation office model.

The study was concluded by showing its limitations, implications for further research work and a list of recommendations to improve rehabilitation services for the hearing impaired persons in Egypt.

To Egypt, My Eternal Love

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CHAPTER ONE

THE PROBLEM

In the twentieth century a popular movement toward care for the disabled took place as a sign of progress and development in Egypt. The Egyptian Association for the Blind, the Female Association for Health Improvement and the General Association for Prevention of Tuberculosis were the first societies to work in the field with support of volunteers. In 1942 the Day Hospital Association started its work to provide orthotics and prosthetics for the disabled. The Egyptian Association for the Deaf started its activities in 1945 to care for its deaf members and founders.

When the government issued the first law for social security (Law No. 116-1950), rehabilitation for the disabled became its responsibility according to that law. To undertake this task the Ministry of Social Affairs established the first rehabilitation office in Cairo city which initiated its activities in 1952. In the years that followed, a number of rehabilitation centers were established, i.e. the Cairo Rehabilitation Center (1953), the Demonstration Center for the Blind in Zeiton-Cairo (1953), and the Association for Rehabilitation in Alexandria (1954). A plan was worked out to cover all governorates of Egypt. Since that time legislation has been changed several times and resulted in the Law of Rehabilitation of 1975 which spelled out the following two innovations: (1) A supreme council for rehabilitation on the national level with representatives from different

concerned governmental bodies and interested individuals. (2) A 5% quota for employment of the disabled in those enterprises which employ 25 workers or more.

The Law established the right to rehabilitation for all the disabled persons who meet the definition of disability, i.e. any person who has physical or mental limitation either since birth or acquired at any time through life and who has never been employed or who quit his job because of this limitation. All services are free of charge unless the client is able to share in the cost of orthotics and prosthetics.

Rehabilitation of the Hearing Impaired

Hearing impairment is a functional limitation that affects the communication system of the affected person. It can be due to hereditary, congenital factors or due to diseases, accidents, noise, drugs or senility. As most of its effects are related to communication, it may be logical that effects of the impairment are more severe when functional loss occurs in infancy or childhood. Besides its importance for normal communication, hearing plays great roles in language, safety and in general of feeling alive. When it occurs, hearing impairment imposes a social barrier between the impaired person and society, normal social activities and relations. To remove this barrier; rehabilitation is very important.

Rehabilitation as a System

One can look to rehabilitation as a system consisting of three main components i.e. inputs, processes and outputs. Examples of these

Components are as follows:

(a) Inputs:

Clients with different characteristics such as;

- age
- sex
- degree of hearing loss
- age at onset of hearing loss
- socioeconomic status
- education
- residency

Staff

- technical
- administrative

Budget

Buildings

- for evaluation
- for services

Equipment

(b) Processes

- techniques and procedures
- activities

(c) Outputs:

Desired outcomes

- physical restoration
- social and personal
- educational
- vocational

economic

Other outputs

social Integration

Specifically, rehabilitation of hearing impairment calls for the following activities:

(1) Referral

Clients are to be referred from different sources such as:

special education schools

social units

medical clinics

(2) Evaluation, according to these examinations eligibility is reviewed

medical exmination

audiological assessment

psychological evaluation

socioeconomic evaluation

educational evaluation

evaluation of speech

(3) Rehabilitation Services

hearing aids provision

speech therapy

vocational training

counseling

personal adjustment training

(4) Placement in appropriate jobs

As there are basically two models for rehabilitation of the hearing impaired persons in Egypt, i.e. the rehabilitation offices and the rehabilitation centers, it is expected that there are some differences between the two medels regarding these services.

The Problem

In a recent study, Hommossani and Mohamed (1979) showed that there are at least 400,000 hearing impaired persons in Egypt. The problem is most striking in childhood, where it is estimated to affect about 200,000 children under 15 years of age. At the present time the rehabilitation services completed are provided to the deaf and hard of hearing in the following places:

(1) The Egyptian Association for the Deaf and Hard of Hearing (Cairo Rehabilitation Center for the Deaf)

This association was established in 1965 as a successor to a former private association. The association includes a rehabilitation center, a rehabilitation office, an education program for young children and a social club. This is considered the only center for the hearing impaired in Egypt, and as such it serves as an educational setting for the training of personnel. The Association serves greater Cairo (Cairo,Giza and Shubra El Khema).

(2) Rehabilitation Offices

The deaf and hard of hearing persons can receive services through rehabilitation offices where services are provided to different types of disabled persons.

Need for study

1- To compare the rehabilitation center with the community based model (rehabilitation offices) on questions of effectiveness and efficiency. As mentioned before the two models are used for rehabilitation of the hearing impaired. Differences between the two models in effectiveness or efficiency have not been evaluated. There is a national need to know these differences.

2- To help in showing some of the characteristics of the population served and hence its potential needs. There is a need to study the characteristics of the hearing impaired persons who apply for rehabilitation in centers and offices. Characteristics such as age, sex, residency, degree of impairment, age of the onset of impairment and socio-demographic characteristics are important client inputs to the rehabilitation program for the hearing impaired persons and will help in assessment of their needs and hence in their program development.

3- To apply a model for evaluation of rehabilitation services which can be repeated for other types of disabilities. The proposed model is a system model which deals with inputs, processes, and outputs. This comprehensive model has been proposed but rarely applied. In the present study it will be applied and assessed as a model for evaluating rehabilitation programs in general and in developing countries in particular. The need exists for a relevant model for program evaluation in the rehabilitation field.

4- To provide feedback to policy making levels regarding the status and present situation in rehabilitation of the hearing impaired

persons in Egypt. This will be one of the major outcomes of the study since it will help in reviewing the national program for rehabilitation of the hearing impaired persons on a comparative basis. This feedback may result in effective changes in present services for the hearing impaired persons.

Purposes of the study

Specifically, this study aimed at reaching the following objectives:

1- To apply a three component evaluation model, input - process and outcome, and to test its applicability in Egypt. This model will be considered in all levels of the study especially in collecting data on different variables.

2- To analyze the inputs to the rehabilitation program for the hearing impaired persons. The inputs are client inputs, staff, building, equipment and budget.

3- To analyze the rehabilitation process for hearing impaired persons. This implies analysis of rehabilitation activities and assessment of their adequacy to the given inputs and the intended outcomes.

4- To evaluate the outcomes of the rehabilitation program for the hearing impaired persons. In the present study outcomes are not taken as a single dimension but as multidimensional including physical, vocational and social outcomes.

5- To assess the needs of the deaf for rehabilitation services. This can be an indirect result of this study.

6- To provide feedback in the evaluation process. This feedback may be helpful in revising the rehabilitation program for hearing impaired persons.

7- To develop alternative model(s) for rehabilitation of hearing impaired persons.

Models of Rehabilitation service Delivery

Egypt started its national rehabilitation program by establishing a rehabilitation office, then it moved to establishment of rehabilitation centers, and later on to other models for delivery of rehabilitation services.

a) Rehabilitation Offices

The rehabilitation office is a facility with a rehabilitation team, i.e. rehabilitation officer, social worker, medical doctor and a psychologist. It works with all types of disabilities and has no residential services except evaluation and counseling. The office relies very much on community services, i.e. hospitals, schools and industry. The office cooperates with other services in the client's community to assure integration of services and to reduce effort needed by the client to reach services. At the present time there are 32 offices scattered all over the country with one office at least in every governorate.

b) Rehabilitation Centers

The idea behind the rehabilitation center is that it can provide comprehensive rehabilitation services for one or more types of disabilities. The building is designed to serve that objective and the staff is sufficient to meet its activities. Most rehabilitation centers started

in Cairo, the capital city of Egypt and Alexandria, the second city. However, there are centers in other governorates as, Assiut, Port Saiid, Ismaiilia, Gharbia, Damiett, Giza and Quena. There are centers for the blind, the mentally retarded, the hearing impaired, orthopaedic cases, tuberculosis convalescents, severely disabled and negative leprotics. Most rehabilitation centers provide vocational training, orthotic and prosthetics and residency for their clients. There are now 20 centers in the country. Beside their services for the disabled, most of the centers serve for training rehabilitation counselors, social workers, psychologists, physiotherapists, speech therapists and medical doctors in the field of rehabilitation.

c) Sheltered Workshops

These workshops are established to meet the rehabilitation needs of those persons who are known to have greater difficulties incompeting in the open market of employment, those who need to be under controlled conditions of work or who meet negative attitudes toward their employment. There are sheltered workshops for severely orthopaedic cases, severely disabled persons, the blind, T.B. cases and leprotics. The workshops render rehabilitation services and transitional or terminal employment.

d) Wafa - Wa-Amal: Rehabilitation Complex

Wafa wa Amal is the greatest project for rehabilitation of the disabled in Egypt. The project was called for and

under the patronship of the First Lady of Egypt. The society is established on more than 300 acres in Cairo city. The goal of the center is to render vocational rehabilitation services, living facilities, training of staff and medical rehabilitation services for the disabled of any age. The center is considered to be one of the biggest rehabilitation complexes in the Middle East. It includes:

(1) Rehabilitation Institute, with a medical education program
(2) Workshop for orthotics and prosthetics
(3) Vocational training workshops
(4) Sheltered workshop
(5) Housing and housing improvement research
(6) Transportation expedition
(7) Recreational services

(e) Other Models

There are several other models on a smaller scale with unique purposes in rehabilitation as:

(1) Veteran rehabilitation centers
(2) Cooperatives for the disabled
(3) Homebound services
(4) Mobile teams

Definition of terms:

Cluster sampling

Sheaffer, Mendenhall and Ott (1979) defined cluster sampling as follows.

"A cluster sample is a simple random sample in which each sampling unit is a collection, or cluster of elements."

"A procedure of selection in which the elements for the sample are chosen from the population in groups or clusters rather than singly.

Cluster sampling combined with stratification

Sheaffer, Mendenhall and Ott (1979) stated:

"As in the case with all other sampling methods, cluster sampling can be combined with stratified sampling, in the sense that a population may be divided into strata and a cluster sample can then be selected from each stratum p. 159)".

Inputs: Yavorsky (1978) defined inputs as "Inputs are all those things that are needed to set processes into motion and keep them running, some of the most common classes of inputs are, resources, receptors, staff, independent groups/organizations, preconditions and enabling outputs from other components".

Processes: Yavorsky (1978) defined processes as: "the intended interactions of people, materials and media and the context within which they take place."

Outcomes: Crystal and Lee (1979) defined outcomes as follows:

> "The results of a program. Outcomes can be measured in terms of changes in client functioning and achievement of rehabilitation objectives. Outcomes can also be assessed with regard to the program's impact on the agency, the community, and clients in general".

Overview:

This chapter has considered the problem and the need for research. In chapter two the literature will be reviewed. Chapter three will focus on research procedures. The data analysis results will be presented in chapter 4, and the discussion and conclusion in chapter 5.

CHAPTER TWO

REVIEW OF LITERATURE

The purpose of this study is to contribute to the development of an evaluation model which can be used in the rehabilitation program in Egypt, with specific application to consumers of the hearing impaired rehabilitation program.

This chapter will include relevant literature related to (1) program evaluation definitions, (2) evaluation research, (3) evaluation models with specific emphasis on the field of rehabilitation, (4) evaluation methods and strategies in rehabilitation, (5) relevant studies, in Egypt, and (6) a synthesis of what the literature contributed to this investigation.

I. Definitions of Program Evaluation.

Program evaluation has been defined by many authors. Some of those definitions are quite detailed and operational while others still are theoretical. Following are some of the definitions that were relevant to this study.

Suchman (1967) reported three major trends that have influenced both the need for evaluation and the form which such evaluation has taken. Those include (1) changes in the nature of social problems; (2) changes in the structure and function of public agencies, and (3) changes in the need and expectation of the public.

Suchman defined evaluation as "the determination of the results attained by some activity designed to accomplish some valued goal or objective."

This definition contains four key dimensions, (1) process the "determination", whether based on opinions, records, subjective or objective data, (2) criteria: the "results" whether desirable or undesirable, transient or permanent, immediate or delayed, (3) stimulus: the "activity", whether a program or a part of a program, a drug or a therapy, an ongoing or one shot approach, and (4) value: the objective, whether ultimate, intermediate or immediate, effort or performance, long or short range.

Stufflebeam (1971) defined evaluation as "the process of delineating, obtaining, and providing useful information for judging decision alternatives". He added that "several key points should be kept in mind regarding this definition:

(1) Evaluation is performed in the service of decision-making, hence, it should provide information which is useful to decision makers, (2) evaluation is a cyclic, continuing process and therefore must be implemented through a systematic program, (3) the evaluation process includes three main steps of delineating, obtaining and providing useful information. These steps provide the basis for a methodology of evaluation; and (4) the delineating and providing steps in the evaluation process are interface activities requiring collaboration.

Adams (1975) defined evaluation as

> "A procedure for ascertaining whether an event, process or situation (real or conceptual) is better than another. The procedure may include steps for measuring "how much better" and for explaining the reason for difference"

Attkisson and Broskowski (1978) presented a working definition for program evaluation to be a process (1) of making reasonable judgments about program effort, effectiveness, efficiency and adequacy; (2) based on systematic data collection and analysis; (3) designed for use in program management, external accountability and future planning; and (4) focuses especially on accessibility awareness, availability, comprehensiveness, continuity, integration and cost of services.

Posavac and Carey (1980) defined evaluation as

> "A collection of methods, skills and sensitivities necessary to determine whether a human service is needed and likely to be used, whether it is conducted as planned, and whether the human service actually does help people in need".

Summary of definitions:

In this section five definitions of program evaluation have been introduced. These definitions were stated by Suchman (1967), Stufflebeam (1971), Adams (1975) Attkisson et al (1978) and Sovac and Carey (1980).

Those five definitions share many common components, however there are some differences. They share the following aspects; (1) evaluation is a process, (2) its target is a program, (3) its methods are measurement and collection of information, (4) its utility is decision making.

From the previous definitions the author can state the following operational definition as a guideline for this study;

> "Program evaluation is the process of determining the effeciency and effectiveness of a program in relation to similar programs and to its own objectives. This process deals with the inputs-process and outcomes of the program..."

II. Evaluative Research.

Evaluative research is a type of applied research that deals with evaluative problems. Suchman (1967) restricted this type of research to the utilization of research methods and techniques for the purpose of making an evaluation.

Evaluation can be made by many approaches rather than research methods. However, by using research methods, decisions can be made on a basis of information. One feature that differentiates using research in evaluation from other uses of research, is that one can place more objectivity on the findings and secure reliable and valide information.

Evaluative vs. Nonevaluative Research

Evaluative research is a growing branch of applied research which aims at testing the application of knowledge rather than the discovery of knowledge. Suchman (1967) took the issue of comparing between evaluative and nonevaluative research as related to two basic concepts, objectives and methods.

(1) On the one hand evaluative research can provide helpful and valid information to program designers and decision makers. Nonevaluative research although it has potential practical uses is primarily aimed at increasing theoretical

knowledge and understanding rather than manipulation or action.

(2) On the other hand evaluative research has no special methodology of its own. As research it uses the rules and logic of scientific method as closely as possible. As evaluation, it is mainly directed toward obtaining information about some program or activity. Therefore, the scientific method is helpful in ensuring the quality of such information. Suchman (1967) stated

> "In other words, evaluative research is still research and it differs from nonevaluative research more in objective or purpose than in design or execution..."

Weiss (1972b)took the same position when she compared evaluation and other research. She stated

> "Evaluation applies the methods of social research, principles and methods that apply to all other types of research apply here as well. Everything we know about design, measurement and analysis come into play in planning and conducting an evaluation study. What distinguishes evaluation research is not method or subject matter, but intent - the purpose for which it is done".

Weiss (1972b) differentiated between evaluation research and other types of research as related to the following seven issues:

(1) Use for decision making, evaluation starts out with a use in mind while other research may not be utilized directly.

(2) Evaluation research considers the decision maker's question rather than the evaluator's, while in basic research the investigator formulates the hypotheses.

(3) Judgmental quality: Evaluation is sometimes defined as judgment. It compares performance to intended goals. Therefore evaluation research is interested in measuring against some criterion or criteria.

(4) Action setting, evaluation takes place in an action setting where the program is carried out. The program cannot be controlled in favor of evaluation.

(5) Role conflicts, since evaluation has a judgmental component it may suffer from rejection of the personnel in the program to participate in such research.

(6) Publication, an objective of basic research is its dissemination while in evaluation research the majority of reports are unpublished.

(7) Allgiance, the evaluation researcher has an obligation to the organization that funds the study and an obligation toward the profession.

One more characteristic can be added to what Weiss has reported, this is generalizability. One may feel that since each program has many internal and many external variables that interact continuously and contribute to the uniqueness of the program, it is therefore very difficult to generalize the results from one program to another without fully describing the first program.

For the purpose of the present study the above discussion is useful since the author has defined this study to be an evaluative study. On one side its purposes are action directed and action related. On the other hand it applies the scientific procedure. Specifically

it applies the sample survey method to collect and deal with the information.

Rationale for Comparative Evaluation

One objective in this study is to compare two approaches for rehabilitation of the hearing impaired persons in Egypt. A basic advantage of such comparison is to judge what factors are working in each of the two models. This may result in suggesting a new model. Weiss (1972b) discussed the issue of comparative evaluation of programs. She considered that a study of a single program can show whether participants are better off after the program than they were before (client change). If one used other programs for comparison, the results of the study would indicate whether a new program is superior to an old one. She stated that the increase of information resulting from such comparative studies - is of two kinds - increase in generalizability of results and increase in the specification of which strategy under which conditions has better effects with which participants.

Generalizability: When one considers a single program for evaluation one indeed is confined to this program. It is not known how far one can generalize the results to other programs. Therefore cross-program evaluation becomes necessary. Weiss (1972b) discussed this aspect and stated

> "Let us imagine fifty children health centers all with the same objective of improving the health of low-income preschool children. If we study them together, we can average the results and get an overall indication of program effects. This will wash out any unique factors that elevate or depress outcomes in one or two locations. For example, if one center happens to have a uniquely dedicated staff and therefore obtain outstanding results, these extreme results will not be given the undue weight

> that would accrue to them if only this center were evaluated. They will be stirred into the pot with forty nine other centers' outcomes, and more representative 'average' figures of outcome will show. The results will be more typical and thus more generalizable to child health centers at large - that is, they will have greater external validity".

The author agrees with this point of view in the case when one aims at generalizing the results which are most likely to be the case when dealing with the national or regional level. In the model for this study by having more than one office, it will enable generalizability.

Specification:

Comparative study allows one to have more variables that may have some causal relation to the outcomes. If one considers one program for an evaluation study one cannot know what would have happened if the imputs or processes used were different.

Limitations:

There still are some problems that impair this type of study. Since programs were not randomly assigned to communities and subjects were not randomly assigned to programs there will be some unidentified sources of variation. However, this does not affect the conclusion that a comparative study is better than a single program study.

The present study compared two types of programs i.e. rehabilitation center versus rehabilitation office. It also provided comparisons within the rehabilitation offices.

Summary:

The previous section was devoted to discussing evaluative research and comparative evaluation. Two major authors were reviewed. The main idea is that evaluative research is a type of applied research which is directed toward a judgment or decision. A discussion on merits of comparative evaluation was heavily taken from Weiss (1972a). The two topics of evaluative research and comparative evaluation, are in relation to the present study since it is entitled as a comparative evaluative study. In the following section the concept of evaluation models will be dealt with and examples of models will be discussed.

III. Models of Evaluation

Generally, a model is a physical, conceptual, or mathematical representation of something. In evaluation a model is a conceptual framework for a set of comparison or measurement procedures.

Adams, in "Evaluative Research in Corrections - A Practical Guide" published by U.S. Department of Justice 1975, reviewed evaluation models under the following groups although not mutually exclusive groups.

1. Methodological models

Each of the models in this group takes its name from the methods employed for evaluation. This group includes the nonexperimental model, the quasi experimental, the experimental, the benefit cost, the operations research, the systems analysis and the simulation model.

2. Subject matter models:

In these models one thinks of evaluation in relation to aspects of the subject under study. This group includes models such as the outcome model which focuses on results, the system model which focuses

on the overall operation and structure, the input output model which relates the results to the effort, the process model which evaluates procedures, and the means-end model which is concerned with the extent to which processes have been provided in order to reach desired results.

3. Actor - oriented models: or researcher oriented models include the apprenticeship model and the advocacy model. It may also foster such a model as the adversary model.

4. Goal oriented models:

This group includes the effectiveness oriented and the efficiency oriented models. An effectiveness oriented model focuses on finding answers to whether one process or structure yields better behavior than another. An efficiency oriented model may focus on either managerial efficiency or on cost return efficiency. Evaluation then asks about behavior outcomes and cost outcomes. The ideal goal is maximizing the benefit while minimizing cost.

5. Broad strategy models:

These models deal with exploration, innovation and adjustment activities of evaluation. Exploration is the search for ideas, innovation is formulating and testing new ideas, and adjustment is "the process of making shifts in programs to reflect improvements that are suggested by special evaluation or by gradual increases in information through observations or routine evaluation".

6. Academic and industrial models:

The academic or "social science model" follows a scientific procedure from hypotheses statement to reaching a decision. The industrial or policy science model features operations research, systems analysis, simulation and cost-benefit analysis.

As has been mentioned before, models serve as guidelines for the process of evaluation. There is considerable overlap among the models regarding the methods and strategies of evaluation. While the first group of models serve as models in themselves they can be used as strategies for other models.

Burck (1978) viewed evaluation models under the following classification (1) research design model (modified by Tuchman), (2) context-input-process-product model (CIPP) by Stufflebeam, (3) medical approach model which consider the process and style of treatment beside the outcomes (Anderson, Ball, and Murphy (1975)), (4) economic models which have been referred to variously as time-effort systems, effort systems, management information systems, management cost systems, management by objectives and others, (5) discrepancy evaluation model first advocated by Provus (1971), (6) adversary model (Levin 1979), (7) formative summative evaluation (Bloom et al 1971, and Scriven 1972), (8) transactional evaluation and (9) catergories of criteria, effort, performance, adequacy of performance, efficiency and process (Suchman 1967).

Some of the models that are taking place in practical evaluation in the educational field and in rehabilitation are reviewed in this section.

1. Suchman (1965 and 1967) proposed an intervening variable model for evaluation. The model is based on the concept of causality as a chain or nexus of events related along a time dimension.

He stated:

> "Employing the analytic model of intervention process largely as one attempting to alter the causal nexus between the independent and dependent variable through manipulation of the intervening variables by means of which the cause

leads to the effect, or which modify or condition the effect".

Three such major independent - intervening - dependent sub-groupings exist::

1. The relationship between the precondition and causal variables,
2. the relationship between the cause-and-effect variables, and
3. the relationship between the effect and the consequence variables.

Each of these pairs of relationships may be analyzed in terms of the intervening variables occuring between the two, and each pair offers a conceptually different possibility of prevention through intervention with the intervening variable. These three possibilities may be diagrammed as follows.

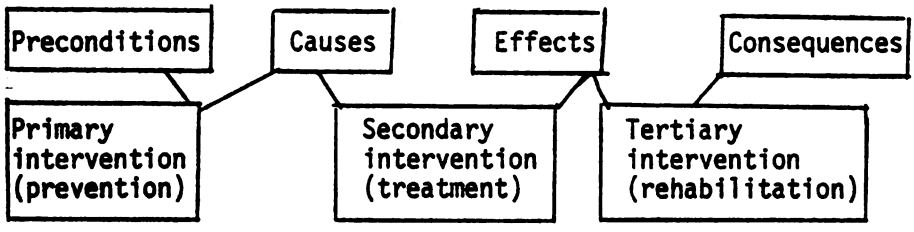

Figure 2.1. Application of Intervening Variable Model

Suchman (1967) proposed that this model could be applied to evaluative research in the field of health, education and welfare.

The process of evaluation consists of moving through stages and content categories in such a way as to facilitate a comparison of program performance with standards while at the same time identifying standards to be used for future comparisons.

2. Scriven (1967) presented the methodology of evaluation in which he discussed the following model issues.

(1) Goals of evaluation versus roles of evaluation: Formative and summative evaluation

(2) Evaluation versus estimation of goal achievement

(3) Intrinsic evaluation versus pay-off evaluation

(4) The possibility of pay-off evaluation

(5) Comparative versus noncomparative evaluation.

3. Alkin (1969) devised a model of the following components.

(1) Systems assessment; (2) Program planning; (3) Program implementation; (4) program improvement and (5) program certification.

Systems assessment results in a statement of objectives in terms of outputs of one school. The data that may be gathered for such purposesare concerned with the status of the system.

In program planning, information that enables the decision maker to make planning decisions is provided. The decision maker then selects the program to be implemented . Then an evaluation of program implementation determines the extent to which the implemented program meets the description formulated in the program planning decision.

Program improvement is achieved by providing as much information as possible about the relative success of the parts of the program. In this way improvements of the program can be achieved. Program certification is the last area of needs for evaluation where information collected is primarily dependent upon who is the intended decision-maker. There is a requirement in this part for as reliable and valid data as possible.

4. Galvin (1970) applied a system model of vocational rehabilitation. The model has five components, i.e. input, process, output, performance feedback and control, and internal and external constraints. The model is diagramed in Figure 2.9. Galvin stated that "a system should be so arranged that the process acts upon each input, at the appropriate time and in the appropriate sequence, relative to the needs of the input, to achieve the desired output. (See Figure 2.2).

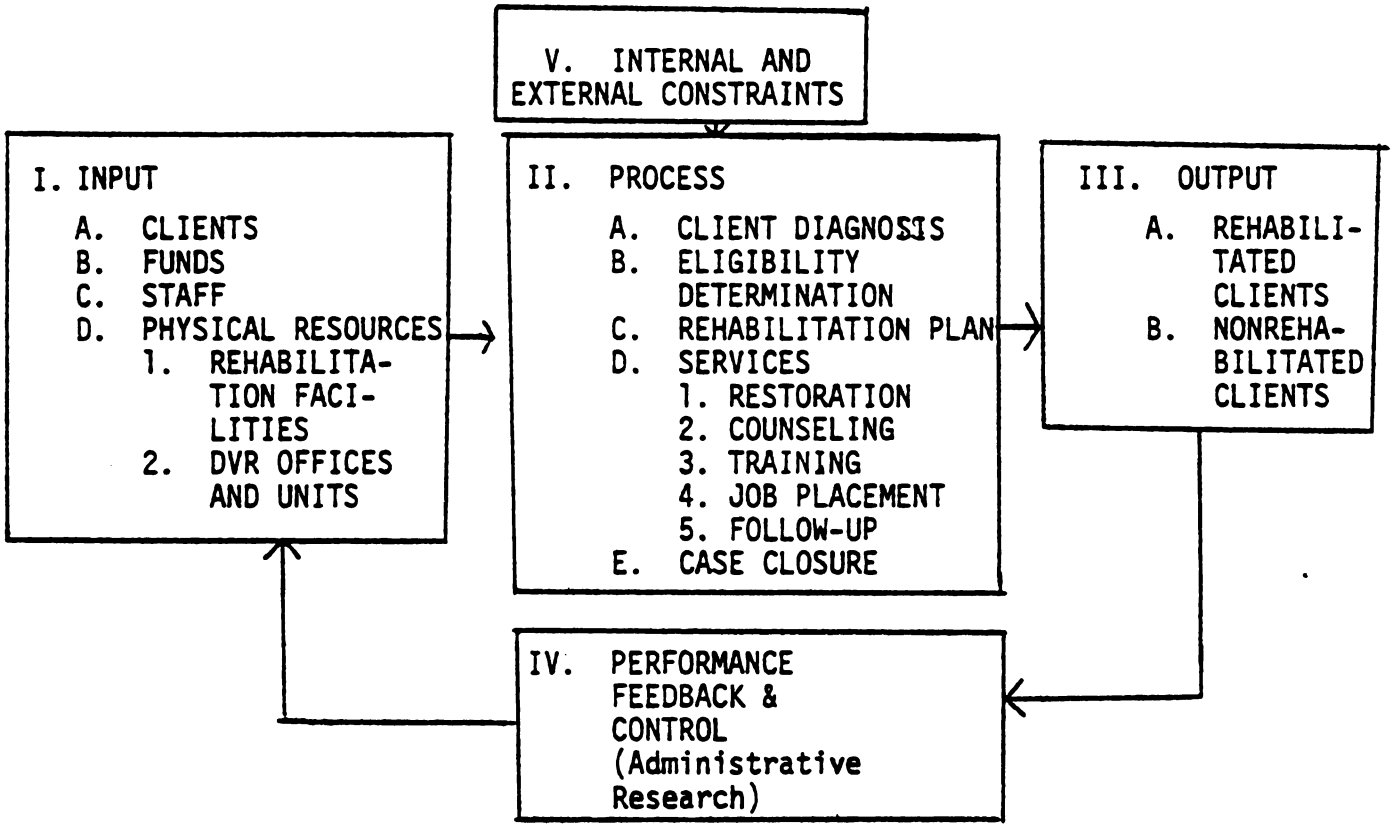

Figure 2.2. A System Model for Program Evaluation.

5. Stufflebeam (1971) introduced a model for evaluating educational programs. According to his definition of evaluation, any evaluation study involves three steps: (a) delineation of the information to be collected; (b) obtaining the information; and (c) providing the information. He saw evaluation as being of four types, each of them corresponds to one type of decision.

These four types of evaluation are context, input, process and product.

	Intended	Actual
Ends	Planning decisions supported by Context Evaluation	Recycling decisions supported by Product Evaluation
Means	Structuring decisions supported by Input Evaluation	Implementing decisions supported by Process Evaluation

Figure 2.3. Types of Decisions and Evaluations.

Context evaluation serves planning decisions to determine objectives; input evaluation serves structuring decisions to determine project design; process evaluation serves implementing decisions to control project operations; and product evaluation services recycling decisions to judge and react to project attainments.

6. Hills, Vl'aille and Ledgerwood (1973) presented a model for evaluating rehabilitation programs. The model focused on measurement of effectiveness. The authors considered effectiveness as:

> "Effectiveness may be thought of as a measure of the adequacy of an organization's programs which emphasized the degree of goal attainment of an organization rather than only the cost. Effectiveness is a functional rather than structural quality and thus measuring an organization's effectiveness is most useful in relative rather than absolute terms".

The authors specified that outcome or effectiveness evaluation can be attempted by using two different models, a goal model or a systems model. The goal model is not concerned with the process by which the output was achieved. It is rather concerned with the output, i.e. effectiveness is determined by the degree to which an organization achieves a single goal. The systems model, on the other hand, assumes the existence of multiple goals for any organization. Therefore, it is concerned with all processes within the organization.

"The systems model evaluates the overall effectiveness of an organization by the degree of progress toward its input goals, process goals and system maintenance goals".

7. Bennett and Weisinger (1974) suggested a two-dimensional model for rehabilitation program evaluation. The model includes program level (total program, program management and service delivery), and type of measure (effort, effectiveness, effeciency and quality). The model proposes that for any level of the program, e.g. total program one can use any type of measure, such as effort. However, when multiple types of measures are used, they will produce more comprehensive information to guide the program development process. They consider the primary goal of program evaluation is to ask "which programs are worthwhile" or "why they work best". These findings may produce information for program decision-making that may result in the implementation of a change. (Figure 2.4)

Program Level	MEASURE Effort	Effectiveness	Effeciency	Quality
Total program				
Program management				
Service delivery				

Figure 2.4. Program level and type of evaluation.

8. Menz F.E., Andrew J., Currie L., Dunn D., and Scheinkman N., (1974) introduced a process-purposed program evaluation model which they defined as the following.

"Process-purpose program evaluation is the orderly procedure for continuously judging and monitoring program and their processes as to the adequacy with which the program's proposed purposes are evidenced in the behaviors of participants in the program.

> Program purposes are the intended effects of the program on the behaviors of participants in the program. Processes include all components (e.g. fiscal, personnel, clients, and specific work tasks for clients) and sets of relationships (e.g. service delivery patterns which comprise the total facility program.
>
> Judgement is the act of placing a valuation on a particular component's or the total program's effectiveness. These judgements have their criteria established in the purposes of the program and measured in the behaviors of the program participants. Monitoring describes "what is going into" and "what is going on" in the program, merely telling "who", "what", "how many" and "how long". It reports the status of events, without judgement - Process-purpose program evaluation, by definition, joints monitoring and evaluation, such that the status of events, processes, and effects can both be described and judged".

9. Levine (1974) took the position that one cannot ignore the social context in scientific research, proposed an adversary model. The assumption for this model is that the scientific enterprise as a whole follows an adversary model. In the adversary model one is dealing with a situation in which there are "claims and counterclaims, and arguments and counterarguments, each side advanced by an advocate who attempts to make the best possible case for his position".

10. Wolf (1975) suggested that a judicial model be used in education. The model depends upon an education hearing "to provide a more effective way of seeking and presenting balanced factual data". The model consists of four stages.

(1) The issue generation stage, (2) the issue selection stage, (3) the preparation of arguments stage, and (4) the hearing stage.

11. Spaniol (1975a, 1975b) developed a comprehensive program evaluation model based on components identified through a review of 16 existing program evaluation models. Spaniol (1975b) suggested that:

> "Program evaluation is a systemtic continuous process of providing information about the value or worthwhileness of a program for the purpose of decision-making".

Spaniol (1977) stated that the model contains three basic components: (a) purposes; (b) context, and (c) methodology. He further specified types of evaluation as being input types, process types, outcome types and systems types of evaluation.

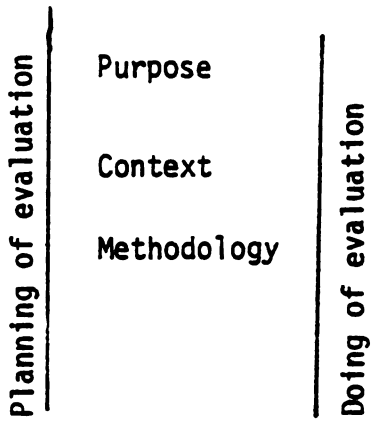

Figure 2.5. A Model of Program Evaluation.

(a) Purposes: The purposes for evaluation provide a focus and orientation to an agency's effort. The purposes for evaluation may influence the role of the evaluator, reveal the decisions the organization must make and influence the specific methodology chosen for the study. The author further specified three categories of purpose (a) program justification; (b) planning and policy analysis; and (c) organizational development.

(b) Context: The emphasis in context is on what program evaluation is trying to achieve. The components of the context are (a)

mission statement; (b) goals; and (3) objectives. These components are interrelated and interdependent.

(c) Methodology: Methodology includes the type of evaluation, the variables, criteria, tools and measures, design, data collection, data analysis, a system for judging the meaning of the results, feedback, decision making and implementation.

12. The Discrepancy Model

The Evaluation Research Center at the University of Virginia (Yavorsky 1975) developed the Discrepancy Evaluation, which was based on early works of Provus. The center defined evaluation as:

> "The comparison of what is a performance (P), to an expectation of what should be a standard (S). If a difference is found to exist between the standard and the performance, this difference is known as discrepancy (D). Discrepancies may be positive, where performance exceeds the standard, or negative, where performance is less than the standard. Whereas positive discrepancies may be resolved inthree ways, an unrealistic standard may be reforumalted or redesigned; management may exert greater control over performance, or if the discrepancy is unmanageable, a program may be terminated".

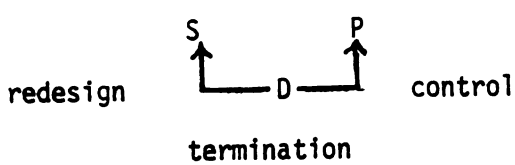

Figure 2.6. Discrepancy Evaluation Model.

The Discrepancy Evaluation model (DEM) identified five types or stages of evaluation which parallel a program's natural developmental stages: planning, installation, early operation and stabilization. The five stages of evaluation are as follows: (1) Design evaluation, (2) input evaluation, (3) Process evaluation, (4) output evaluation, (5) cost-benefit analysis.

Inputs are considered in DEM as "all those things that are needed to set processes into motion and keep them running". They include categories such as resources, receptors, staff, independent groups/ organizations, and preconditions.

Processes according to DEM are generally described in terms of event-sequences, "usually process descriptions describe the intended interaction of people, materials and media and the context within which they take place". In short the process will be detailed on how inputs will be transformed into outputs. This should indicate who is doing what to whom, how, when and for how long.

Outputs are used interchangeably with such terms as "goal", "objective" or "outcome". Discrepancy evaluation distinguishes two types of outputs: terminal objectives and enabling objectives. Terminal objectives are those products that result from "program-controlled

processes" and are intended to be fed into the external enviroment. Enabling objectives are used within the program. An enabling objective is "both the output of one process and an input to another".

13. Walls and Tseng (1976) viewed the rehabilitation system as an input-intervention-output paradigm. This paradigm concept permits systematic, orderly and useful approaches to identification and assessment of issues involved in the measurement of client outcomes. They specified that input includes the components of: (1) a general population, (2) a subpopulation consisting of people who need rehabilitation, and (3) another subpopulation of those who serve as rehabilitation resources. (See Figure 2.7).

Intervention, represents the phase during which rehabilitation takes place. The clients bring along to this phase their physical, psychological, educational, social and occupational strengths and weaknesses. The clients are subject to diagnosis and evaluation, counseling and guidance, physical restoration, training, placement and follow-up services. These services serve as vehicles for intensive client rehabilitation agent interactions.

Output, at this stage the client is expected to be lower in dependency, self-care is improved, self-support is attained or retained and family life strengthened, and finally the client reenters the general population.

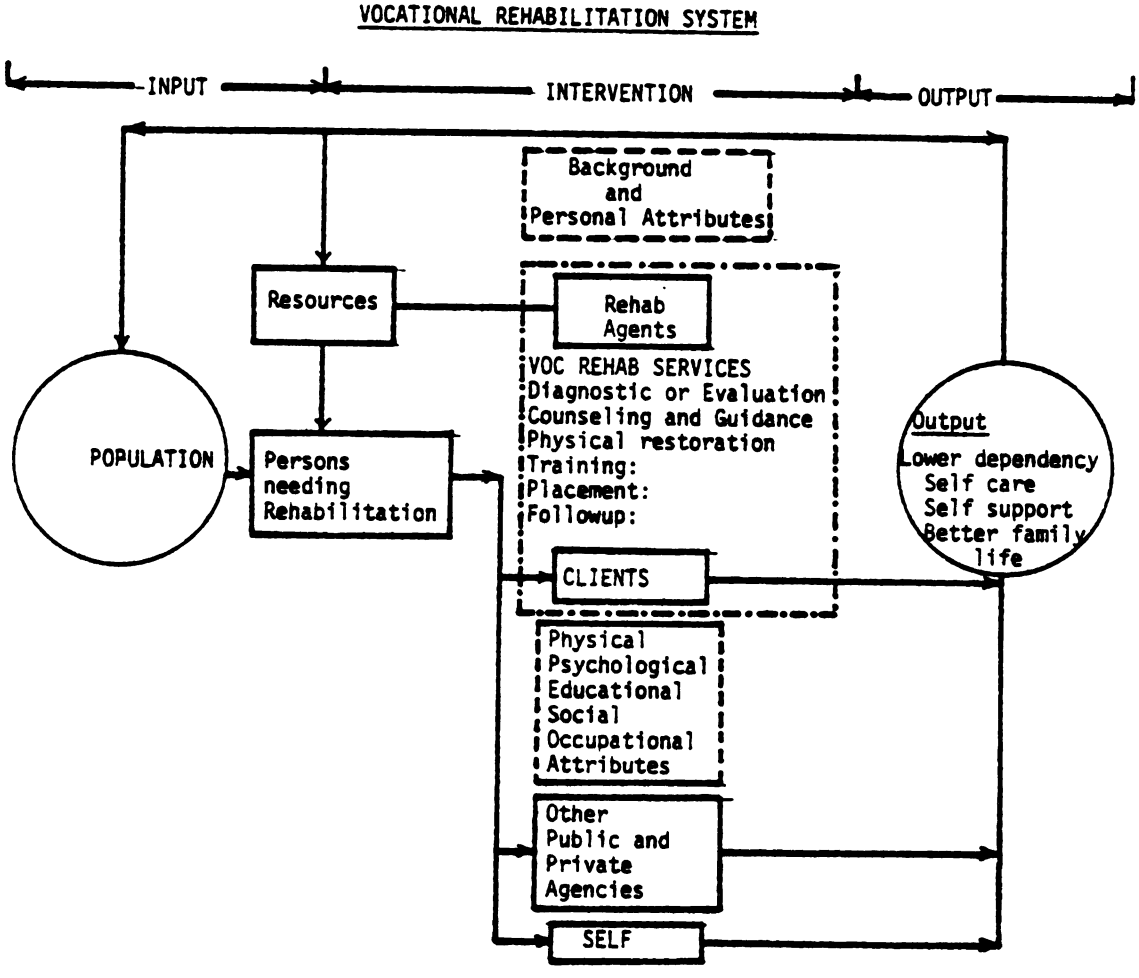

Figure 2.7. An Input, Intervention, Output System.

14. Management By Objectives (MBO)

According to Carroll and Tosi (1973), Management By Objectives (MBO) was first publicized by Peter Drucker in his "Practice of Management, 1954)". McCoreger (1960) advocated the use of an MBO approach. He directed attention to MBO more as a performance appraisal technique. He indicated that failure of many performance appraisal programs are due to resistance to them by both superiors and subordinates and that MBO could be a solution to this problem.

In general, the MBO model consists of the establishment of higher level goals, the development of subordinate goals and action plans, the intermediate review of goal progress and the final review of goal accomplishment.

Carroll and Tosi (1973) discussed the following advantages and uses of the MBO approaches, (1) it detects work activity toward organizational goals; (2) focus and assist in planning; (3) provides clear standards for control; (4) provides improved motivation among managers, (5) makes better use of human resources; (6) reduces role conflict and ambiguity; (7) provides more objective appraisal criteria; (8) identifies problems better; and (9) imporves the development of personnel.

15. Goal attainment scaling.

Goal Attainment Scaling-GAS, was developed at the Hennepin County Mental Health Service in Minneapolis. The model rests in the general approach of goal oriented evaluation which involves setting a goal, implementing a program, determining subsequent goal attainment and using

this information to modify future activities. The GAS as described by Kiresuk and Sherman (1968) and Kiresuk and Lund (1978) is a goal follow-up guide which is "a grid-shaped form consisting of a series of discrete 5-point scales. When the follow-up guide is filled out, each scale represents a separate client or program goal area. The five levels of each scale are defined by concrete behaviors arranged along a hierarchy of possible outcomes. The nature of these outcomes ranges from the most unfavorable outcome thought likely to the most favorable outcome thought likely, with the expected level of success at the middle level."

The Goal Attainment Scaling Model (GAS) consists of six steps (1) selection of goal areas, (2) weighting, (3) selection of a follow up time, (4) statement of the expected outcome, (5) completion of the form ancillary scale levels, and (6) follow-up using the scale and calculation of a goal attainment score.

16. Cost-Benefit Analysis:

Cost benefit analysis is an economical approach based on the assumption that costs of services rendered to a target population can be considered as a sacrifice of present consumption in order to secure future benefits. Cost benefit analysis measures the ratio of those expected benfits to the costs that must be incurred in the present. Conley (1975) one of the pioneers in studying cost benefit in the rehabilitation field, defined cost-benefit analysis as:

> "Benefit cost analysis is the systematic process of comparing the value of a stream of benefits with the costs of generating these benefits. Benefit cost analyses are used not only to determine if a particular program or particular way of providing

> services is worthwhile, but also to rank the relative desirability of programs and services. Ranking is necessary because budget constraints often prevent funding all worthwhile services and because one service frequently precludes another. For example, a disabled person can only be trained for one vocation, at least at a point in time".

Conley specified four different ways of comparing benefits and costs:

(1) The payback period approach shows the number of months or years required before the accumulated present value of benefits exceed the present value of costs, (2) the total net benefit approach shows the difference between the present value of total benefits and the present value of total costs, (3) the benefit cost ratio approach shows the present value of benefits generated by each dollar of cost. It is calculated by dividing the present value of total benefits by the present value of total costs, and (4) the internal rate of return approach shows the average annual return per dollar of cost. It is calculated by finding the discount rate which makes the present value of future benefits equal to the present value of costs.

SUMMARY OF MODELS

In this section 16 models for program evaluation were reviewed. Those models were presented by Suchman (1965, 1967), Scriven (1967), Alkin (1969, Galvin (1970), Stufflebeam (1971), Hills, Viaille and Ledgerwood (1973), Bennet and Weisinger (1974), Menz et al (1974), Levine (1974, Wolf (1975), Spaniol (1975b, 1977), The Discrepancy Model (1975), Walls and Tseng (1976, MBO, GAS and Cost-benefit analysis.

Some of these models are well developed from a theoretical point of view. However, not all of them were developed for use in rehabilitation.

Review of models such as those by Stufflebeam, Suchman, Galvin, Spaniol and Walls and Tseng were very useful to the present study. They helped in specifying the components of the model of the study and in selecting variables. The causal model of Suchman was used to identify the needs of the population of study for rehabilitation services.

IV. Evaluation of Rehabilitation Programs, Methods and Strategies

Rehabilitation is not a simple process. Rather it is a multi-component process that brings together many inputs with the ultimate goal of producing changes in the client's conditions and assets. Therefore, one may acknowledge the tremendous effort that is needed to evaluate a rehabilitation program.

In the past twenty years, there has been a considerable evaluation research in the rehabilitation field with different procedures and strategies. The following relevant literature, was reviewed within the model that is to be used in this study, i.e. input-process and outcome. The same classification was used by Miller and Wargel (1978).

1. Input Studies

Miller and Wargel (1978) considered that input studies provide information related to program planning questions such as: How many potential clients are there in the state? Where are they located? What type of disability do they have? What are the service needs of specific

disability groups? What are the best plans for delivery of services? What are the average counselor performance standards with specific disability groups? What are the sources for referral to the agency?

Miller and Wargel organized studies which address these program planning questions into five broad categories: (a) estimating the vocational rehabilitation target population; (b) measuring the vocational rehabilitation target population, (c) assessing client needs, (d) planning services, and (e) analyzing the referral process.

2. Process Evaluation

This type of evaluation provides information related to program monitoring. It deals with intervening factors which will affect program outcomes. Suchman (1967) stated that, "the analysis of process may be made according to four main dimensions dealing with: (1) the attributes of the program itself; (2) the population exposed to the program; (3) the situational context within which the program takes place, and (4) the different kinds of effects produced by the program".

Weiss (1972b) considered processes in terms of intervening variables. She stated:

> "There can be a further phase in the measurement effort - the specification and measurement of conditions between program inputs and outcomes. The reason for giving systematic attention to these intermediate factors is the expectation that they will affect outcomes. If certain conditions are obtained, outcomes will improve; if these conditions are not present, the likelihood of outcomes is lessened". (p. 47-48)

Walls and Tseng (1976) stated that, the rehabilitation process includes such components as: diagnosis and evaluation, counseling and guidance, physical restoration, training, placement and follow-up services.

Miller and Wargel (1978) stated that, "process studies provide information related to such program monitoring questions as: What management information system is most effective for a particular agency? What procedures and analysis will be used to monitor cases for compliance to state and federal regulations? How do caseload size and mix of disability types affect the efficiency and effectiveness of services? What are the factors which affect caseload management? How can timeliness of services be insured? How can specific service components best be monitored? They classified process studies according to the following six basic strategies,

(1) Management information systems; (2) case review procedures; (3) factors of manageable caseloads, (4) caseload management; (5) study of undue delays, and (6) monitoring service components.

3. Outcome Measurement

This type of evaluation is concerned with measurement of the final results of a program. In other words, one asks if the program has reached its goals, and if the products of the program were the desired ones.

The history of rehabilitation program evaluation indicates the fact that evaluators started first with counting how many persons were served. However, this quantity oriented approach showed many limitations since it ignored the quality of the program. The pure quantity measure of outcome refers to the total number of "status 26

closures" which refers to successful closure. General criticisms and resentment of the closure system have been growing steadily in rehabilitation for more than two decades. Viaille (1968) contended that the aging closure reporting system encourages (1) number of closures rather than quality of services, (2) noncomplex cases requiring least counselor time, (3) premature case closure to meet quotas, (4) seasonal demand and uneven case flow, (5) distortion and questionable practices in reporting because of special cases, etc., and (6) no recognition for effort expended in cases closed nonrehabilitated.

The quantity approach showed many limitations since it ignored the quality. Did the program achieve its objectives? For the quantity approach, the R300 system was useful in finding out how many clients were closed in status 26, which simply means that at the end of the rehabilitation process the client was gainfully employed. Backer (1977) reported that the traditional outcome measurement system resulted in many disadvantages (p. 3).

The last decade witnessed a significant movement toward qualification of outcome measurement. Client gains, client satisfaction, goal attainment, client change and client competencies were new approaches tried in this way.

General standards for evaluating rehabilitation programs.

In response to the Rehabilitation Act of 1973, the Department of Health, Education and Welfare established the general standards in 1974 and revised them in 1975. "The purpose of the standards are to establish criteria for evaluating program effectiveness, for increasing

program accountability and for encouraging state vocational rehabilitation agencies to conduct more comprehensive evaluation of their programs".

The methodology stated that four separate issues would be addressed in application of the standard. (a) Impact on the target population (b) degree of change in reaching gainful activities' goals through rehabilitation services (c) program performance in meeting the priority for providing services to the severely handicapped, and (d) effectiveness of a program in utilizing available resources.

The nine general standards for evaluation were classified under three sections (a) persons served, (b) program efficiency, and (c) client outcomes.

(a) Persons served: In order to assure that one rehabilitation program objectives and priorities, as identified in the act, are being adhered to, it is necessary to identify the size and characteristics of the eligible population, the extent to which rehabilitation services are made available to the eligible population and the respective numbers and types of clients who successfully complete the program. Special attention is to be given to an accurate and detailed evaluation of the manner in which services are expanded and improved to the severely handicapped.

1. Standard No. 1: To insure that the rehabilitation program is serving the eligible disable population and to insure that these services are provided in an equitable manner.
2. Standard No. 2: To insure that the rehabilitated clients are placed in gainful employment suitable to their capabilities.

(b) Program efficiency: Program elements are evaluated to determine whether there is an optimal usage of available resources to maximize the flow through of clients, maintaining quality of services.

1. Standard No. 3: To insure that undue delays are avoided in providing clients with VR services.
2. Standard No. 4: To insure that available resources are utilized to achieve maximum operational efficiency.
3. Standard No. 5: To insure that manageable-sized caseloads are maintained.

(c) Client Outcomes: To determine whether the rehabilitation system is achieving its stated objectives, it is necessary to ascertain whether rehabilitated clients retain, over time, benefits derived from the rehabilitation system. Therefore, an effective follow-up system should include a means to determine the degree of client's satisfaction with the client's program and services, the percentage of clients who have remained in gainful employment and the extent to which those activities are related to skills acquired while in the rehabilitation system, and the extent to which post-employment services are needed and provided.

1. Standard No. 6: To insure that clients closed rehabilitated retain the benefits obtained from the rehabilitation process.
2. Standard No. 7: To insure that the need for post-employment services is satisfied.
3. Standard No. 8: To insure that agencies are consistently identifying reasons why clients are not successfully rehabilitated.

4. Standard No. 9: To insure that the client is satisfied with the vocational rehabilitation services as developed with the counselor.

The study group on measurement of outcomes, First Institute on Rehabilitation issues (Basset 1974) issued the following recommendations.

1. All states collectively should develop, adopt and complement a standardized system for measuring client outcomes.
2. As a minimum, client change should be measured in these areas, (1) vocational functioning and potential, (2) economic independence, (3) physical functioning; and (4) psychosocial functioning.
3. An adequate system for measurement of client outcomes should include measurement at three points in time - entry, closure and follow-up.
4. The agency should insure the integrity of client assessment data.
5. The system selected should meet the following criteria: (1) change should be measured for clients regardless of closure status - statuses 08 (especially those from extended evaluation), 26, 28 and 30, (2) the measure should require no or minimal changes in the service delivery systems, (3) the measure should be easily interpreted, (4) the measure should require little in-service training of service delivery personnel, and (5) Administration of the instrument should require a minimum of the professional's time per case.

6. A national outcome reporting system should be developed utilizing standardized data.
7. There should be periodic, regional, multi-regional, and national meetings to discuss evaluation issues, disseminate information and develop recommendations for a national policy on evaluation of programs.
8. A centralized information storage and retrieval system for rehabilitation, possible utilizing an on-line retrieval system, should be established at a special center which would have prime responsibility for developing and operating the system.
9. All state agencies should insure that program evaluation and personnel with related responsibilities be administratively responsible to top policy making personnel only.
10. In-service training relative to program evaluation should be financed and encouraged on a regional basis.
11. Consideration should be given to creation of additional closure statuses or modification of the present 26 closure to reflect more adequately the vocational status of the clients.
12. State and federal rehabilitation agencies should establish procedures for developing and implementing the recommendations presented in this report.

Scales of Rehabilitation Gain

Reagles, Wright and Butler (1970) constructed a scale of rehabilitation gain for clients of an expanded vocational

rehabilitation program. The scale contains items that tap personal and social adjustment, as well as vocational functioning. The scale is composed of 20 items to represent rehabilitation gain, which is the difference between a client's pre- and post-rehabilitation status and is completed by the client prior to and following the provision of rehabilitation services.

The Virginia Department of Vocational Rehabilitation conducted a special three-year demonstration program in cooperation with human resources agencies in Norfolk, Virginia in connection with the model program. The Virginia scale is composed of 18 items, including vocational items and self-perception measures. The scale measures work status, economic dependency and psychological well-being of clients who have received vocational rehabilitation services. (Basset, 1974).

Client Satisfaction

The rehabilitation client usually applies for rehabilitation services to satisfy his needs. Therefore, client satisfaction may be thought of as a relevant measure for rehabilitation outcome.

Reagles, Wright and Butler (1970b)devised the Client Satisfaction Scale which is composed of 14 items. The Scale takes the form of a follow-up questionnaire that scores client responses and rates them. The item content of the scale is focused on the client satisfaction with one central aspect of his rehabilitation program, his intention and activities with the counselor, e.g. frequency and length of contacts, the counselor's understanding and interest. The Scale is completed six months after closure.

The New Jersey Division of Vocational Rehabilitation Services has developed a questionnarie composed of 13 items to be used in follow-up to measure client satisfaction with vocational rehabilitation, public assistance status, job history and present occupational status. (Bassett, 1974).

Human Service Systems Scale

Researchers at the University of Wisconsin Rehabilitation Research Institute have developed the Human Service Scale (HSS). Bolton (1977) reported that the technical development of HSS was first reported in a thesis by Kravetz in 1973. Reagles and Butler (1976) provided a brief description of the instrument and its potential applications.

The scale is a self-reporting questionnaire based on Maslow's hierarchy of basic human needs. It is assumed that the individual client's progress is based on the extent to which needs are satisfied.

The scale is composed of 80 items which are scored in seven need subscales.

1. Psychological need
2. Emotional security need
3. Economic security need
4. Family need
5. Social need
6. Economic self-esteem need
7. Vocational self-actualization

The scale has a diagnostic value, as well as value insofar as describing client change from the time of entry into a service system to time of closure. The system is highly theoretical.

Goal Attainment Scaling (GAS)

Goodyear and Bitter (1974) reported a study of the use of GAS at a rehabilitation hospital in Colorado. They concluded that GAS was a useful technique for measuring client change as a result of rehabilitation counseling services conducted in a rehabilitation setting.

The Research Utilization Laboratory at the Jewish Vocational Service in Chicago produced a manual (1976) for applying GAS in rehabilitation settings.

Weighted Closure

The weighted closure approach was designed to avoid the many disadvantages of taking the 26 status as the only indicator of rehabilitation success. Therefore, the wighted closure approach is aimed at reflecting the fact that some clients are harder to assess, counsel, train and place than others. Bassett (1974) stated:

> "The weighted closure approach is considered by many to be the best available answer to the problem of service criteria, adequacy of counselor performance and of cost-benefit analysis". (p. 32)

Backer (1977) cited the following weighted closure systems as being developed or in experimental use. (p. 31)

- Rehabilitation Difficulty Index (Kunce, et. al. 1969)
- Weighted closures (Berkowitz, 1972)
- Florida Difficulty Index (1973)
- Oklahoma System Service Outcome Measurement Form
- Case Difficulty Index (Sermon, 1972)
- Service Outcome Measurement Form (Westerheide, Lenhard and Miller, 1974)

- Actuarial System for Weighting Case Closures (Noble, 1973)
- Difficulty Index (Silver, 1969)
- Vocational Adequacy at Closure Measure (Eber, 1966)
- Pattern-Probability Approach (Bouge, 1975)

Backer (1977), however, cited gain scales, goal attainment scale and the human service systems scales as part of weighted closure.

Scales of Functional Assessment

The movement of rehabilitation toward rehabilitation of the severely disabled persons and rehabilitation for independent living which started in the 1970s resulted in a new trend in evaluating rehabilitation outcomes, that is functional assessment.

The philosophy behind functional assessment is that success of rehabilitation programs depends upon teaching the patients to use their existing abilities to daily living activities through improvement of their functioning in these activities.

In the last few years there have been several scales developed to assist in assessment of rehabilitation client functions as a method to evaluate rehabilitation outcomes.

The Level of Rehabilitation Scale

Carey and Posavac (1977) published the Level of Rehabilitation Scale (LORS). The scale includes categories as activities of daily living, cognition, home activities, outside activities and social interaction. Activities included in the scale are rated by professional interviewers.

The Functional Assessment Inventory (FAI)

This scale was developed by the Department of Physical Medicine and Rehabilitation at the University of Minnesota in response to the need for an instrument which could aid in the assessment of vocational rehabilitation clients. The scale is composed of thirty items under five categories, i.e. sensory motor, psychological and intellectual, social and biographical and environmental.

Rehabilitation Indicators: A Method for Enhancing Accountability and the Provision of Rehabilitation Services.

Diller, Fordyce, Jacobs and Brown (1978) developed the rehabilitation indicators method at the Institute of Rehabilitation Medicine, New York University Medical Center.

Rehabilitation indicators provided a generic language that can be used to describe a rehabilitation client's behavior and relevant environment. These behavioral and environmental indicators can be used to describe as broad or narrow a range of goals and sub-goals as needed by varying clients and in a variety of rehabilitation settings. Through comparison of descriptions of actual behaviors and goals marked on the same indicator, the outcomes of rehabilitation can be described.

Four types of rehabilitation indicators have been developed:

(1) Status Rehabilitation Indicators: describe statuses such as "living arrangement" and "employment status" (2) Activity Pattern Rehabilitation Indicators: describes recreational, self-care, educational and other activities selected by the client in day-to-day living (3) Skill Rehabilitation Indicators: describe behavioral "tools" that

constitute client strengths and problems (e.g. "walking up/down stairs", "reading a newspaper".) (4) Environmental Rehabilitation Indicators: describe aspects of the physical, social and personal environment that act as barriers to and/or supports in client's reaching their goals.

Rehabilitation indicators have three major purposes that they have been developed to address:

(1) Improving accountability for rehabilitation efforts by expanding the number of behavioral dimensions defined as important to the client's information base (e.g. vocational, social, independent living and other dimensions) and by increasing the objectivity of the information base (2) improving the provision of rehabilitation services through improvement of information that is used in forming individual rehabilitation plans and rehabilitation program plans, and (3) providing a tool that can be used to define operationally "disability" and "needs".

A Competency-Based Client-Outcome Evaluation Strategy

The Rehabilitation Research Institute at the University of Michigan is working on a new model for comprehensive evaluation in rehabilitation programs. The following are the developmental activities for this approach outlined by Miller, et. al. (1977).

1. Document the program development/program evaluation process. A clear description is needed of the parallel and dependent efforts between rehabilitation program development and program evaluation. This statement should include a description of the steps involved in the planning and delivery of rehabilitation programs.

2. Develop a taxonomy of rehabilitation outcomes. This taxonomy should include broad domains of rehabilitation outcomes (e.g. psychological, physical, social, vocational and economic functioning) in terms of specific terminal (end of rehabilitation process) outcomes related to each of the broad domains, and intermediary (during program) outcomes which could be used to monitor client progress throughout the rehabilitation process.
3. Develop a catalog of measures related to outcomes. Once a taxonomy of outcomes is developed, new and existing rehabilitation outcome measures and program administrative instruments will be linked to the specified outcomes.
4. Relate outcomes to rehabilitation services. As a taxonomy of outcomes is developed, it will be related to existing areas of rehabilitation services (e.g. outreach, assessment, counseling, restoration, training, placement). Outcomes within case service statuses which relate to rehabilitation services will be specified. This will help provide guidelines for determining what outcomes might be expected to occur during.
5. Describe variables in the rehabilitation system. There is a need to identify, describe and measure the multiple variables (internal and external) impacting on rehabilitation outcomes.

6. Train program evaluators to use the evaluation system. Effective use of the proposed system will depend on providing technical assistance to train state agency program evaluators to use the system to design evaluation procedures appropriate to the needs of their own agency.

Cost Benefit Analysis

Cost benefit analysis has been introduced by economists as a way to justify costs of public programs by showing how much they give in return for costs. The field of rehabilitation has witnessed many studies using the techniques of cost-benefit analysis.

Conley (1969) computed benefit-cost ratios from national vocational rehabilitation program data for the 1967 fiscal year. He found that rehabilitated persons during that year increased their lifetime earnings by about eight dollars for each dollar of the social cost of rehabilitation service. Conley estimated that social costs were at least 50% higher than program costs.

The Michigan Department of Education, Division of Vocational Rehabilitation (1970) used the total increase in lifetime earnings for the benefit-cost calculation.

The same approach was used by Wright and Reagles (1971) to measure the economic impact of an expanded program of vocational rehabilitation.

Noble (1977) noticed that, although aware of possible existence of such benefits to the disabled as improved capacity for self care, increased mobility, reduced pain and suffering and increased satisfcation

with life, economists avoided evaluation of such benefits because of measurement problems and data insufficiencies.

Noble, (1977) in examining 18 studies applying the cost-benefit approach, stated that significant differences in benefits and cost components, discount rates, and the populations studied make direct comparison among the 18 studies and their results extremely difficult. Noble warned that many aspects must be considered in such an approach as a tool for policy making or decision making. He reported that the state of the art needs substantial upgrading before cost-benefit analysis can be taken seriously as a guide to priority setting in the field of rehabilitation. Following is a summary of his recommendations:

(1) Need for research to create better instruments for measuring the full range of benefits that may flow from rehabilitation, including homemaker and other unpaid outputs, reduction of functional limitations in activities of daily living, and improved social and psychological well-being; (2) there is a need to improve cost accounting data; (3) the statistical reporting system stands in need of quality assurance; (4) there is a need for study of the values that individuals and families place on the potential range of rehabilitation benefits. Such study would help us to understand how to translate into monetary units observed changes in homemaker and other unpaid work outputs and in activities of daily living (ADL functioning). This might make it possible to combine both market and non-market measures of benefits into a single global measure that could be compared by costs; (5) better mortality information is needed. Conceivably, the federal government could develop standardized life tables for all ten of its disability

transfer payment programs; (6) there is a need for a national panel study of disability, paralleling the OEO panel study of Income Dynamics; (7) there is a great need for controlled studies of the comparative benefits and costs of rehabilitation; and (8) it might be strategic for the federal-state rehabilitation program to de-emphasize competitive work as its principal objective.

V. Relevant Studies in Evaluating Rehabilitation Programs in Egypt

The problem of evaluating rehabilitation programs in Egypt has been stressed since 1966, when the Ministry of Social Affairs conducted the "Study on the Effectiveness of Rehabilitation Programs". The study was in the form of a follow-up survey of those who were rehabilitated in the preceeding five years (1960-1965). The population was stratified according to type of disability and a random sample taken out of each stratum. The results of the study were very helpful in program development in subsequent years.

In the period from 1966, different evaluation studies were carried out to evaluate specific research programs. A Cost-Benefit Study was done with the Cardiac Program (Hassuna, 1973).

In 1977 an institute for program evaluation in the field of rehabilitation was established in collaboration with the U.S.-NIHR. The institute has a plan to train people, conduct research and apply evaluation strategies in the field. The present study was supported in part through the institute.

VI. Synthesis of what the Literature Contributed to this Study

The literature on definitions of program evaluation was very helpful both from a theoretical and operational point of view to the

present study. These definitions helped in construction of the model to be used in the study and in devising the procedure and methodology of investigation. The comparison between research and evaluation research as considered by Suchman (1967) and Weiss (1972) was very helpful in identifying the study as being of an evaluative comparative nature since it met the criteria stated by Weiss (1972). Citation of different evaluative models helped as rationale for the model that was used in the study (see chapter three) and the application of the model that was introduced by Suchman (1967). Strategies and methods of evaluating rehabilitation programs defined what stage the art of program evaluation in the field of rehabilitation is in and how it reached this last stage. This review of literature as related to each other helped the author to fulfill the following aspects, (1) to conceptualize a model that is in fact related to most of the available models and to test its applicability, (2) to select the variables of study, (3) to select to compare between two programs rather than to evaluate one program and (4) to select more than one aspect for measurement of outcomes.

Summary

In this chapter six topics were discussed from a literature review point of view. First a group of definitions on program evaluation was reviewed. Second, evaluative research was compared to non evaluative research. Third, current models used in the field of education and rehabilitation were cited and discussed. Fourth, evaluation methods and strategies for evaluating rehabilitation programs were reviewed. Fifth, relevant studies completed in Egypt were stated, and, sixth a synthesis of what the literature contributed to this study was made.

In chapter three the methodology for this study is presented regarding the objectives of study, sampling techniques, instruments, collection and processing of data, statistical analysis and definition of terminology.

CHAPTER THREE

METHODOLOGY

In this chapter the research methodology is described. The sampling for each group is described along with procedures used in this study. The instruments used for collecting data are explained along with the analysis of data, the evaluation model is specified and statistical methods are discussed.

Objectives of the study:

This study was designed as a comparison between two models of rehabilitation facilities serving hearing impaired persons in Egypt. The first model is the rehabilitation center model with most rehabilitation services provided within the center. The second model is the rehabilitation office model where most rehabilitation services are community based i.e. outside the office. Specifically the objectives of this study were,

1. To apply a three component evaluation model, input, process and outcome and to test its applicability to the two rehabilitation programs.
2. To analyze the inputs to the two rehabilitation programs for hearing impaired persons.
3. To analyze the two rehabilitation processes for hearing impaired persons.

4. To evaluate outcomes of the two rehabilitation programs for hearing impaired persons.
5. To study the needs of hearing impaired persons for rehabilitation services.
6. To provide feedback from the evaluation to the two rehabilitation programs.
7. To develop alternative model(s) for rehabilitation of hearing impaired persons in Egypt.

The Sample:

This study was conducted to compare two approaches (models) of rehabilitation service delivery for hearing impaired persons in Egypt using a three component evaluation model of input-process and outcome. The sample of the study was of two types.

1. Client Sample: The client sample was defined as those hearing impaired persons who completed their rehabilitation program in the rehabilitation center or a rehabilitation office from January 1st, 1977 to December 31st, 1978. The starting point of rehabilitation was not defined as a criterion. However, for the center, the subjects may have stayed for a period from one to two years. For the offices this period was much more brief.
2. The sample of rehabilitation facilities:
   Those rehabilitation centers and/or offices that provide rehabilitation service for the hearing impaired person
   (a) Rehabilitation centers: There was only one center for the hearing impaired at the time of investigation. The center is located in Cairo City.

(b) Rehabillitation offices: There was at least one rehabilitation office in every governorate in Egypt at the time of study (26 governorates); they are located in:

Cairo, Alexandria, Port Saiid, Suez, Ismailia, Gharbia, Behira, Kafr El Sheikh, Shar Kiah, Menofia, Kaliebia, Dakahlia, Damielta, Giza, Menya, Fayoum, Benisuef, Assiut, Souhag, Qina, Asswan, South Sinaii, North Sinaii Matreuh, Red Sea, and the New Vally.

The Subjects:

The Cairo Rehabilitation Center for the hearing impaired was taken as the unique comprehensive center to be compared with other offices. For the purposes of this study, Egypt, was considered to be of eight regions including Greater Cario. Every region was taken as a stratum. Therefore there were eight strata from which the sample was selected. From each stratum (region) one rehabilitation office was randomly selected to serve as a cluster sample. That means that in a selected office all hearing impaired persons that met the criterion were all taken to form the cluster. A cluster was the clients served by the office who met the criterion i.e. completed their rehabilitation program in the period from January 1st 1977 to December 31st, 1978.

Cluster sampling is known to have the main advantages of increased convenience and reduced costs. However, there was another advantage related to the present study, that is, it provided a way of describing complete cohorts of clients according to input characteristics and

outcomes. The following governorates were shown as a result of random selection to be the sample for this study.

Alexandria, Gharbia, Port Saiid, Dakahlia, Fayoum,Assiut, and Qina.

Cairo Rehabilitation Center for the Deaf was taken as the only cluster representing the rehabilitation center model. Figure 3.1 shows the strata and the sample centers and offices.

The eight clusters selected for the study included 310 persons. Thirteen persons were not interviewed for different reasons. 297 subjects were interviewed. For these interviews form A was used. Table 3.1 shows the distribution of the sample subjects according to clusters of settings.

Table 3.1. Sample subjects by facility and sex

Facilities	Males	Females	Total
Cairo Center	48	25	73
Offices			
Alexandria	70	27	97
Gharbia	32	14	46
Dakahlia	11	7	18
Portsaiid	10	8	18
Fayoum	10	7	17
Assiut	16	3	19
Qina	6	3	9
Subtotal offices	155	69	224
Total	203	94	297

Region (stratum)	Governorates	Selected for study
Greater Cairo	Cairo Giza and Shubra El Khima	Cairo
North Western Delta	Alexandria, Behira, Kafr El Sheikh	Alexandria
Canal Zone	Port Saiid, Suez, Ismailia, Sinaii (North and South) and Red Sea	Port Saiid
North Eastern Delta	Sharkia-Dakahlia-Damiette	Dakahlia
Middle & Delta	Gharbia, Menofia and Kaliobia	Gharbia
Middle upper Egypt	Benisuef, Menya and Assiut	Assiut
South upper Egypt	Souhag, Qina and Asswan	Qina
Fayoum and Western Desert	Fayoum, Matrouh and New Valley	Fayoum

Figure 3.1. Regions, governorates and sample of centers and of offices of rehabilitation in Egypt.

For the purpose of process analysis and some input variables all rehabilitation facilities that rendered rehabilitation services for the hearing impaired at the time of this study (1980) were taken as the sample of settings and were surveyed regarding the process component in the evaluation model along with some of the inputs.

Model for Program Evaluation

For the purpose of this study two models for evaluation were used. First, the evaluation model presented by Suchman (1967) which was reviewed in Chapter 2, and second, a three component model that was drawn from the several models that have been reviewed in Chapter 2. The model has three main components, inputs, processes and outputs. The general idea is that processes work upon input variables to reach desired outcomes. Under each of the three main components there are specific variables. The variables were selected from reviewing the literature on program evaluation as discussed in Chapter 2. The model is diagrammed in Figure 3.2 (See Appendix A for description of the model).

Instruments:

Two instruments were used in this study. First, form A is a questionnaire which was used in an interview with each subject to obtain information related to input and outcome variables and to document data relevant to specific process variables (see Apendix B). Secondly, form B is a questionnaire that was addressed to the managers of the rehabilitation facilities regarding variables relevant to processes and specific inputs (see Apendix C).

Both questionnaires were designed by the researcher, reviewed by a panel of experts in the Egyptian Institute for Program Evaluation

and the author's Doctoral Committee at Michigan State University. The two forms were pilot tested on a small scale and relevant changes took place as needed. Form A was pretested with 20 subjects in Alexandia, Cairo and Qina. Form B was pretested in the Gharbia and Qina offices. The questionnaire forms were then printed in a final format for utilization. The main changes that took place according to both reviews and pretests were mostly in the grammatical structure of the items rather than in substantive ways. The questionnaires were originally developed and presented in Arabic Language. Appendix D and Appendix E are the Arabic versions of questionnaires Form A and B.

Procedures of data collection.

Four procedures were used to collect relevant data for this study. First, basic information regarding the subject such as name, address and date of application for rehabilitation service was taken from the files of the clients in the rehabilitation facilities. Secondly, data regarding the case flow through the rehabilitatin process were taken from the files of clients and/or other records of the rehabilitation facilities. Thirdly, data regarding client inputs and outcomes were taken through an interview with the client and his/her family using Form A. Every subject was interviewed by two skilled and trained interviewers to insure the reliability of the data, and fourthly data for form B of the questionnaire were obtained through an interview with the manager of the rehabilitation facility and from records.

The interviewers were chosen from a pool of well trained social workers who hold B.Sw degrees and a long history of involvement in

Inputs	Processes	Outcomes
Client inputs	Client Evaluation	Physical restoration
Impairment	Medical	
Socioeconomic	Social	
Educational	Educational	
Vocational	Vocational	Employment
Emotional	Emotional	
Staff	Services	
Professional		Economic Outcomes
Administrative	Physical Restoration	
	Counseling	
Buildings	Education	
	Vocational training	Psychosocial Outcomes
Budget	Personal Adjustment	
	Social Services	
	Placement	
Equipment	Follow up	
	Administration and	
	Case Management	

Figure 3.2. A model for program evaluation in rehabilitation of disabled persons.

research work. All of the interviewers were well acquainted with the rehabilitation terms and system but none of them were working in the same facility where they interviewed subjects.

The Department of Rehabilitation in the Ministry of Social Affairs issued an informative letter to the local directorates of Social Affairs in the governorates which were selected to serve as cluster sub-samples. The letter specified the purpose of study and the names of responsible representatives who were going to manage the field work at the local levels. Those representatives were selected from the Department of Social Statistics and the Department of Rehabilitation in Cairo. Local Directors of Social Affairs were asked to name persons who would participate in collecting data at the local level. The eight central representatives and the 60 local interviewers were invited to a short training session in Cairo which lasted for one and one half days. The training session was directed by both the General Director of the Rehabilitation Department and the General Director of Statistics. Subjects who formed the cluster samples were approached by direct personal contact from the rehabilitation facility informing them about the purpose and time of the interview. It was decided that every subject would be interviewed by two interviewers and in the presence of an adult hearing member of the family. It was also decided that each pair of interviewers would not interview more than 10 persons. Representatives from the Department of Statistics acted as auditors on two levels (1) office auditing by reviewing all the information and (2) a field sample of 25% of all subjects were reviewed.

Data Processing:

1. Form A: The collected data were delivered to the Computer Center at Am Shams University in Cairo City where the following steps were taken. Coding of the responses by a well trained programmer in the center. The programmer and the researcher agreed on the type of tables that would be required for the purpose of this study. The rest of the steps were completed in the Computer Center and data were mostly tabulated in frequencies and percentage.

2. Form B: This form was manually processed as there were only 25 facilities, and few variables. The need existed to have a type of content analysis to describe the context of the two rehabilitation programs and the processes taking place in them.

Statistical Analysis

The results of this study were descriptive and were compared for the two models i.e. rehabilitation center and rehabilitation office on the basis of the compments of the evaluation model. Most of the data printouts were in cross break type. A cross break was defined by Kerlinger (1973) as a "numerical tabular presentation of data usually in frequency or percentage form, in which variables are cross partitioned in order to study the relation between them (p. 159)". Percentages and proportions were heavily used. This type of data suggested the use of nonparamertic approaches and specially the chi-square approach. The

rationale for using descriptive and nonparametric statistics was that the responses to different variables were mostly qualitative rather than quantitative. Descriptive statistics as described by Bennett and Weisinger (1975) "Concerns itself with collecting, tabulating, summerizing and presenting data for the purpose of desicibing a population or a program. Its basic usefulness is the reducing of large masses of data into a meaningful form." In introducing the chi-square as a method for analyzing qualitative data, Hays (1981) stated that there are "research problems in which one wants to make direct inferences about two or more distributions either by asking if a population distribution has some particular specifiable form, or by asking if two or more population distributions are identical. These questions occur most often when both variables in some experiment are qualitative in character, making it impossible to carry out the usual inferences in terms of means or variances. In these instances there was a need for methods to study independence or association from categorical data."

Summary:

In this chapter methodology was discussed. Objectives of study were restated, the sampling procedure was described, the model of program evaluation was introduced, procedures of data collection, data processing and statistical analysis were explained. In chapter four, data will be analyzed and results explained in the same order the objectives of the study were listed.

CHAPTER FOUR

ANALYSIS OF RESULTS

In Chapter one the objectives of this study were stated, in Chapter two literature related to the present study was reviewed and in Chapter three methodology of research was described. In the present chapter results of the study are analyzed. The objectives of study as stated in chapter 1 are used as the organizational context in presenting the results.

Objective No. 1: To apply a three component evaluation model, inputs-processes and outcomes and to test its applicability.

As was discussed in chapter three, the evaluation model was conceptualized on the bases of many current models in the fields of education and rehabilitation. To fulfill this objective, the rehabilitation program for hearing impaired persons was viewed as a system of inputs, processes and outcomes. Inputs deal with variables put into the program as client variables, staff variables, buildings and budget. Processes include those actions and activities that are carried out to bring desired outcomes. Processes include diagnosis, services, placement and followup. Outcomes are those desired changes that the programs attempt to implement. The model was applied in this study first to guide the methodology and specifically in constructing the research instruments i.e. questionnaire forms A and B. (see Appendix B and C respectively).

These questionnaires may be looked at as being operational definitions of the proposed model. The model helped in collecting data relevant to identifying the discrepancy in the intervention process which in turn was contrasted against the model proposed by Suchman (1965 and 1967) to assess the need for early intervention for the target population.

By carrying out this study, the model was in fact subject to exploration of its utilization value. The author believes that the model helped in (1) design of the methodology of study (2) specification of its body of objectives, i.e. objectives 2-5, (3) construction of instruments for collecting data and (4) conclusion and results.

Objective No. 2: To analyze inputs to the rehabilitation program for hearing impaired persons in Egypt.

For this objective, Form A and Form B were used to collect data on relevant variables. Table 4.1 shows the distribution of subjects by sex according to rehabilitation facilities. For the Cairo center 65.8% were males and 34.2% were females, while for offices the percent of males and females were 69.2 and 30.8 respectively. Sex ratios differed from 1.25 in Portsaiid office to 5.33 in the Assiut office. The overall sex ratio was 2.16. When applying the parson's chi square for association to test the hypothesis that there is independence between sex and type of program i.e. center or office, the hypothesis failed to be rejected at $\alpha = .05$ which means that there is no statistical significant difference between the centr and the offices regarding distribution of subjects by sex

Table 4.1. Hearing Impaired subjects by sex and Rehabilitation Facility, in Egypt.

Facility	Males %	Females %	Total	Sex ratio males/females X100
Centers				
Cairo	48 65.75%	25 34.25%	73 100.00	192
Offices				
Alexandria	70 72.16%	27 27.84%	97 100.0%	250
Gharbia	32 69.57%	14 30.42%	46 100.0%	229
Dakahlia	11 61.11%	7 38.89%	18 100.0%	157
Portsaiid	10 55.56%	8 44.44%	18 100.0%	125
Fayoum	10 58.82%	7 41.18%	17 100.0%	142
Assiut	16 84.21%	3 15.79%	19 100.0%	533
Qina	6 66.67%	3 33.33%	9 100.0%	200
Subtotal Offices	155 69.20%	69 30.8%	224 100.0%	225
Total	203 68.35%	94 31.65%	297 100.0%	216

Table 4.2 presents the distribution of the sample subjects according to their age at the time they applied for rehabilitation services. For the Cairo rehabilitation center 38.36% of the subjects were under 15 years of age at the time they applied for rehabilitation services while for the same category of age the subjects of rehabilitation offices were 8.04%.

To test the hypothesis that age distribution is independent of type of program, Parson chi square was used and the hypothesis was rejected at $\alpha = .05$ which means that age at application is associated with type of program. Rehabilitation offices received clients who are significantly older than clients who applied to the Cairo center. This may be due to two reasons, (1) that the center limits its services to individuals who are under 25 years of age, and (2) the center is a part of a comprehensive integrated service that puts in clients who finish their education at the age of 12 years.

Table 4.3 shows the distribution of subjects by age at detection of hearing impairment. This table shows that 75.08% of the sample subjects were identified as suffering from hearing impairment under three years of age while 14.19% were so from the age of 3 to less than 5 years, 8.08% from 5 to 9 and 2.69% from the age of 10 and above. This means that most subjects applying to rehabilitation services because of hearing impairment were impaired in the preschool age (89.27%). This age period is the most critical period for acquisition of language.

Table 4.2. Hearing Impaired subjects by age at application for Rehabilitation and Rehabilitation facility in Egypt
N = 297

Facility	10-14	15-19	20-24	25-29	30+	Total
1. Centers						
Cairo	28 38.36%	36 49.32%	9 12.32%	-	-	73 100.00%
2. Offices						
Alexandria	5 5.16	57 58.76	22 22.68	9 9.28	4 4.12	97 100.0
Gharbia	3 6.52	23 50.0	9 19.57	7 15.22	4 8.70	46 100.0
Dakahlia	2 11.11	6 33.33	5 27.78	1 5.56	4 22.22	18 100.0
Portsaiid	2 11.11	5 27.78	5 27.78	5 27.78	1 5.55	18 100.0
Fayoum	3 17.65	6 35.29	7 41.18	1 5.88	-	17 100.0
Assiut	1 5.26	6 31.58	6 31.58	4 21.05	2 10.52	19 100.0
Qina	2 22.22	5 55.56	1 11.11	1 11.11	-	9 100.0
Subtotal Offices	18 8.04%	108 48.21%	55 24.55%	28 12.50%	15 6.70%	224 100.0
Total	46 15.49%	144 48.48%	64 21.55%	28 9.43%	15 5.05%	297 100.0%

Table 4.3. Hearing Impaired Subjects by age at detection of hearing Impairment and Rehabilitation facility in Egypt.

Facility	From birth to less than 3 years	3 -	5 -	10+	Total
Centers					
Cairo	44 60.27%	19 26.03%	8 10.96%	2 2.74%	73 100.0%
Offices					
Alexandria	78 80.41%	14 14.43%	5 5.16%	-	97 100.0%
Gharbia	37 80.43%	3 6.52%	5 10.88%	1 2.17%	46 100.0%
Dakahlia	16 88.89%	-	-	2 11.11%	18 100.0%
Portsaiid	14 77.78%	-	2 11.11%	2 11.11%	18 100.0%
Fayoum	13 76.47%	3 17.65%	1 5.88%	-	17 100.0%
Assiut	16 86.21%	-	2 10.53%	1 5.26%	19 100.0%
Qina	5 79.91%	3 10.27%	1 7.14%	-	9 100.0%
Subtotal Offices	179 79.91%	23 10.27%	16 7.14%	6 2.68%	224 100.0%
Total	223 75.09%	42 14.14%	24 8.08%	8 2.69%	297 100.0%

The incidence of hearing impairment at this very early stage of life reflects the fact that the primary causes of impairment are congenital causes and infant diseases. These facts are clear from Tables 4.4 and 4.5. Table 4.4 shows that 49.8% of subjects were impaired by congenital effects. 44.4% by diseases and 5.4% because of accidents.

The diseases most contributory to hearing impairment were measles, menigitis, typhoid, mumps, wooping cough and some other diseases. It is a fact that measles is now controlled mainly by immunization. Meningitis is still a basic fatal disease which leaves the few survivors with damage to the inner ear. Other diseases specially otitis media are now treated with antibiotics.

Congenital deafness is due to heredital factors affecting the fetus. The fact that marriage among relatives is a common pattern in Egypt may be a major contributing factor. The fact that genes responsible for hearing impairment are mostly recessive makes it very likely that such genes accumulate in kinship marriage and reveals hearing impairment in the offspring which was not in their parents. Table 4.6 shows distribution of subjects according to incidence of hearing impairment in there fathers, mothers or both parents. Table 4.7 shows the distribution of subjects to those whose parents had a kinship before marriage or not and by prevalence of hearing impairment in siblings. Table 4.7 shows that of those whose parents were relatives before marriage 50.8% had some or all siblings as hearing impaired. While those whose parents were not of any kinship before marriage only 22% had siblings who had hearing impairment. From all the sample 44.44% of the subjects were from parents that were related before marriage.

Table 4.4. Hearing Impaired Subjects by Primary Cause of Hearing Impairment in Egypt.

Facility	Congenital	Disease	Accidents	Drugs	Total
1. Centers					
Cairo	33 45.21%	39 53.42%	1 1.37%	-	73 100.0
2. Offices					
Alexandria	34 35.05%	53 54.64%	9 9.28%	1 1.03%	97 100.0
Gharbia	34 73.91%	8 17.39%	4 8.70%	-	46 100.0
Dakahlia	13 72.22%	5 27.78%	-	-	18 100.0
Portsaiid	5 27.78%	13 72.22%	-	-	18 100.0
Fayoum	13 76.47%	3 17.65%	1 5.88%	-	17 100.0
Assiut	14 73.68%	5 26.32%	-	-	19 100.0
Qina	2 22.22%	6 66.67%	1 11.11%		9 100.0
Subtotal Offices	115 51.34%	93 41.52%	15 6.69%	1 .45%	224 100.0
Total	148 49.83	132 44.44	16 5.39	1 .34	297 100.0

Table 4.5. Hearing Impaired Subjects Impaired by Disease in Egypt
N = 132

Facility	Measles	Meningitis	Typhoid	Mumps	Hooping Cough	Other	Total
1. Centers							
Cairo	7 17.95%	16 41.03%	13 33.33%	-	2 5.13%	1 2.56%	39 100.0
2. Offices							
Alexandria	33 62.26%	7 13.20%	3 5.66%	-	-	10 18.87%	53 100.0
Gharbia	7 87.50%	-	1 12.50%	-	-	-	8 100.0
Dakahlia	-	-	-	-	-	5 100.0%	5 100.0
Portsaiid	8 61.54%	3 23.08%	-	-	-	2 15.38%	13 100.0
Fayoum	-	2 66.67%	1 33.33%	-	-	-	3 100.0
Assiut	-	2 40.0%	-	2 40.0%	-	1 20.0%	5 100.0
Qina	3 50.0%	2 33.33%	-	-	-	1 16.67%	6 100.0
Subtotal Offices	51 54.84%	16 17.20%	5 5.38%	2 2.15%	-	19 20.43%	93 100.0
Total	58 43.94%	32 24.24%	18 13.63%	2 1.52%	2 1.52%	20 15.15%	132 100.0

Table 4.6. Prevalence of hearing impairment among parents of subjects in Egypt.

	Father only	Mother only	both parents	None of parents	Total
1. Centers					
Cairo	1 1.40%	1 1.40%	1 1.40%	70 95.80%	73 100.0
2. Offices					
Alexandria	-	1 1.03%	-	96 98.97%	97 100.0
Gharbia	-	-	-	46 100.0%	46 100.0
Dakahlia	-	-	-	18 100.0%	18 100.0
Portsaiid	1 5.56%	-	-	17 94.44%	18 100.0
Fayoum	-	-	-	17 100.0%	17 100.0
Assiut	-	-	1 5.26%	18 94.74%	19 100.0
Qina	1 11.11%	-	-	8 88.89%	9 100.0
Subtotal Offices	2 0.80%	1 0.40%	1 0.40%	220 98.40%	224 100.0
Total	3 1.01%	2 0.67%	2 0.67%	290 97.65%	297 100.0

Table 4.7. Subjects by hearing impaired siblings and kinship of parents N = 297.

Facility	Parents had kinship				Parents did not have kinship				Total
	None of sib-ling	Some sib-lings	All sib-lings	Total	None of sib-lings	Some of sib-lings	All sib-lings	Total	
1. Centers									
Cairo	19	18	1	38	29	4	2	35	73
%	50.0	47.37	2.63	100.0	82.86	11.43	5.71	100.0	
2. Offices									
Alexandria	26	22	1	49	41	6	1	48	97
%	53.06	44.90	2.04	100.0	85.42	12.5	2.08	100.0	
Gharbia	5	4	1	10	34	1	1	36	46
%	50.0	40.0	10.0	100.0	94.44	2.78	2.78	100.0	
Dakahlia	1	1	-	2	15	1	-	16	18
%	50.0	50.0		100.0	93.75	6.25		100.0	
Portsaiid	4	2	-	6	10	2	-	12	18
%	66.67	33.33		100.0	83.33	16.67		100.0	
Fayoum	2	7	3	12	5	-	-	5	17
%	16.67	58.33	25.0	100.0	100.0			100.0	
Assiut	6	6	-	12	6	1	-	7	19
%	50.0	50.0		100.0	85.71	14.29		100.0	
Qina	2	1	-	3	3	3	-	6	9
%	66.67	33.33		100.0	50.0	50.0		100.0	
Subtotal Offices	46	43	5	94	114	14	2	130	224
%	48.94	45.74	5.32	100.0	87.69	10.77	1.54	100.0	
Total	65	61	6	132	143	18	4	165	297
%	49.24	46.21	4.55	100.0	86.67	10.91	2.42	100.0	

Table 4.8 is the distribution of subjects by time passing from the time of detection of defect in hearing to the time a doctor or a clinic was approached. For subjects from the Cairo center 71.2% approached medical consultation in a period of less than 10 days while for those who were subjects in offices the same category counted for 45.6% of the subjects. The difference may be due to the availability of medical services and specially those related to hearing problems.

Table 4.9 presents the distribution of subjects by means of intervention. Of all the subjects, 16.16% were taken to the family doctor. However 45.11% were taken to public hospitals where medical treatment is free.

Sociodemographic factors:

The analysis of results dealt with sociodemographic characteristics of the subjects and their families since these factors are inputs to the rehabilitation program.

Table 4.10 shows the distribution of family members of the subjects by their family size. The average size of the families from which subjects came was 6.3. This includes parents.

Table 4.11 presents the distribution of families members by educational status. From all subjects 22.5% of their family members are illeterate, 12.43% can read and write only, 29.98% completed elementory education, 21.69% completed preparatory education, 9.02% completed university education.

Table 4.12 shows the distribution of subjects according to attendance of special education before applying for rehabilitation. The table shows that 79.5% of all subjects attended special education

Table 4.8. Subjects by time interval between detection of hearing impairment and consulting a medical clinic in Egypt N$ 297.

Governorate Period	Less than 10 days	10-29 days	30 days or more	not sure	did not consult	Total
Centers						
Cairo	52	3	7	2	9	73
	71.23%	4.11%	9.59%	2.74%	12.33%	100.0%
Offices						
Alexandria	54	1	24	-	18	97
	55.67%	1.03%	24.76%		18.56%	100.0%
Gharbia	11	1	32	1	1	46
	23.92%	2.17%	69.57%	2.17%	2.17%	100.0%
Dakahlia	4	-	6	1	7	18
	22.22%		33.33%	5.56%	38.89%	100.0%
Portsaiid	10	2	1	-	5	18
	55.56%	11.11%	5.55%		27.78%	100.0%
Fayoum	7	3	6	1	-	17
	41.18%	17.65%	35.29%	5.88%		100.0%
Assiut	12	-	-	-	7	19
	63.16%				36.84%	100.0%
Qina	4	-	3	-	2	9
	44.45%		33.33%		22.22%	100.0%
Subtotal Offices	102	7	72	3	40	224
	45.53%	3.13%	32.14%	1.34%	17.86%	100.0%
Total	154	10	79	5	49	297
	51.85%	3.37%	26.50%	1.68%	16.50%	100.0%

Table 4.9. Hearing impaired subjects by facility of intervention after detection of impairment in Egypt.

Type of intervention	family doctor	child clinic	public hospital	audio-logist	univ-ersity hospi-tal	folk-ways	nothing	Total
1. Center								
Cairo	29 39.73%	-	16 21.92%	17 23.29%	2 2.74%	-	9 12.32%	73 100.0
2. Offices								
Alexandria	8 8.24%	2 2.06%	41 42.27%	18 18.56%	9 9.28%	1 1.03%	18 18.56%	97 100.0%
Gharbia	5 10.87%	1 2.17%	37 80.44%	2 4.35%	-	1 2.17%	-	46 100.0%
Dakahlia	-	1 5.56%	9 50.0%	1 5.56%	-	2 11.1?%	5 27.77%	18 100.0%
Portsaiid	-	-	8 44.44%	5 27.78%	-	-	5 27.78%	18 100.0%
Fayoum	6 35.30%	-	10 58.82%	1 5.88%	-	-	-	17
Assiut	-	1 5.26%	9 47.37%	-	2 10.53%	-	7 36.84%	19
Qina	-	1 11.11%	4 44.45%	2 22.22%	-	-	2 22.22%	9 100.0%
Subtotal offices	19 8.48%	6 2.68%	118 52.58%	29 12.95%	11 4.31%	4 1.78%	37 16.52%	224 100.0%
Total	48 16.16%	6 2.02%	134 45.11%	46 15.49%	13 4.38%	4 1.35%	46 15.49%	297 100.0%

Table 4.10. Hearing impaired subjects by number of family members including the subject, in Egypt.

	1	2	3	4	5	6	7	8	9 or more	Total	Median Number
1. Centers											
Cairo	4 5.48	4 5.48	3 4.11	4 5.48	11 15.07	14 19.18	17 23.28	10 13.70	6 8.22	73 100.0%	6.8
2. Offices											
Alexandria	5 5.15	5 5.15	9 9.28	10 10.31	14 14.43	20 20.62	15 15.47	12 12.37	7 7.22	97 100.0%	6.3
Gharbia	5 10.87	5 10.87	5 10.87	7 15.22	7 15.22	7 15.22	4 8.69	5 10.87	1 2.17	46 100.0%	4.1
Dakahlia	2 11.11	1 5.56	1 5.56	3 16.66	-	2 11.11	5 37.78	3 16.65	1 5.56	18 100.0%	6.0
Portsaiid	-	2 11.10	1 5.56	1 5.56	4 22.22	4 22.22	4 22.22	1 5.56	1 5.56	18 100.0%	6.3
Fayoum	-	-	2 11.76	2 11.76	1 5.88	7 41.18	4 23.54	1 5.88	-	17 100.0%	6.5
Assiut	2 10.53	2 10.53	2 10.53	2 10.53	2 10.53	3 15.78	3 15.78	2 10.53	1 5.26	19 100.0%	5.8
Qina	-	-	1 11.11	1 11.11	2 22.22	1 11.11	2 22.22	1 11.11	1 11.11	9 100.0%	6.5
Subtotal Offices	14 6.25	15 6.70	21 9.37	26 11.61	30 13.39	44 19.64	37 16.52	25 11.16	12 5.36	224 100.0%	6.1
Total	18 6.1%	19 6.4%	24 8.1%	30 10.1%	41 13.8%	58 19.5%	54 18.2%	35 11.7%	18 6.1%	297 100.0%	6.3

Table 4.11. Members of subjects' families by educational status in Egypt. Age 6 and above.
N = 1231

Facility / Educational	illiterate	Read and write	elementary	preparatory	secondary	University	Total
1. Centers							
Cairo	97	44	101	86	29	17	374
	25.94%	11.76%	27.01%	22.99%	7.75%	4.54%	100.0%
2. Offices							
Alexandria	40	49	165	107	41	20	422
	9.47%	11.61%	39.1%	25.36%	9.72%	4.74%	100.0%
Gharbia	58	26	48	12	5	1	150
	38.67%	17.32%	32.0%	8.0%	3.33%	.67%	100.0%
Dakahlia	8	6	10	16	7	4	51
	15.69%	11.76%	19.61%	31.37%	13.73%	7.84%	100.0%
Portsaiid	38	1	6	5	11	5	66
	57.58%	1.52%	9.09%	7.57%	16.67%	7.57%	100.0%
Fayoum	10	13	14	13	7	2	59
	16.95%	22.03%	23.73%	22.03%	11.87%	3.39%	100.0%
Assiut	12	6	13	25	9	4	69
	17.39%	8.70%	18.84%	36.23%	13.04%	5.80%	100.0%
Qina	14	8	12	3	2	1	40
	35.0%	20.0%	30.0%	7.5%	5.0%	2.5%	100.0%
Subtotal Offices	180	109	268	181	82	37	857
	21.0%	12.72%	31.27%	21.12%	9.57%	9.32%	100.0%
Total	277	153	369	267	111	54	1231
	22.5%	12.43%	29.98%	21.69%	9.02%	4.38%	100.0%

Table 4.12. Hearing impaired subjects by attendance of special education before applying for Rehabilitation in Egypt.

	Attended special Ed.	Did not attend special education	Total
1. Centers			
Cairo	57 78.1%	16 21.9%	73 100.0%
2. Offices			
Alexandria	90 92.8	7 7.2	97 100.0
Gharbia	33 71.7	13 28.3	46 100.0
Dakahlia	10 55.6	8 44.4	18 100.0
Portsaiid	13 72.2	5 27.8	18 100.0
Fayoum	11 64.7	6 35.3	17 100.0
Assiut	17 89.5	2 10.5	19 100.0
Qina	5 55.6	4 44.4	9 100.0
Subtotal Offices	179 79.9	45 20.1	224 100.0
Total	236 79.5	61 20.5	297 100.0

Table 4.13. Subjects who joined special education in Egypt by years in education.

	1	2	3	4	5	6	7	8	9	10	11	Total	Average
1. Centers													
Cairo	1	3	5	6	-	6	-	8	4	1	23	57	7.81
%	1.8	5.3	8.8	10.5		10.5		14,0	7.0	1.8	40.3		
2. Offices													
Alexandria	-	9	-	-	-	4	-	4	-	2	71	90	9.72
Gharbia	-	15	-	-	-	3	-	14	-	-	1	33	5.18
Dakahlia	-	-	-	-	-	-	-	-	-	1	9	10	10.9
Portsaiid	1	4	-	2	-	4	-	2	-	-	-	13	4.38
Fayoum	-	-	-	1	-	-	-	3	-	-	7	11	9.54
Assiut	-	-	-	-	-	7	-	3	-	-	7	17	8.41
Qina	2	1	-	1	-	1	-	-	-	-	-	5	2.8
Subtotal Offices	3	29	-	4	-	19	-	26	-	3	95	179	8.23
Total	4	32	5	10	-	25	-	34	4	4	118	236	8.13
%	1.7	13.7	2.1	4.2		10.6		14.4	1.7	1.7	50.	100	

before coming to rehabilitation. However the period subjects attended in special education differed as shown in Table 4.13.

2. Staff Inputs

This part of the data is taken from Form B of the questionnaire. Data were collected from 24 offices and the Cairo center. Table 4.14 shows availability of staff members in these offices by type of job and time basis of employment. It is clear that each office has a manager. 83.33% of managers are employed on a full time basis. All managers hold a BA or BSC. However they range from those who hold B.Sw (social work) to those who have a B.A. in Sociology and those who have B.Sc in Agriculture. Most of the managers time is spent in administrative matters and preparing for different meetings. As for rehabilitation counselors, this title is recently known in titles of rehabilitation jobs in Egypt. Rehabilitation counseling as a career was introduced in 1975 when an experimental program was established in Cairo with support from the United States National Institute of Handicapped Research (NIHR). Grant No. 19-P-58492. But since the program was located in Cairo and run on a full time attendance basis, very few from outside Cairo city could join it. Most trainees in the first three cohorts were workers in rehabilitation centers in Cairo. It is not strange then to notice from Table 4.14 that only two offices had counselors one of them on a full time basis and the other on a part time basis. Twenty two offices representing 91.66% of all offices had no rehabilitation couselors. The position of general practitioner doctor was filled in 20 offices (83.33%) out of the 24. The general practitioner is usually employed on a part time basis and is assigned to determine the type and degree of disability.

Whenever there is a need, the doctor can refer the applicant to other medical resources in the community to carry out more specific examinations. In the case of hearing impairment, the practitioner may have very little evaluation equipment in the office other than tunning forks, so he depends on a public hospital for audiometry. In all the 24 offices there were no audiologists hired for such purpose by the offices. There were no speech pathologists, speech therapists or educational instructors in the 24 offices. The psychologist position was found in 20 offices where 3 of them were on full time basis and 17 on a part-time basis. A psychologist in the office often holds a B.A. in psychology or education and most of his time is related to a process of measurement and evaluation. Vocational officer is another job to be found in the offices. The officer is a holder of technical high school certificate. His work is mostly related to taking vocational history, approaching training resources in the community, follow up of clients while in training and in sometimes doing placement. Social workers are found only in ten offices. They were employed on a full time basis. In fact the social worker when he is there acts as a caseworker. When he is not there, the manager of the office is assumed to take this role. However neither the manager nor the social worker are acting as counselors since neither one was trained for counseling. Social workers in Egypt are not trained in counseling, or therapeutic processes.

Taking the model of rehabilitation center which is represented in the Cairo center one finds job titles and number employed in each as shown in Table 4.14.

Specific training of staff members:

When asking a question about formal training in rehabilitation services of the hearing impaired, 4 directors or 16.67% of all directors were found to have had a 2 week short term training session while the rest of the managers or 83.33% did not have such training. None of the social workers or psychologists had any type of training related to rehabilitation of the hearing impaired. One of the two counselors reported that he had previous training in the field.

On the other hand, all staff members of the center were trained in the field. As they started their work with the hearing impaired they received training on a preplanned basis differing from short period training as for counselors to a two-year training program as in the case of speech therapists. In addition to such training the board of directors of the center who are mostly experts in the field supervise the daily work with a great amount of inputs.

The Cairo center was the only facility among the 25 studied facilities that was built to serve the hearing impaired. It consists of rooms that have all activities included in the process of habilitation-rehabilitation. It includes an audiological clinic, speech therapy units, educational classes, vocational workshops, recreational spaces for indoor and outdoor activities, dorms, kitchen, cafeteria and administrative facilities. The center was built on three acres at the Heliopolis district which is 12 miles from downtown Cairo (19 Kilometers). However, residency is available for females while males are supposed to use public transportation which is available from all districts of Cairo to the location of the center. The building is owned by the center.

Table 4.14. Job titles and number employed at the Cairo Rehabilitation Center for the hearing impaired in Egypt.

Position	Number employed
Director of the Center	1
Rehabilitation counselor	4
Medical practitioner	1
Internalist	1
Ear nose and throat specialist doctor	1
Audiologist	1
Psychiatrist	1
Speech pathologist	1
Psychologist	2
Speech therapists	2
Educational instructors	8
Social case workers	2
Social groupworkers	2
Recreational or physical education teachers	2
Placement officers	1
Vocational instructors	12
Sign language trainer/interpreter	1
Administrative and residence services staff	30

Table 4.15. Staff members in the 24 rehabilitation offices in Egypt employed full or part time. N = 24

Staff Title	Full Time	Part Time	No Staff Member	Total
Office Director	20 83.33%	4 16.67%	-	24 100.0%
Rehab. Counselor	1 4.17%	1 4.17%	22 91.66%	24 100.00%
General Practitioner (Physician)	-	20 83.33%	4 16.67%	24 100.0%
Audiologist	-	-	24 100.0%	24 100.0%
Speech Pathologist	-	-	24 100.0%	24 100.0%
Psychologist	3 12.50%	17 70.83%	4 16.67%	24 100.0%
Vocational Officer	18 75.00%	3 12.50%	3 12.50%	24 100.00%
Social Worker	9 37.50%	1 4.17%	14 58.33%	24 100.00%
Speech Therapist	-	-	24 100.00%	24 100.00%

As for rehabilitation offices, it was found that one office owns its building, 22 (91.66%) rent their buildings and one used a building of another facility on a free basis. Number of building rooms varied from one to more than 10 rooms as shown in Table 4.15.

Table 4.16. Distribution of rehabilitation offices by number of rooms in Egypt. (N = 24)

	1	2	3	4	5	6	7	8	9	10	More than 10	Total
No.	1	-	-	12	4	4	-	1	1	-	1	24
%	4.17			50.0	16.66	16.66		4.17	4.17		4.17	100.0

It was found from data that 21 offices consist of one floor and 3 offices consist of two floors. Most offices, 17 (70.83%) are located in the center of cities with available transportation to the office, while 4 offices are located far from the center of the city with public transportation available, 3 offices (12.5%) had no public transportation reaching their locations, 2 of them were at the center of their cities and one only apart from the center of the city. This is shown in Table 4.17. However, 22 of the offices serve more than one town and many villages. This in return makes coming to the office a special effort and which in return called for intensity of services and more dependency on local resources. In the other two cases i.e. Alexandria and Portsaiid, the offices serve the city which has public intercity transportation. The problem of having enough rooms in the bulding and

Table 4.17. Rehabilitation offices in Egypt by location and transportation availability.

	Transportation available	Transportation not available	Total
Located in center of town	17 70.83	2 8.33	19 79.16
Located at one edge of town	4 16.67	1 4.17	5 20.84
Total	21 87.5	3 12.5	24 100.0

the time needed to travel to the office constitutes a limitation on accessibility of services unless these services are to be located in different areas in the governorates.

Budget

Taking the average of costs reported by managers it was found that the average cost for rehabilitation of a hearing impaired person in offices was 60 LE. The cost for the same period 1977-1978 for the center was 480 LE. This does not include costs of research or training carried by the center. The proportion is $\frac{60}{480}$ = 12.5%. If one takes this as a reciprocal efficiency, this means that offices are 8 times more efficient as the center regarding the cost per capita. However, considering an actuarial point of view, the case may not be so since the clients of the center are younger than those of the offices and hence are expected to lead a longer life in work. This is also clear by comparing types of services given by the center to those rendered by offices.

Objective No. 3: To analyze the rehabilitation process for hearing impaired persons.

The process of rehabilitation can be considered as consisting of broad groups as referral, diagnostic and evaluation processes, and rehabilitation services or individualized rehabilitation plans.

1. Referral:

Rehabilitation services in Egypt are open to any citizen who ever meets the criterion of disability. He can approach rehabilitation services by himself, his family or by referral from any other public service agency. The fact that in many governorates there is one rehabilitation facility calls for the facility to make itself known to other facilities that deal with social services in general. Table 4.18 shows the distribution of subjects of the study by source of referral. The highest proportion of clients were referred by their parents, next to it is a group referred by school and then those who came by themselves. Health clinics, hospitals and family doctors represent a small percentage, 7.4%. This is due to the fact that most clients were hearing impaired since early childhood and they were not medical clients at the time they applied for rehabilitation. When coming to the center or to the office, the client must fill an application form which is unified for all facilities and which includes information on name, sex, age, type of disability, cause of disability and educational status. Table 4.19 shows the time between detection of hearing impairment and referral to rehabilitation. The mode of the distribution is a period between 15 and 20 years. This indicated that the majority of clients who come to rehabilitation are far from the time of pathology or psychopathology

related to onset of their impairment. This also indicates that some parts of physical restoration i.e. hearing aids may be just a continuation of previous effort or a useless effort may be expected if such services were absent at this long time.

Diagnostic and Evaluation processes:

The first step is to have an initial interview with the applicant. This interview is completed by the social worker, or the manager of the office if there is no social worker. In this interview the client is informed on the purposes of the center/office and information related to medical, social, vocational and educational histories is taken. In fact it is due to lack of communication skills on part of workers in offices that the client is usually accompanied by a member of his family at these early interviews for giving accurate information. For the Cairo center this is also the procedure for the first visit to insure the reliability of the information. In the following visits to the center there is no need for such accompanying person since most of the staff in the center are skillful in communication with the hearing impaired. The second step in the process is medical evaluation which is on a general basis and specific basis. General medical examination is completed in the center and in offices by part time general practitioners in the center or the office. However, specific medical examinations are not completed in the offices. For the Cairo center the client is examined in the center by a ear, nose and throat specialist and, then by a medical audiometrist and finally by a speech pathologist. Other specific examinations may be requested and completed in other facilities outside the center. The ear, nose and audiological parts of evaluation

Table 4.18. Hearing impairment subjects by source that referred them to rehabilitation facility in Egypt.

	Family Doctor	Health Clinic	Public Hospital	Social Service Units	School	Parent	Themselves	Other	Total
Center									
Cairo	-	-	2 2.74%	-	24 32.88%	27 36.99%	3 4.11%	17 23.28%	73 100.0%
Offices									
Alexandria	-	-	5 5.15%	-	51 52.58%	30 30.93%	3 3.09%	8 8.25%	97 100.0%
Gharbia	-	-	1 2.17%	2 4.35%	7 15.22%	21 45.65%	15 32.61%	-	46 100.0%
Dakahlia	-	-	1 5.56%	-	1 q5.56%	8 44.44%	5 27.78%	3 16.66%	18 100.0%
Portsaiid	1 5.56%	-	1 5.56%	1 5.56%	-	4 22.22%	10 55.55%	1 5.56%	18 100.0%
Fayoum	-	-	-	8 47.06%	2 11.76%	1 5.88%	6 35.30%	-	17 100.0%
Assiut	-	-	1 5.26%	-	6 31.58%	2 10.53%	9 47.37%	1 5.26%	19 100.0%
Qina	-	-	-	-	-	7 72.78%	2 22.22%	-	9 100.0%
Subtotal Offices	1 .45%	-	9 4.02%	11 4.91%	67 19.91%	73 32.59%	50 22.32%	13 5.80%	224 100.0%
Total	1 .34%	-	11 3.70%	11 3.70%	91 30.64%	100 33.67%	53 17.85%	30 10.10%	297 100.0%

Table 4.19. Subjects by time elapsing between impairment and referral to rehabilitation.

	less than 5 years	5-9	10-14	15-19	20+	Total
Center						
Cairo	2 2.74%	5 6.85%	29 39.73%	28 38.35%	9 12.33%	73 100.0%
Office						
Alexandria	2 2.06%	3 3.09%	3 3.09%	56 57.73%	33 34.02%	97 100.0%
Gharbia	1 2.17%	-	1 2.17%	23 50.0%	21 45.66%	46 100.0%
Dakahlia	-	-	-	7 38.89%	11 61.11%	18 100.0%
Portsaiid	-	1 5.56%	3 16.67%	6 33.33%	8 44.44%	18 100.0%
Fayoum	-	-	-	9 52.94%	8 47.06%	17 100.0%
Assiut	-	-	2 10.53%	2 10.53%	15 78.94%	19 100.0%
Kena	-	-	1 11.11%	6 66.67%	2 22.22%	9 100.0%
Subtotal Offices	3 1.34%	4 1.79%	10 4.46%	109 48.66%	98 43.75%	224 100.0%
Total	5 1.68%	9 3.13%	39 13.13%	137 46.13%	107 36.03%	297 100.0%

serve three purposes. First, it is important to know whether there is a hearing impairment or not, second to help in prescribing hearing aids, and third to assist in vocational guidance. The problem met by some offices is that the hospitals in the community may have no advanced audiometers. However, in these cases clients are referred to the Cairo center, or to a university hospital near to their communities for more evaluation. But since most clients have been in special education, they apply to the office with documentation of their hearing impairment which is considered in deciding on eligibility. The third step is vocational evaluation. This type of evaluation varies from the center model to the office model. In the center there are a variety of methods used. First paper and pencil tests are administered. Second, performance vocational tests are completed and third, situational work evaluation is done using the workshops in the center. In the office model the first part is the only evaluation available, that is using paper and pencil tests administered by psychologists who were not trained in counseling. Test scores are more or less of the I.Q. type which gives in addition to vocational history and education a hint on what career is likely to be suitable. Being in a training situation, the client can provide feedback on his desire to stay or to change the type of career. However, as the input data showed that a great proportion of clients came from schools, with some prevocational background, then the role of the office often is a legal one, that is to give a license to the client to be able to join work. The fourth step is counseling. As it was clear from the staff inputs part, there have been only two counselors in 24 offices. Counseling as a technical

professional part of the process is expected to be absent of the individual plan. In the Cairo center, however, there are four counselors who came from a psychological background and who work with the client from the referral point.

Rehabilitation Services.

This is the last part of the process. Services are planned according to diagnostic evaluations: Physical restoration is the first part. For the hearing impaired this may mean surgery on the ear, hearing aid, speech therapy, visual aids and other orthotics or prosthetics as needed. It was due to the facts coming from research completed between 1966-1970 that persons with hearing impairment in the Cairo center are examined for optical defects and given optical aids as needed.

In the Cairo center restoration services are available except surgery which is the function of hospitals. The center cooperated with the school of medicine at Ain Shams University to complete surgeries of ear,nose and throat as needed for clients. The center has an audiological unit and individual and group classes for speech therapy. The center is an active facility for training of speech therapists who work with hearing impaired and aphasic cases. Those therapists hold university degrees and complete a two year course of study in the center. For the offices, such services are not available at any level or even completed at any community resource. Hearing aids are available for both clients of the offices and the center. In the last years the center has served as a consulting facility for hearing aids services of the rehabilitation offices. This role includes audiological assessment, selection and fitting of the aid and sometimes help in repairing the aid.

Type of pshchological tests.

Twenty out of the 24 offices investigated had a psychologist among their staff. The Cairo center had 2 pshychologists. When those psychologists were interviewed and asked about thier procedures in testing the following answers were provided.

1.	Nonverbal Test (HANA, M.A. 1973)	4
2.	Mazes	3
3.	Good enough	1
4.	Displacement	1
5.	Goodard Board	1
6.	Wechsler (Adults)	7
7.	Pictorial (Saleh, A.Z. 1972)	7
8.	Stanford-Binet	5
9.	Observation	3
10.	Social history and interviewing	2
11.	No tests	2

It was reported in the interviews that none of these tests had any specific norms for the hearing impaired. Two of the tests were developed by Egyptian authors and had old norms on hearing samples of primary schools. The Wechsler-Belevuefor Adults was standardized on an Egyptian sample and also the Stanford-Binet, however those samples and also the forms of those tests that were translated are old. As for other tests, they are available as Arabic translations of the tests and thier manuals and still need to be standardized for the Egyptian population and for specific groups. What comes out of these tests is just an

Table 4.20. Time between application to rehabilitation and getting a rehabilitation license by members for Hearing Impaired clients of Rehabilitation in Egypt.

	less than one month	1-3	4-6	7-9	10-12	13 and more	Total	Median period month
Cairo Center	-	1 1.37	-	1 1.37	41 56.16	30 41.10	73 100.0	11.52
Offices								
Alexandria	68 70.10	15 15.46	-	1 1.03	6 6.19	7 7.22	97 100.0	.71
Gharbia	9 19.57	24 52.17	3 6.52	1 2.17	3 6.52	6 13.05	46 100.0	2.79
Dakahlia	9 50.0	5 27.77	1 5.56	1 5.56	2 11.11	-	18 100.0	1.0
Portsaiid	9 50.0	1 5.56	3 16.67	-	-	5 27.77	18 100.0	1.0
Fayoum	7 41.18	3 17.65	- .	2 11.76	5 29.41	-	17 100.0	2.5
Assiut	17 89.47	-	-	-	-	2 10.53	19 100.0	.56
Qina	-	2 22.22	-	1 11.11	1 11.11	5 55.56	9 100.0	12.3
Subtotal Offices	119 53.13	50 22.32	7 3.12	6 2.68	17 7.59	25 11.16	224 100.0	.94
Total	119 40.06	51 17.17	7 2.36	7 2.36	58 19.53	55 18.52	297	2.73

expression of the I.Q., which at times is used as a criterion for categorizing an individual as being mentally retarded beside being hearing impaired. Some of the interviewed psychologists expressed the need for more relevant tests not only for the hearing impaired persons but for the disabled persons in general. None of the psychologists reported application of personality or interests measurements.

Placement:

One of the most important objectives of rehabilitation of hearing impaired persons in Egypt is to change their vocational and employment status. This includes preparing them to enter a permanent career. The public law for rehabilitation of the handicapped in Egypt which was issued in 1975 specified a 5% quota for employment of handicapped persons who are licensed from a rehabilitation institution. This 5% quota is limited to those enterprises that employ 25 persons or more. Monitoring of such quota is the responsibility of the Ministry of Labor Force. There is full cooperation between the Ministry of Social Affairs which has the responsibility of establishment and direction of rehabilitation institutions and the Ministry of Labor which observes employment legalities. The problem of placement of the handicapped is that the quota is for all handicapped people whether they are severely disabled or slightly disabled. They compete among themselves to fill the quota and on the other hand employers may be choosing the relatively most able. Another problem in this concern was that many companies tried to cover this quota from their own workers who were injured and completed rehabilitation. To face these problems, the Ministry of Social Affairs directed its institutions to avoid rehabilitation of

those who can be employed according to other regulations and to limit rehabilitation to those who need its legislation for employment. On the other hand the Ministry of Labor in monitoring the employment of handicapped persons according to the Law of Rehabilitation and the Law of Labor did not count returners to work as beneficiaries of the 5% quota. However the problem of competing among different types of disabilities constituted a real problem. Some large institutes were able through different channels starting with their counselors to their governing board members, to secure employment for cohorts of their rehabilitants in large enterprises and again it is not unlikely to find clusters of blind, mentally retarded or hearing impaired in one place. In a city like Cairo where there exist different centers each concerned with one type of disability there is a natural phenomenon, of finding competetion among disabled persons and also among their counselors. The case in offices may be different. First, offices very rarely have counselors or placement officers. They depend for their employment efforts on letters of recommendations and information giving activities, and, second are offices deal with all types of disabilities and it cannot advocate for one client while avoiding the others. However, the author's personal observation in the field is that hearing impaired persons have a spectrum of vocations more variable than other developmental disabilities as the blind or mentally retarded. However they need real support and advocacy to help them communicate their merits. Data regarding employment will be discussed when dealing with objective No. 4.

Difficulty of Cases:

The review of literature revealed a concern of policy makers in the field of rehabilitation in the United States in the last two decades about what they considered selecting only easy cases. The case in Egypt was not different since monitoring of rehabilitation offices showed that persons with slight disabilities as sight weakness or amputation of finger could constitute a considerable proportion of applicants to rehabilitation and hence as beneficiaries of the quota system. Many regulations were issued by the Department of Rehabilitation in the Ministry of Social Affairs to face the situation.

To identify how difficult a rehabilitation team member may consider hearing impaired subjects in his/her rehabilitation work a question was directed in Form B to medical doctors, office managers, social workers and psychologists to order fifteen types of disabilities which were randomly listed. These disabilities were, blindness, mental retardation, amputation of upper limbs, amputation of lower limbs, low vision, hard of hearing, deafness with no speech defects, deafness and muteness, tuberculosis negative cases, leprotic negative cases, heart diseases, hemiplegia, paraplegia, poliomyelitis and renal cases. The results of responses are summerized in Table 4.21.

Objective No. 4: To evaluate the outcomes of the rehabilitation program for hearing impaired persons.

In order to measure the outcomes of rehabilitation program for the hearing impaired persons, questions were included in Form A of questionnaire and directed to clients and significant others in their

Table 4.21. Ranks of difficulty given by members of rehabilitation teams, to hearing impaired persons and some other disabilities, in Egypt.

	Managers	Physicians	Psychologists	Social Workers	Overall
Blind	10	13	7	11	13
Mentally retarded	15	15	14	14	15
Upper amputation	6	7	13	8	11
Lower amputation	2	2	11	5	3
Low vision	1	4	1	1	1
Hard of hearing	4	8	5	7	6
Deaf without speech defects	9	12	7	8	10
Deaf-mute	13	14	12	13	14
Tuberculosis	12	5	10	9	9
Negative leprotices	14	9	8	3	8
Heart diseases	8	3	2	6	4
Paraplegia	11	11	9	4	12
Hemiplegia	7	10	6	10	7
Poliomyclitis	3	6	3	2	2
Renal disease	5	1	4	12	5

families regarding changes in vocational, economic, social and physical activities as result of rehabilitation. The data of this part will be considered in the same sequence.

1. Vocational changes:

It was previously shown in the inputs and processes components that there were some differences between the rehabilitation center model in Cairo and the rehabilitation offices model in other governorates. The subjects of the center were relatively of younger ages and less previous education. The center included workshops for vocational training and directed longer training programs than the offices which were in general of a very short period of rehabilitation. The general vocational objective of rehabilitation is to help the client to choose, prepare for and enter a suitable career. Table 4.22 shows the distribution of the sample subjects according to their employment status, as being either employed or unemployed at the time of study.

The table shows that while 53.42% of subjects who completed their program in the Cairo center were employed at time of interview, 60.71% of subjects who completed their programs in the rehabilitation offices were employed. However, when applying the Parsons chi square for association, the hypothesis of independence of the two models is failed to be rejected at $\alpha = .05$, which means that employment and type of rehabilitation program were not significantly associated.

When those who were employed at time of study were asked if they were satisfied with their jobs their responses showed a high proportion of satisfaction 73.71% and 26.29% were not satisfied.
Table 4.23 shows the distribution of employed subjects N = 175 by

Table 4.22. Hearing impaired subjects by employment status, in Egypt. N = 297

	Employed	Not employed	Total
Centers			
Cairo	39 53.42%	34 46.58%	73 100.00%
Offices			
Alexandria	53 54.64%	44 45.36%	97 100.00%
Gharbia	38 82.61%	8 17.39%	46
Dakahlia	5 27.78%	13 72.22%	18 100.00%
Portsaiid	12 66.67%	6 33.33%	18 100.00%
Fayoum	7 41.18%	10 58.82%	17 100.00%
Assiut	14 73.68%	5 26.32%	19 100.00%
Kena	7 77.78%	2 22.22%	9
Subtotal Offices	136 60.71%	88 39.29%	224 100.00%
Total	175 58.92%	122 41.08%	297 100.00%

$\chi^2 = 1.329$

satisfaction and place of rehabilitation. The proportion differs slightly from the center model 64.10% to the offices model 76.47. However when testing the hypothesis that there is independence (lack of association) between the model of rehabilitation, center/office, and the satisfaction status, satisfied and dissatisfied, by using Parson's chi square for association, the hypothesis failed to be rejected at $\alpha = .05$.

When further asking those who were satisfied with their jobs about reasons of satisfaction with their jobs, their responses ranged from suitability of work to reporting that it was the only available job for them. The leading reason for satisfaction was suitability of work 78.0% and the next to it was high rate of payment 63.0% and the least reason was that it was the only work available for the subject. Table 4.24 shows number of responses and their proportions.

When asking those who were not satisfied with their work about their reasons, their responses varied from unsuitability of work which consituted the highest proportion of responses 46.0% to the existence of problems with supervisors 7.0%. Table 4.25 shows the distribution of those who expressed their satisfaction with their on going jobs according to reason.

Those who were employed at the time of study were asked a question about the order of their employment, i.e. was it the first time the second time or the third time. It was revealed from analysis of data as shown in Table 4.26 that the majority of subjects were in their first employment, 80.0%.

Table 4.23. Hearing impaired subjects who are employed by satisfaction in Egypt.

N = 175

	Satisfied	Dissatisfied	Total
Centers			
Cairo	25	14	39
	64.10%	35.90%	100.0%
Offices			
Alexandria	40	13	53
	75.47%	24.53%	100.0%
Gharbia	26	12	38
	68.42%	31.58%	100.0%
Dakahlia	4	1	5
	80.0%	20.0%	100.0%
Portsaiid	11	1	12
	91.67%	8.33%	100.0%
Fayoum	6	1	7
	85.71%	14.29%	100.0%
Assiut	10	4	14
	71.43%	28.57%	100.0%
Qina	7	-	7
	100.0%		100.0%
Subtotal Offices	104	32	136
	76.47%	23.53%	100.0%
Total	129	46	175
	73.71%	26.29%	100.0%

$\chi^2 = 2.553$

Table 4.24. Hearing impaired subjects who were satisfied with work by reason of their satisfaction, in Egypt.

	N	Work is suitable	Work is nearby to my home	Work is in public sector	High payment	Peers are good	Bosses are good	There is a group of hearing impaired	Only work that was available
Centers	25	21	7	5	21	15	19	11	5
		.84	.28	.2	.84	.6	.76	.44	.2
Offices									
Alexandria	40	26	11	12	21	10	13	3	4
		.65	.28	.30	.53	.25	.33	.08	.10
Gharbia	26	22	17	6	22	17	10	10	1
		.85	.65	.23	.85	.65	.38	.38	.04
Dakahlia	4	1	-	1	1	1	-		1
		.25		.25	.25	.25			.25
Portsaiid	11	10	4	5	6	5	4	1	1
		.91	.36	.45	.55	.45	.36	.09	.09
Fayoum	6	5	2	1	3	-	1	-	-
		.83	.33	.17	.50		.17		
Assiut	10	9	2	6	3	2	1	-	-
		.90	.20	.60	.30	.20	.10		
Qina	7	6	3	-	4	3	2	1	2
		.86	.43		.57	.43	.29	.14	.29
Subtotal Offices	104	79	39	31	60	38	31	15	9
		.76	.38	.30		.58	.30	.14	.09
Total	129	100	46	36	81	53	50	26	14
		.78	.36	.28	.63	.41	.39	.2	.11

Table 4.25. Hearing impaired subjects who were employed but not satisfied with their jobs by primary reason.

	N	Work was not suit-able	Time Of work was not suit-able	Place of work is far from home	Non govern ment	Low pay-ment	Problems with work peers	Problems with bosses
Centers								
Cairo	14	5 .36	5 .36	3 .21	6 .43	6 .43	3 .21	1 .07
Offices								
Alexand-ria	13	13 1.0	3 .23	1 .08	12 .92	13 1.00	4 .31	1 .08
Gharbia	12	1 .08	-	-	10 .83	12 1.00	1 .08	-
Dakahlia	1	1 1.0	1 1.0	-	1 1.0	1 1.0	-	1 1.0
Portsaiid	1	-	-	-	-	1 1.0	-	-
Fayoum	1	1 1.0	-	1 1.0	-	-	1 1.0	-
Assiut	4	-	-	-	2 .50	1 .25	-	-
Qina	-	-	-	-	-	-	-	-
Subtotal Offices	32	16 .5	4 .13	2 .06	25 .78	28 .88	6 .19	2 .06
Total	46	21 .46	9 .20	5 .11	31 .67	34 .74	9 .20	3 .07

Table 4.26. Hearing impaired subjects who were employed by times of employment in Egypt.

	1st time	2nd time	3rd time	Total
Centers				
Cairo	34 87.18%	4 10.26%	1 2.56%	39 100.0%
Offices				
Alexandria	41 77.36%	8 15.09%	4 7.55%	53 100.0%
Gharbia	36 94.74%	2 5.26%	-	38 100.0%
Dakahlia	4 80.0%	1 20.0%	-	5 100.0%
Portsaiid	9 75.0%	1 8.33%	2 16.67%	12
Fayoum	5 71.43%	2 28.57%	-	7
Assiut	4 28.57%	10 71.43%	-	14 100.0%
Qina	7 100.0%	-	-	7 100.0%
Subtotal Offices	106 77.94%	24 17.65%	6 4.41%	136 100.0%
Total	140 80.0%	28 16.0%	7 4.0%	175 100.0%

Regarding type of employer, subjects were employed in government, public sector, private sector, sheltered workshops, working for their families on a paid or unpaid basis and running a small private business. The public law for rehabilitation of the disabled published in 1975 forces employers whoever have 25 employees or more to hire 5% of their employees from among handicapped licensed from a rehabilitation facility. The highest rate of employment was in private sector which includes small industries and business. Although small enterprises are not forced to apply the quota system, there is an interchangeable interest in such employment. For the subjects, employment in private sector is obtained very fast and allows a higher rate of payment. For the employers, the scarcity of labor force especially those who work on apprenticeship basis implies a greater demand on rehabilitants. Table 4.27 summarizes the data on type of employer. When subjects who were not employed at time of study were asked about reasons they can think of as being barriers of their employment, they gave the responses shown in Table 4.28. The highest proportion of responses gave the negative attitudes of employers toward the employment of handicapped in general as a reason for their unemployment. The least proportion of responses gave the reason of unsuitability of type of work they were trained for to the requirements of the labor market as a reason for their unemployment. Table 4.28 shows these responses.

Responding to a question on vocational changes that subjects thought they have gained from being in a rehabilitation program, responses varied from being able to choose an occupation 59.0% to acquiring new skills, 54.0%, improvement of knowledge and skills 46.0%, acquiring

Table 4.27. Hearing impaired subjects who were employed by type of employer, in Egypt.

	Governmental	Public sector	Private sector	Sheltered workshop	Works for family for wage	Works for family without wage	his own business	Total
1. Centers								
Cairo	4 10.26	10 25.64	25 64.10	-	-	-	-	39 100.0
2. Offices								
Alexandria	3 5.66	25 47.17	19 35.85	5 9.43	1 1.89	-	-	53 100.0
Gharbia	6 15.79	5 13.16	27 71.05	-	-	-	-	38 100.0
Dakahlia	1 20.0	1 20.0	3 60.0	-	-	-	-	5 100.0
Portsaiid	2 16.67	5 41.67	4 33.33	1 8.33	-	-	-	12 100.0
Fayoum	2 28.57	-	2 28.57	-	-	3 42.86	-	7
Assiut	5 33.72	4 28.37	4 28.57	-	-	- 7.14	1	14
Qina		3 42.86	3 42.86			1 14.28		7 100.0
Subtotal Offices	19 13.97	43 31.61	62 45.59	6 4.41	1 .74	4 2.94	1 .74	136 100.0
Total	23 13.14	53 30.29	87 49.71	6 3.43	1 .57	4 2.29	1 .57	175 100.0

Table 4.28. Reason for unemployment of hearing impaired subjects in Egypt.

	Employers are not willing to employ disabled in general	Employers are not willing to employ hearing impaired persons	I have obtained a job but it was not suitable	Work opportunities are scarce in my community	I perfer waiting to enter a governmental work	There were no suitable job for my interest	I did not receive enough help in placement	Other reasons	Maximum N
1. Centers									
Cairo	16 .47	15 .44	7 .21	10 .29	9 .26	3 .09	16 .47	7 .21	N = 34
2. Offices									
Alexandria	27 .61	32 .73	12 .27	30 .68	17 .39	8 .18	14 .32	2 .05	N = 44
Gharbia	3 .38	3 .38	-	1 .13	1 .13	-	2 .85	2 .25	N = 8
Dakahlia	13 1.0	-	-	1 .08	8 .62	2 .15	1 .08	1	N = 13
Portsaiid	-	-	-	1 .17	-	-	1 .17	1 .17	N = 6
Fayoum	3 .3	-	-	5 .5	-	-	-	4 .4	N = 10
Assiut	-	-	-	1 .2	2 .4	-	4 .8	-	N = 5
Qina	-	-	-	2 1.0	-	-	-	-	N = 2
Subtotal Offices	46 .52	35 .40	12 .14	41 .47	28 .32	10 .11	22 .25	10 .11	N = 88
Total	62 .51	50 .41	19 .16	51 .23	37 .30	13 .11	38 .31	17 .14	N = 122

new work habits 38.0%, receiving help in getting a job 39.0% and improvement of work habits 30%. These results are shown by type of program in Table 4.29.

2. Physical changes:

Hearing impairment is due to some defect or limitation of functions in the process of hearing. This can be due to heredital and prenatal factors or to postnatal factors as diseases, accidents, drugs, noise or senility. The result of hearing limitations, i.e. hearing impairment may vary according to the time of onset and degree of hearing loss. As was revealed in the analysis of client inputs most of hearing impaired persons who come to rehabilitation programs were impaired in early childhood. As it is known, that the first years of life are very important in acquirement of verbal language through aural-oral communication, it is then expected that unless early intervention occurs, the hearing impaired child would grow as speech defected. This in fact is a dilemma of hearing impairment. It imposes a barrier of communication between the hearing impaired person and the talking society.

The target of rehabilitation programs for hearing impairment regarding this barrier is to increase the communication abilities of the hearing impaired to be able to communicate with whom he is expected to be in daily contact. The program in the Cairo center addresses itself to this problem by conducting, an aural-oral,sign language, and paper and pencil activities. The center encourages training the clients on total communication. Related to those activities, other services are provided such as provision of hearing aids, optical aids and referral to surgery. On the other hand, the rehabilitation offices provide

Table 4.29. Hearing impaired subjects in Egypt by vocational gain.

Facility	Acquiring new work skills	Improvement of knowledge & skills	Improvement of work habits	New work habits	Choice of a permanent occupation	Helped in getting a job	N =
Centers							
Cairo	55 .75	59 .81	24 .33	31 .42	44 .60	25 .34	N = 73
Offices							
Alexandria	8 .08	14 .14	22 .23	34 .35	58 .60	44 .45	N = 97
Gharbia	34 .74	39 .85	31 .67	30 .65	40 .87	30 .65	N = 46
Dakahlia	14 .78	5 .28	-	-	3 .17	5 .28	N = 18
Portsaiid	12 .67	12 .67	8 .44	10 .56	11 .61	4 .22	N = 18
Fayoum	15 .88	1 .06	-	-	6 .35	-	N = 17
Assiut	14 .74	2 .10	2 .10	2 .10	4 .21	2 .10	N = 19
Qina	9 1.0	5 .56	3 .33	5 .56	4 .44	5 .56	N = 9
Subtotal Offices	106 .47	78 .35	66 .29	81 .36	126 .56	90 .40	N = 224
Total	161 .54	137 .46	90 .30	112 .38	176 .59	115 .39	N = 297

hearing aid when needed, but they do not manage speech rehabilitation or educational programs. In fact rehabilitation offices can manage those subjects who are referred to them after spending a considerable period in a special school. In this case subjects come with suitable communication skills. However, for those who come without previous special education there is very little regarding communication training. Sometimes, subjects need medical services as audiological evaluation or surgery. Surgery is completed by hospitals for both the center and the offices. Medical service in public hospitals, community clinics and university hospitals are free for all citizens. Table 4.30 shows distribution of subjects according to what improvements in communication and physical aspects they think have occured to them.

Table 4.30. Hearing impaired subjects in Egypt by physical restoration.

	Improvement in communication abilities	Provision of a hearing aid	Provision of other devices	N
1. Centers				
Cairo	68 .93	9 .12	-	N = 73
2. Offices				
Alexandria	26 .27	1 .01	1 .01	N = 97
Gharbia	7 .15	2 .04	1 .02	N = 46
Dakahlia	3 .16	-	-	N = 18
Portsaiid	1 .05	-	-	N = 18
Fayoum	-	-	-	N = 17
Assiut	-	-	-	N = 19
Qina	1 .11	-	-	N = 9
Subtotal Offices	38 .17	3 .01	2 .009	N = 224
Total	106 .36	12 .04	2 .007	N = 297

Economic changes:

Economic changes constitute an inherent objective of the rehabilitation process. It is the goal of rehabilitation to change the client from a state of dependency on others for his living costs to a state of independency and production. Rehabilitation therefore contributes at least to two measurable economic outcomes. First, change of individual outcome which is a marginal measure of increase in the Gross National Product, and, second a decrease in costs of welfare. However, there is still another somewhat difficult to measure aspect of outcome, which is the freeing of other person's time or economic burdens.

The author considers that regardless of the speed of employment or salary level, there is hidden dimension of rehabilitation that may be called the economics of independency or economics of returning to society. Although it was as early as 1966, when the Ministry of Social Affairs in Egypt changed its rehabilitation program from being vocationally oriented to a socially oriented one, the author noticed that the definition of disabled was taken after that definition issued by ILO in 1955 recommendation No. 99 and is mainly vocational and hence economically oriented. The definition of the term "disabled person" means an individual whose prospects of securing and retaining suitable employment are substantially reduced as a result of physical or mental impairment. The present study considered outcomes of rehabilitation as being multiple rather than single and life value oriented rather than economic value oriented. However, economic value is still one factor in any rehabilitation program, whether it is a direct change in individual income, a waiver in family

or in welfare costs, or unmeasurable. The unmeasurable aspects may probably be a great outcome in terms of gaining meaning, respect and independence. Economic outcomes of hearing impaired persons of the sample were considered from two aspects, first personal income of clients that happened because of employment and second a cost-benefit analysis based on some few assumptions and by using input and outcome data.

Income of persons who were employed after rehabilitation is shown in Table 4.31. The minimimum wage per month is defined by Law of Labor as 20 Egyptian pounds. It is revealed from the table that the median incomes in all facilities were higher than the minimum wage. The overall median income is above the minimum wage by a proportion of + 60%. The index of difference calculated as (median income - minimum wage)/minimum wage x 100 is shown in the Table 4.31. This index varies from 35.0 in Assiut to 77.8 in Gharbia.

Cost-benefit Analysis

As mentioned before, it may be very difficult to measure social outcomes in a dollar or other currency units. However by taking the income from wages as direct measured benefits and taking costs of rehabilitation discussed in objective No. 2, may arrive at a sample for cost-benefit analysis. To complete this type of analysis, the author stated the following assumptions as basic to the analysis

1. Age at retirement is 60
2. That all cohort members are expected to reach this age.

3. Hearing impaired persons are not expected to drop out from their work because of changes in disability.
4. A discount of 3 years is assumed to be taken from expected working period as a period passing from rehabilitation to employment.
5. Average period spent at education is taken as complementary to rehabilitation.
6. Costs per year of education is taken as equal to $\frac{2}{3}$ annual costs of rehabilitation in the Cairo center i.e. = 320 Egyptian pounds.

The following steps are completed to calculate a benefit/cost ratio for the center and offices.

First - For the center:

1. Costs: rehabilitation — 480.0 Egyptian pounds

   education — 320 x 7.81 = 2499.2 Egyptian Pounds

   Total Costs — 2979.2 Egyptian Pounds

2. Benefits:

   Median age at application — 16.18 years

   Expected working life = 60 - (16.18 + 3) — 40.82 years

   Median wage per year at employment — 32.5 x 12 = 390 Egyptian Pounds.

   Median wage in working life — (390 + 2400)/2 = 1395 Egyptian Pounds.

   Expected returns in working life (benefits)

   1395 x 40.82 = 56943.9

3. Ratio = Benefits/costs = 56943.9/2979.2 = 19.11.

Second: For Offices

1. Costs:

   Rehabilitation 60 Egyptian Pounds

   Education 320 x 8.23 = 2633.6 Egyptain Pounds

   Total costs 2693.6 Egyptian Pounds.

2. Benefits

   Median age at application for rehabilitation 19.35 years

   Expected working life = 60 - (19.35 + 3) = 37.65 years

   Median wage per year at employment 12 x 31.82 = 381.8 Egyptian Pounds

   Median wage in working life (381.8 + 2400)/2 = 1390.9 Egyptian Pounds

   Expected returns in working life (benefits)

   1390.9 x 37.65 = 52367.4

3. Ratio = Benefits/costs = 52367.4/2693.6 = 19.44.

This indicates that benefits are about 19 times greater than the costs of both special education and rehabilitation in the life span of the hearing impaired persons. Although offices are more efficient from a rehabilitation point of view since costs of rehabilitation in them are $\frac{1}{8}$ of the costs of rehabilitation for a client in the Cairo center, however the final comparison of total returns shows that returns per capita for the center are higher than for clients of offices and from a cost-benefit analysis by taking education as a part of costs, both the center and offices are very clsoe (the ratio is 19.11 and 19.44 for the center and offices respectively).

Table 4.31. Hearing impaired persons who were employed by monthly income from work in Egypt (in Egyptian pounds).

	20-29 LE	30-39 LE	40-49 LE	50+ LE	Total	Median income	Index median -20/20
Centers							
Cairo	15 38.46%	18 46.15%	3 7.69%	3 7.69%	39 100.0%	32.5	62.5
Offices							
Alexandria	25 49.06%	12 22.64%	8 15.09%	7 13.21%	53 100.0%	35.0	75.0
Gharbia	9 23.69%	18 47.37%	8 21.05%	3 7.89%	38 100.0%	35.56	77.8
Dakahlia	2 40.0%	2 40.0%	1 20.0%	-	5 100.0%	35.0	75.0
Portsaiid	7 58.34%	4 33.33%	1 8.33%	-	12 100.0%	28.57	42.85
Fayoum	4 57.14%	2 28.57%	1 14.29%	-	7 100.0%	28.75	43.75
Assiut	10 71.43%	3 21.43%	1 7.14%	-	14 100.0%	27.0	35.0
Qina	2 28.57%	3 42.85%	1 14.29%	1 14.29%	7 100.0%	35.0	75.0
Subtotal Offices	60 44.12%	44 32.35%	21 15.44%	11 8.09%	136 100.0%	31.82	59.1
Total	75 42.86%	62 35.43%	24 13.71%	14 8.0%	175 100.0%	32.02	60.1

Social outcomes:

The ultimate goal of rehabilitation is to enable the handicapped person to return to his society and live within it more actively and more independently. The present study considered social outcomes in three aspects. First marriages that occured after rehabilitation, since marriage is a step toward developing a family system. Second, participation in formal groups in society, and third, independence in carrying out activities of daily living.

Marriages that occured after rehabilitation are shown in Table 4.32. Also shown in the same table if the chosen spouse was also hearing impaired or not. Twenty five subjects married after rehabilitation constituting 8.42% of all subjects. Keeping in mind that males cannot marry before the age of 18 and females cannot marry before the age of 16 and the age distribution of subjects one can consider that this is a good mark in social change. Thirteen subjects out of the 25 subjects who married after rehabilitation were married to hearing impaired partners. This number amounts to 52% of those who married. On one hand, this shows preference of hearing impaired persons to marry from among hearing impaired and on the other hand it may again add to the problem of congenital hearing impairment. Eight subjects reported they had children after rehabilitation, 8 reported they left their parents homes and lived alone, 175 reported they can support themselves from payments they receive from work, 58 reported they are participating in their families activities and 5 subjects reported that they left their original residency community.

Table 4.32. Hearing impaired persons by marriage events after rehabilitation and incidence of hearing impairment in other spouse, in Egypt.

	Married after Rehabilitation			
	To a hearing impaired	To a nonimpaired	No change	Total
1. Center				
Cairo	8 10.96%	1 1.37%	64 87.67%	73 100.0%
2. Offices				
Alexandria	4 4.12%	7 7.22%	86 88.66%	97 100.0%
Gharbia	-	1 2.17%	45 97.83%	46 100.0%
Dakahlia	-	1 5.56%	17 94.44%	18 100.0%
Portsaiid	1 5.56%	-	17 94.44%	18 100.0%
Fayoum	-	-	17 100.0%	17 100.0%
Assiut	-	2 10.53%	17 89.47%	19 100.0%
Qina	-	-	9 100.0%	9 100.0%
Subtotal Offices	5 2.23%	11 4.91%	208 92.86%	224 100.0%
Total	13 4.38%	12 4.04%	272 91.58%	297 100.0%

Table 4.33 shows distribution of subjects by participation in formal groups in the society. Social clubs for the deaf are the first of groups that attract hearing impaired persons since they like to cluster in their own groups. However, such clubs are only available in Cairo, Alexandria and Portsaiid. Public clubs come next and then work clubs and work unions.

Table 4.34 shows distribution of subjects according to major living activities and whether they carry these activities by themsleves or by help of the family.

Objective No. 5: To study the needs of hearing impaired for rehabilitation services, in Egypt.

For this part of the study, a model described by Suchman (1967) and applied by de Mezerville (1978) was used. Needs were defined as descrepancy between a current state of affairs and desired state of affairs (English and Kaufman, 1975). Results are based on data that have been analyzed in objectives 2, 3 and 4.

1. Primary intervention:

According to the Suchman model discussed in Chapter 2, there are preconditons that cause impairment. These preconditions call for primary intervention, prevention. The data of this study showed that the majority of sample subjects were affected in their hearing before reaching the age of 3. Primary causes of such impairment were hereditary causes and diseases. What kind of prevention can be provided to decrease the results of those preconditions, i.e. hearing impairment. Heredital factors as explained when dealing with inputs are mainly due

Table 4.33. Hearing impaired subjects by type of groups they participate, in Egypt.

	Club for deaf			Public club			Work club			Union		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
1. Centers												
Cairo	19 26.03	54 73.97	73 100.0	5 6.85	68 93.15	73 100.0	4 5.48	69 94.52	73 100.0	1 1.37	72 98.63	73 100.0
2. Offices												
Alexandria	51 52.58	46 47.42	97 100.0	5 5.15	92 94.85	97 100.0	-	97 100.0	97 100.0	3 3.09	94 96.91	97 100.0
Gharbia	-	45 100.0	46 100.0	7 15.22	39 84.78	46 100.0	10 21.74	36 78.26	46 100.0	5 10.87	41 89.13	46 100.0
Dakahlia	-	18 100.0	18 100.0	-	18 100.0	18 100.0	-	18 100.0	18 100.0	-	18 100.0	18 100.0
Portsaiid	3 16.67	15 83.33	18 100.0	7 38.89	11 61.11	18 100.0	-	18 100.0	18 100.0	-	18 100.0	18 100.0
Fayoum	-	17 100.0	17 100.0	-	17 100.0	17 100.0	-	17 100.0	17 100.0	-	17 100.0	17 100.0
Assiut	-	19 100.0	19 100.0	-	19 100.0	19 100.0	-	19 100.0	19 100.0	-	19 100.0	19 100.0
Qina	-	9 100.0	9 100.0	1 11.11	8 88.89	9 100.0	1 11.11	8 88.89	9 100.0	-	9 100.0	9 100.0
Subtotal Offices	54 24.11	170 75.89	224 100.0	20 8.93	204 91.07	224 100.0	11 4.91	213 95.09	224 100.0	8 3.57	216 96.43	224 100.0
Total	73 24.58	224 75.42	297 100.0	25 8.42	272 91.58	297 100.0	15 5.05	282 94.95	297 100.0	9 3.03	288 96.97	297 100.0

Table 4.34. Hearing impaired subjects by type of activities of daily living they complete alone or with their families, in Egypt.

	Alone	With the family	No	Total
Waking up	254 85.52%	43 14.48%	-	297 100.0%
Personal grooming	297 100.0%	-	-	297 100.0%
Meeting with guests	190 63.97%	87 29.63%	19 6.40%	297 100.0%
Shopping	188 63.30%	48 16.16%	61 20.54%	297 100.0%
Going to work	171 57.57%	4 1.35%	122 41.08%	297 100.0%
Using transportation	231 77.78%	16 5.39%	50 16.83%	297 100.0%
Going to clubs	60 20.20%	8 2.69%	229 77.11%	297 100.0%
Attendance of public occaisions	89 29.97%	33 11.11%	175 58.92%	297 100.0%
Going to worship	99 33.33%	13 4.38%	185 62.29%	297 100.0%
Friendship, same sex	220 74.07%	10 3.37%	67 22.56%	297 100.0%
Friendship, other sex	49 16.50%	11 3.70%	237 79.80%	297 100.0%
Visits to relatives	188 63.30%	88 29.63%	21 7.07%	297 100.0%
Reading newspaper	115 38.72%	14 4.71%	168 56.57%	297 100.0%
Watching T.V.	219 73.74%	56 18.85%	22 7.41%	297 100.0%
Going to movie	109 36.70%	32 10.78%	156 52.52%	297 100.0%
Traveling outside city	53 17.85%	24 8.08%	220 74.07%	297 100.0%
Travel outside country	13 4.38%	3 1.01%	281 94.61%	297 100.0%

Table 4.34 continued

	Alone	With the family	No	Total
Driving cars	4 1.35%	-	293 98.65%	297 100.0%
Driving bikes	35 11.78%	-	262 88.22%	297 100.0%
sporting activities	43 14.48%	1 .34%	253 85.18%	297 100.0%
Average	131.35 44.23%	22.4 7.54%	143.25 48.23%	297 100.0%

to accumulation of recessive factors that accumulate by marriage from among relatives or from defects of chromosomes or Rh factor. These factors call for genetic counseling intervention before marriage. Again it was noticed that many families had more than one of their children with hearing impairment, this calls also for genetic counseling after detecting the impairment of the first one.

The second important factor was diseases. Prevention lies in two main possibilities, immunization and treatment. As this study dealt with young subjects it may be that some of them were affected before dissimenation of such new immunization programs for measles, whooping cough occured. However, it is due to illiteracy of some parents that they run the risk of diseases for their children by neglecting immunization. This need can be met by promotion of public attitudes toward immunization.

Some other diseases play a role in hearing impairment such as menengitis and colds that affect the middle ear. Both diseases when neglected may cause infection to the inner ear. This again calls for educating mothers about risks of neglecting ear infections or high temperature fevers. There is a real need to have an annual compaigne for education on hearing impairment causes and their prevention.

2. Secondary intervention: Treatment:

When prevention fails, it leaves the subject with a pathological state which calls for intervention by treatment.

Treatment can be thought of in type of chemotherapy or surgery. The Egyptian Government has established thousands of rural clinics, public hospitals and university hospitals. Also there is a school hygiene program that covers the school age children and a maternal care program that cares for mothers and children. However, it is a fact that, the high rate of mothers illiteracy is causing them to ignore some chronic diseases of ear or leave them unnoticed. Sometimes it is late when they notice impairment or when they take action. On the other side, in the case of those who were impaired because of prenatal causes, there is little treatment that can be helpful.

3. Tertiary intervention (Rehabilitation)

According to Suchman's model (1967), when treatment fails the person is left with functional limitation which calls for the third type of intervention, rehabilitation.

Habilitation and rehabilitation are needed at the time when one realizes that treatment failed, or was not of any use, to stop the impairment. According to the data which were shown in objective 2 of this chapter, the first type of intervention may be at the preschool age the period for language development. There is a real need for habilitation programs at this period of time. First to help with improvement of hearing by providing hearing aids and second to provide speech training for the affected child. The second part can be provided in a form of preschool day care centers or in a form of home teaching.

When children were left without intervention for such a period, they grew with severe disability which combined hearing loss and muteness. When they came to education, they were educated only by oral methods neglecting the other important aural channel.

Summary of needs assessment:

There are preventive-treatment and rehabilitation needs. Although the three needs can be met in several facilities, the accessibility of such services, their timing and their integrity are very important in providing quality rehabilitation programs. This may be more clear in rural and remote desert areas. There is a need to integrate services for the hearing impaired persons in order to avoid the severity of disability that results by the time they apply for rehabilitation services. Fortunately there is a current experiment in the Cairo center using the verbotonal approach (Developed by Dr. Guberina at Zagreb, Yugoslavia). The experiment works with preschool children with a goal to integrate them in ordinary schools.

Objective No. 6: To provide a feedback.

This objective is achieved in this study by providing the following chapter which deals with discussion of results and recommendations.

The utilization of the evaluation model of this study helped in describing the client inputs on a national bases which gives the planners in the field of rehabilitation a clear idea about clients who come to rehabilitation and who have hearing impairment. Analysis of processes helped in identifying those parts of the process which are absent from the program. Measurement of outcomes provided a clear feedback

on different aspects of outcomes of rehabilitation programs for the hearing impaired persons in Egypt. The recommendations resulting from the study will be submitted to policy makers and planners in the field of rehabilitation for the disabled in Egypt.

Objective No. 7: To develop alternative model(s) for rehabilitation of hearing impaired persons in Egypt.

The available service delivery models for rehabilitation of hearing impaired persons in Egypt are mainly the rehabilitation center in Cairo city and the rehabilitation offices in other governorates. The model of the center is basically a comprehensive one that includes facilities for evaluative, diagnostic services, rehabilitation services, research and training. The model of rehabilitation offices is a community based model which minimizes services inside offices and maximizes utilization of community resources. The analysis of data in the present chapter showed some facts related to the two models which are discussed in this section.

1. The rehabilitation Center:

Data showed that clients who applied for services of the center were younger and less educated than those who applied to offices. This in fact is due to the policy of the center. However when providing services for those clients time is limited to a maximum of two years and in most cases it is a one year program. In fact, those who are younger than 16 years have difficulty in exploring their vocational preference in such younger ages. When completing their program in the center they may still be too young to be employed by a large enterprise, where the minimum age of employment is 18 years. This may explain in

part the reason for unemployment of those who were unemployed. The restriction of range of vocational training is another factor with the center model. In the Cairo center, there are a limited number of workshops for vocational training i.e. printing, woodwork, metal work, dressmaking, knitting, and lathe works. Some of these vocations require an ability to read and write or compute mathematics that is higher than the level of clients who come in younger ages and/or in lower educational level. The labor market is changing very rapidly and there are some vocations that have a relatively better supply than those available in the center. The cost of services are relatively high which again confines the services to a limited number of clients every year. The fact that fixed costs are increasing rapidly and that the center is subsidized from the government with no comparable increase in budget to absorb the costs causes the center to decrease services to face this dilemma. However, the center plays a role other than rehabilitation of persons with hearing impairment in that it functions as a research and training center. However, one cannot imagine that one center is a suburb of Cairo city could be enough to meet the needs of hearing impaired persons in a city like Cairo with a population of 8 million or for the whole country regarding research and training where the population is 42 million. The model Cairo center needs to extend its services in a form of small satelites in Cairo city and throughout Egypt.

Again, to deal with efficiency of the center, it was revealed in this research that offices may be considered as 8 times as efficient as the center regarding per capita costs. However, when adding gains

due to difference of age, the center may be more effective in a benefit-cost ratio. But again as the financial support coming from the government cannot keep pace with the annual rate of increase in per capital cost, the center needs to face the situation in more effective way. First, the residency service can be waived since all clients coming to vocational rehabilitation at the center can move easily between their homes and the center. If there are clients who have transportation needs, a transportation service may be far less expensive. By eliminating residency service, clients can live with their families and hence be more independent and more integrated, meanwhile the center can use the additional space to establish new services and serve more clients, and second there is a need to reorganize the vocational services. At the present time clients are evaluated in the shops and they are trained in the same shops. Workshops therefore are going with the clients in a cycle from evaluation to training which limits their functions and productivity. It may be more useful that work evaluation be separated from vocational training. This can be done by establishing a vocational-work-evaluation unit in the center. This unit, beside enabling other work areas to direct their activities to production, is thought of as giving a wider spectrum of vocational opportunities that can be matched with requirements of the labor market. Again, there will be some clients who can go directly from evaluation to work with higher possibility of employment and higher efficiency or rehabilitation. Establishment of an evaluation unit may increase the efficiency of the process of evaluation and also its effectiveness.

A need that was discussed earlier, was the need for intervention when impairment is realized and even before its occurence. The center

as a research and training agency can help in those two stages. First in prevention of hearing impairment by publicizing approaches of intervention and second, in aural rehabilitation at an early point in time after detection of impairment. The medical model existing now can help the patient only in medical treatment but it cannot provide hearing aids or aural-oral training. As mentioned before the missing stage in the medical-education-vocational continuum of helping the hearing impaired is the preschool period which also is the most critical for any aural-oral rehabilitation. There is a running experiment in this regard which can fit in to the model and be disseminated to other geographic areas. To summarize, the rehabilitation center model for hearing impaired needs to consider some changes to increase its efficiency and effectiveness. These changes are in the criteria of eligibility regarding age of admission and length of the program, excluding residency services, establishment of a vocational-work-evaluation unit, keeping workshops as advanced vocational training and sheltered workshops facility and establishment of pre-school habilitation unit.

2. Rehabilitation offices:

The data of this study showed that clients come to offices relatively older and with more educational background than to the center. Efficiency of offices based on the fact of no difference in vocational outcomes are higher regarding per capita costs and time of service than the center. But when we consider age and previous education on one hand and the comprehensiveness of services in the process on the other hand, one can easily realize that efficiency is not the only criterion to judge that the rehabilitation office is better. However,

when considering the three components of the model that guided this study i.e. input-process-outcome, there can be improvements of the present rehabilitation office model that can be discussed here.

The model of the rehabilitation office was based on a community organization theory which called for coordinating services that were rendered to persons in their communities. In the rehabilitation system offices then implies that minimum services are completed in the office while other services are sought in the community while the case is still managed by the office.

The data in this study showed that there were many discrepancies found in offices as well as other community resources. First, medical evaluative equipment are not available in the office and may be also unavailable in hospitals in the community. Second, the staff of the offices were not trained to handle hearing impaired clients. They lacked professional training and/or communication abilities; and third, the individual rehabilitation plans were very short to allow any services other than diagnostic evaluation and administrative management of the case. The author's judgment of this phenonenon is concluding that services are accessible for those who had previous prevocational and educational training and can be licensed by the office to satisfy the 5% quota of employment for the handicapped. If this is appropriate for those who completed several years in education and can manage communication and some work, what about those who apply to offices without having a vocational and/or education history. Analysis of processes showed that there were no services to meet the communication needs which are in fact the barriers between the hearing impaired and society.

The rehabilitation office is always located in the capital city of the governorate. Sometimes there is another office in the next largest city. Since the capital city is one location of many population concentrations in the governorate (usually from 8-12 towns and around 200 villages) one can imagine what it takes for a client to come for rehabilitation from another town. What happens is that the family tries to get the hearing impaired member in some type of vocational training in a nearby business or workshop and later on he or she comes to the office to get a license that enables him to get a job. In this sense, one can conclude that the service is not accessible to the client at any point in time but it is accessible only when he can come. These facts also can be revealed from analysis of referral sources.

How to improve the rehabilitation office model is a question that rests in its answer on the discussions in the previous sections of this study. As the office usually serves a governorate which sometimes fosters a population of more than 2 million, and deals with all types of disability with a staff of 5-10 persons, it can be imagined how difficult conditions of work may be. The average number of clients served by offices in 1977 and 1978 was 328 admitted subjects per office which includes an average of 13 persons with hearing impairment. The average caseload is served by the manager, the social worker, the psychologist and the doctor. This in fact beside other facts such as lack of training may convert the rehabilitation process to a history taking and licensing process. To reach a more effective model, the author suggests a comprehensive-integrated model to take the place of the rehabilitation office model that is existing now.

A comprehensive type of service can be viewed as a system similar to that described by Grantham (1976) which includes the following activities

1. linkage services (intake-information-referral)
2. medical evaluation, repair and restoration
3. psycho-social evaluation and support
4. residential living facilities
5. multipurpose vocational evaluation programs
6. educational opportunity programs
7. placement and follow-through services
8. transportation services
9. research and self-evaluation
10. consultation and education.

The proposed model is viewed as a comprehensive rehabilitation center to be established in capital cities of governorates to provide rehabilitation services for all types of disabilities.

An integrated type of service implies that the center will be integrated with the present community services to provide a continuum of services and to avoid replications. If the comprehensive center approach is carried out in capital cities of governorates, then the office model can be implemented in small towns to function as satelites of the center. Those clients who need this type of comprehensive service could be referred to the center.

Although it was proposed earlier that residential services should be eliminated from Cairo city, such a proposal is not logical here, since the proposed center may serve severe cases and since the transportation system and distances are not like those in Cairo.

Summary:

In this chapter results of the study were analyzed in the same order the objectives were listed in Chapter 1. The basic findings coming out of these results are as follows.

(1) A three component input-process and outcome model for evaluation was utilized and proved to be useful in evaluating rehabilitation programs in Egypt.

(2) Hearing impaired subjects who applied for rehabilitation services in Egypt, were primarily male with no different sex composition between the center and offices.

(3) Hearing impaired persons who applied to rehabilitation programs in Egypt varied in their age at time of application and there was a significant association between model of rehabilitation used and age.

(4) The majority of rehabilitation subjects of the study were impaired in their hearing at an early stage of their lives due to different factors.

(5) Educational status of subjects with hearing impairment who applied for rehabilitation in Egypt was limited to a middle school education.

(6) Families from which subjects with hearing impairment came to rehabilitation were larger in size and were likely to have other children with hearing impairment.

(7) Well trained staff was lacking in offices. Ambiguities of functions and overloading was evident.

(8) Absence of counseling services, work evaluation and aural-oral rehabilitation was identified in rehabilitation offices.

(9) Buildings of rehabilitation offices was not accessible and/or equipped for subjects whose residence homes were away from offices.

(10) Rehabilitation offices was more efficient regarding per capita costs and time of rehabilitation than centers.

(11) Rehabilitation processes in offices lacked comprehensiveness.

(12) There were no differences between the center and offices regarding occupational outcomes.

(13) There was a need for integrity of services for the hearing impaired.

(14) The rehabilitation center model in Cairo city would be modified to increase its efficiency and to serve more subjects.

(15) The rehabilitation office model needs to be altered to a comprehensive integrated model.

In Chapter 5, these findings will be discussed and relevant recommendations developed.

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

The present study was designed to compare two models of rehabilitation for hearing impaired persons in Egypt by utilizing an input, process, and outcome model for evaluation.

In chapter one the problem of this study was explored, needs were identified, objectives were detailed and specific terms were definded. Chapter two was devoted to a review of the literature related to this study. Evaluation defintions were reviewed, evaluative research was compared with non-evaluative research; evaluation models were discussed; evaluation methods and strategies in the field of rehabilitation were reviewed; relevant studies were identified, and a synthesis of what the literature contributed to the present study was discussed.

Chapter three dealt with methodology of this study. The sample was defined, sampling procedures were discussed, methods and instruments used to collect data were explained and statistical analyses was introduced.

Chapter four was devoted to analysis of the data. That chapter was organized around the seven objectives of study in the same order as they were listed in chapter one. It included a discussion on applicability of the evaluation model, analysis of inputs of clients, staff, buildings and budget, analysis of processes, analysis of outcomes,

assessment of needs, development of alternative models for rehabilitation of hearing impaired persons in Egypt and ended with a list of findings.

The present chapter, is devoted to a discussion of those findings listed in chapter four and to recommendations relevant for utilization in Egypt.

(1) A three component input, process, and outcome model for evaluation was utilized and proved to be useful in evaluating rehabilitation programs in Egypt.

A model is a blueprint that defines relationships among its components. The model used in this study is composed of three components, inputs, processes, and outcomes. Processes are the activities that work upon various inputs to reach desired outcomes. The model was taken from several models that were reviewed in chapter two. Specific models that helped in identifying variables of the present model were, Stufflebeam (1971), Galvin (1970), a Discrepancy model (1975), Walls and Tseng (1976) and Spaniol (1975).

Although there are many inputs to the rehabiliatation program, four inputs were taken i.e. client inputs, staff inputs, buildings and budget. Process analysis dealt with referral, diagnostic and evaluation services and rehabiliation services. Outcomes were taken as occupational, economic, social and physical restoration outcome. The model helped very much in defining the relationships of variables to each other. It guided the construction of the two questionnaire forms used to collect data and again guided the analysis of results and their discussions. The model can lend itself to statistical methods as multiple regression analysis by taking one outcome at a time as the dependent variable and

several inputs or process activities as independent variables. For the present study it helped in comparing the two rehabilitation models for hearing impaired persons on the same continuum of inputs, processes and outcomes. The model helped in avoiding the pitfalls of the one ended evaluation very common in rehabilitation when evaluating outcomes or the input-output evaluation by introducing a process evaluation.

(2) Hearing impaired subjects who apply for rehabiliation services in Egypt, were of high sex ratio with no different sex composition between the center and offices.

The sex ratio in the Cairo center was 1.92 and for offices was 2.25. The general sex ratio was 2.16 which means that for every 100 females there were 216 males in the sample of study. The author noticed a similar sex ratio in the 1960 census data on deaf mute persons in Egypt. In both cases, the high sex ratio may be due to a cultural factor. There is no reason to have a difference in incidence of hearing impairment or linkage to any sex. Females are expected to be less willing to apply for rehabilitation especially in rural and slum areas where they prefer marriage.

(3) Hearing impaired persons who apply to a rehabilitation program in Egypt vary in their age at the time of application and there is a significant dependency between model of rehabiliation and age.

Subjects of the sample varied in their age at application from

10 years to 45 years. The median age of subjects applying to the Cairo center was 16.18 years and for subjects of rehabilitation offices it was 19.8 years. This indicated that the center dealt with younger clients who were mostly undecided and not well informed about the world of careers. However, since the center provides opportunities of vocational training in its program, the client may acquire some information regarding careers. On the other hand those who were younger in age (38.36% of subjects of the center were under 15 years of age) were subject to a delay in employment since regulations of employment specified the age of 18 as a minimum age for employment. The rationale is that it would be better if such a period of age (16-18) be spent in education.

(4) The majority of rehabilitation subjects of the study were impaired in their hearing at an early stage of their lives due to different factors.

From all subjects of the sample 75.08% were reported to be impaired before the end of their third year of life and 89.22% were impaired before completing their fifth year. This early onset of hearing impairment contributes to the degree of disability that can be expected. Early hearing impairment is due to two main factors. First, there is a pattern of familial factors which are fostered by marriges among relatives. Data showed association between this type of marriage and having more than one child with hearing impairment in the family. Second, infant diseases affects the remaining subjects. Diseases of infancy like measles, whooping couph, dyptheria and typhoid are easily prevented by means of immunization which is compulsory in Egypt. Diseases such as menengitis are difficult to control. Otitis media is

now treatable by means of antibiotics when it is detected early. The fact that hearing impairment strikes children of preschool age, leaves us with a need for early intervention to avoid dealing with a multiple disability later on. Since early intervention is lacking in the ongoing system, most subjects are identified as deaf-mute when they go to school or come to rehabilitation.

(5) Educational status of subjects with hearing impairment who apply for rehabilitation in Egypt is limited to a middle school education.

The special education system in Egypt provides education to hearing impaired persons in special schools or special classes known as schools of hope. The hearing impaired child can be admitted to such a program between the ages of 5 and 7. There are two stages of education available for the hearing impaired persons, the elementary and the preparatory (middle). The two stages continue for 11 years. Hearing impaired persons are not allowed to enter secondary education after finishing with the preparatory school while this right is allowed to the blind. Those who miss entrance to elementary education or who are impaired during school age hardly find an opportunity for education. By the time a hearing impaired person completes an educational program he or she is 17-18 years old, and may apply for rehabilitation at that time. The difference between the center and the offices in this aspect is that some subjects applying to the center come from an elementary school in the center where children are admitted at ages beyond those of regular special schools (8-11) and spend a period of time in education until they reach the age of 12. At that time they are referred to rehabilitation services.

(6) Families from which subjects with hearing impairment come to rehabilitation are larger in size and are likely to have other children with hearing impairment.

The size of families of hearing impaired persons are above the general average of family size in Egypt. Meanwhile 29.97% of all subjects have brothers and/or sisters with hearing impairment, and 3.37% of all subjects have all siblings with hearing impairment. Hearing impairment is a developmental disability which is likely to have a relationship to such socioeconomic variables as education of parents, their income and occupation. It can be said from the results discussed in chapter four that hearing impaired persons who come to rehabilitation are from low and middle classes. This is indirectly induced from prevalence of illiteracy among family members (22.5%), the larger size family and the high percentage of marriage among relatives (44.44%) which is typical of a first migrant generation from rural areas to towns.

(7) Well trained staff is lacking in offices.

In rehabilitation offices, the role of a rehabilitation counselor is mostly absent. There were only two offices out of 24 that had rehabilitation counselors on their staff, one of them was on a part-time basis. Social workers are overloaded with an average of 328 cases. Social workers were not trained to practice counseling, guidance, evaluation or placement. They practice case work such as taking family history or investigating socioeconomic status. Two managers out of 24 and one counselor out of two reported that they had a short term

training program on rehabilitation of hearing impaired for two weeks. No social workers or psychologists reported any type of training specific to problems of the hearing impaired. The role of a psychologist who is in most offices on a part-time employment is ambiguous. Most of the psychologist's work is to manage psychological tests with results rarely used in the rehabilitation process. Having the same high load (average of 1977 and 1978 of cases served by an office is 328), it is not expected that a quality function is taking place. All psychologists reported that they apply a pictorial or non-verbal standardized test for intelligence and few reported using Wechsler scales. However, for all subjects there were not enough evaluations about relevance of those tests to the hearing impaired or to the process of rehabilitation. Most hearing impaired subjects came with an educational background and an I.Q. test added nothing to what they came for i.e. vocational rehabilitation. In the case of the Cairo center, staff is well trained and work under supervision of university professors.

(8) Absence of counseling services, work evaluation and aural-oral rehabilitation was identified in rehabilitation offices.

Rehabilitation counseling was introduced to the rehabilitation system in Egypt in 1975 on an experimental basis. Up to 1981, 20 counselors were graduated, 17 of those counselors were from Cairo facilities and 3 were from other governorates. The role of rehabilitation counselors started to be identified. However counseling services are still fragmented among psychologists and social workers in offices. Social workers come from schools of social work and departments of sociology. Psychologists are from departments of psychology or from

education.

Vocational counseling is not based on sophisticated information. There was no system for vocational work evaluation in offices. Sometimes selection of a career for the disabled is based on a trial and error approach.

Aural-oral communication rehabilitation which is the core of any rehabilitation program for the hearing impaired is missing in rehabilitation offices.

(9) Buildings of rehabilitation offices are not accessible and or equipped for subjects whose residence homes are away from offices.

Offices are located in capitals and large cities of governorates. Buildings contain a limited number of rooms with very little equipment and a limited number of staff members. The office is a place for case management. The subject must move to and from the office at the point of evaluation and eligibility determination. Transportation difficulties and absence of residency may present a problem of accessibility to services.

(10) Rehabilitation offices are more efficient regarding per capita costs and time of rehabilitation than centers.

Results of this study showed that per capita cost of rehabilitation in an office is $\frac{1}{8}$ its cost in the center while time of rehabilitation in the center is about 12 times its length in the office. Therefore offices can be considered more efficient in services if they have the same outcomes as the centers.

(11) Rehabilitation processes in offices lack comprehensiveness.

A quality rehabilitation process is one that is accessible, complete and comprehensive. Rehabilitation processes in offices lack such important parts as work evaluation and oral communication rehabilitation which make them incomplete. The net work of rehabilitation offices miss some components of a comprehensive system as that described by Grantham (1976) such as residency, transportation, vocational evaluation, education, research and training.

(12) There were no differences between the center and offices regarding occupational outcomes.

Data on employment and unemployment showed no association on this variable with the center/offices variable. However by taking the average period of time between completing rehabilitation program 1977-1978 and the time of this study (two years average) there was a relatively high ratio of unemployment.

(13) There is a need for integrity of services for the hearing impaired.

The results of this study indicated that there is a need for preventive programs in genetic counseling and education and a need for early treatment intervention and early rehabilitation by speech therapy and hearing aids. There is a need for a preschool therapeutic efforts to avoid speech disability. Special education programs need to be modified to allow more integration of hearing impaired with non-impaired persons in education and to extend education to the highest level of the university. Medical, educational and rehabilitation services need to be integrated to cover the life span of the impaired person until

he or she is integrated in society. Independent living services such as transportation, communication, interpretation and advocacy need to be introduced to the program.

(14) The rehabilitation center model in Cairo city can be modified to increase its efficiency and to serve more subjects.

Modifications suggested are in two areas. First to establish a work evaluation unit in the system which could save time and effort for shops that can be managed on a production basis. Second, to cut residency services and limit them for younger and urgent cases only. This would in turn decrease per capita cost and increase the efficiency of the center.

(15) The rehabilitation office model needs to be altered to a comprehensive integrated model.

This new model may be more suitable for governorates. It includes comprehensive services and integrates with other services at the same time. Present rehabilitation offices may be suitable for small towns to serve one town and small villages only. The proposed model is not for hearing impaired persons only but includes other types of disabilty.

Limitations of the Study.

The present study suffered from the following limitations: First: The sample was restricted to those who completed their rehabilitation plans in 1977 and 1978. Results regarding inputs may be interpreted only as related to the sample of this study. The sample as defined above may not have represented all hearing impaired persons

in the society. Selection of the 1977 and 1978 years may have limited generalization since those two years may not be representative of other years. Another limitation of the sample lies in the fact that there was only one center in the study.

Second: Data on inputs, processes and outcomes were compared over one variable, the rehabilitation model i.e. center or office. Comparisions of outcomes in the proposed model could be more helpful if taken over other input variables such as age, sex, urban, rural, education and socioeconomic variables. The model may lend itself to multivariate and multiple regression analyses.

Third: Treating rehabilitation offices as a contrast to the rehabilitation center called for combining data on offices in final comparisions. However, not all offices were the same. Each office represented a unique governorate and sometimes unique patterns of traditions, attitudes and economical conditions.

Implications for further research.

The present study represents a first step in doing evaluative research to help in planning and decision making in the field of rehabilitation of the hearing impaired persons in Egypt. It may open the door for further studies to fulfill some of the recommendations of this study or to conduct further studies on each of the components included in the present study. The application of the evaluation model in the present study may be repeated on other disabilities. It may be appropriate that in planning for changes recommended in the

present study that such changes will be based on further research of needs identification and needs assessment.

This study may be a starting point for further research regarding employment, vocational counseling, psychological evaluation, communication procedures and staff training.

There is a need to fit the evaluation model in such techniques as operations research, systems analysis and multivariate analysis to define what each variable weighs and how it behaves in relation to other variables.

There is a need also to conduct a type of innovation experiment to educate hearing impaired persons from the age of three to the high school and then to the university.

There is also a need for a data based management system for rehabilitation in Egypt.

Recommendations

1. Evaluative research is very important for policy making, program planning and program implementation. Evaluation needs to be made on a systematic basis.
2. Since evaluation is based on information, and since evaluation is necessary for planning and decision making, therefore there is a need to establish a management information system (MIS) in the rehabilitation system in Egypt. This system may help in securing relevant information at any point in time and save money and effort needed for evaluative studies at the present one.
3. The higher ratio of males to females in the present study may be an indicator of lack of accessibility of services or to social attitudes regarding rehabilitation of females. Therefore a special effort is needed to promote public opinion regarding rehabilitation of females and for including a home making oriented rehabilitation program for females through other voluntary agencies in the community.
4. Knowing the size of the problem is important in knowing how well the ready population for a specific service is being reached. Therefore, there is a need to conduct surveys to help in this regard and to help in planning for services.
5. As revealed in the study the average age of the center's clients when leaving the center was 16 years, this age is less than the minimum age of employment. Therefore there is a need to fill this gap either by education or employment in sheltered workshops or a type of homemaking or appenticing.

6. There is a need for training rehabilitation workers on placement and career information to help their clients in finding relevant jobs and therefore decrease the ratio of unemployment which was relatively high.
7. As the study revealed that most of the subjects in the sample were impaired since early childhood and some of them were so because of congenital causes, therefore there is a need for genetic counseling and prenatal education program. Marriage among relatives may be responsible for transmitting genes responsible for hearing impairment to offsprings and therefore it deserves some effort to show these facts to the youth who think about marriage.
8. Education of hearing impaired proved to be possible and relevant to the university level in some countries around the world, therefore there is a need to extend education of the hearing impaired in Egypt first to the high school level and then to the university level.
9. Since most subjects were impaired before the age of five, and since the preschool stage of childhood is very critical in language acquisition, therefore there is a need to start a preschool educational or a home teaching program for the hearing impaired preschool age children to overcome the communication handicap.
10. Total communication needs more attention since it may help those who find problems in learning the formal approach of speech reading available in special schools for the deaf in Egypt. Since there has been sophisticated work on sign language and manual alphabetics in the Cairo center for the deaf, this research needs to be disseminated to schools.

11. There is a need for formal training programs for workers in rehabilitation of the hearing impaired in Egypt. This program could be on a six-month basis.
12. Rehabilitation counseling is the core of rehabilitation work and there is a need for training more counselors in Egypt to work in local offices and centers. Training programs should make use of the already existing staff.
13. There is a need for development of work evaluation techniques to be used inside offices for evaluating vocational potential of the disabled. Some of the ongoing research in that field in Cairo may help in future planning for such services.
14. There is a need to standardize some of the available psychological tests in the Egyptian culture and training psychologists in clinical aspects for vocational and rehabilitation counseling.
15. There is a need for an outreach program to help in modifing rehabilitation programs accessible to the disabled.
16. Future planning of rehabilitation facilities shall consider this accessibility, comprehensiveness, completeness and integrity.
17. There is a need to extend rehabilitation services to small towns and districts of cities.
18. Since rehabilitation offices were shown to be more efficient than the center in terms of per capita costs, while they are at the same level of effectiveness therefore the rehabilitation office model can be transmitted to smaller towns and establishing rehabilitation centers in capital cities of governorates to assure comprehensiveness of services.

19. Since offices are expected to serve different types of disability and to cover a population of a governorate or a big city, and since offices are more efficient regarding costs per captia, the model is considered to be suitable for a developing country as in the case of Egypt when other considerations in the rehabilitation process are taken into account.

Conclusion

The present study stemmed from a need to explore on a comparative evaluative basis the three dimensions of rehabilitation programs for hearing impaired persons carried in rehabilitation offices in local governorates and the rehabilitation center in Cairo the capital city, in Egypt. These three dimensions were conceptualized in an evaluation model of inputs-processes and outcomes. Unlike many other studies in the field of rehabilitation of the disabled, the model was carried out in a form of field work guided by the conceptual model. Data were collected from a stratified cluster sample of 297 hearing impaired subjects who completed their rehabilitation in the Cairo rehabilitation center or at seven random offices of Alexandria, Gharbia, Dakahlia, Portsaiid, Fayoum, Assiut and Qina from January 1st, 1977 to December 31st, 1978. Two questionnaire forms were used. Form A included data on the subjects and called for interviewing those subjects and Form B which included questions on facilities and was completed by interviewing managers of 24 offices all over the country.

The analysis of data showed many facts regarding inputs, processes and outcomes. Comparisons between the center and offices were made on some input, process and outcome variables. Discussion of findings

were completed, limitations of data were explained and implications for further research were explored. The study was concluded with relevant recommendations for utilization in the Egyptian Society.

APPENDICES

APPENDIX A

APPENDIX A

EVALUATION MODEL

The model of evaluation that was used in the study is composed of three components, inputs, processes, and outputs. The model was explained in Figure 3.2. Following is explanation of variables included in the model.

I. Inputs:

1. Client inputs: Form A (See Appendix B)

general information

age at application for rehabilitation

place of birth

place of residency

Disabling conditions

age at onset of hearing impairment

cause of hearing impairment

type of medical intervention

Socioeconomic conditons

family structure

distance of residency from rehabilitation facility

income

education of family members

prevalence of hearing impairment among family members

2. Staff inputs

professional

non professional

3. Budget

4. Equipment

5. Building

II. Processes (Form A and Form B)

1. Client evaluation

physical (medical)

general

hearing

visual

other

Vocational

aptitudes

interests

Socioceonomic

Psychological

Educational

2. Rehabilitation services

Counseling

Physical restoration

hearing aids

speech therapy

referral to surgery

other orthotics or prosthetics

Vocational training

Education

Social and financial services

Personal adjustment services

3. Placement and follow-up

III. Outcomes (Form A)

1. Physical

Aural improvement

Oral improvement

Total communication

2. Vocational

Career choice

Training

Placement and employment

3. Socioeconomic

Improvement in socioeconomic status

Independence in living

Social integration

Self support

4. Educational

Change in educational status

APPENDIX B

APPENDIX B

A Comparative Evaluative Study
of two Models For Rehabilitation of
the Hearing Impaired Persons In Egypt

Questionnaire Form A

The information collected in this questionnaire will be used for purposes of Research only _____

Center/Office_____ Governorate_____

Name of Subject _____

Address _____

Date Completed _____

Name of Interviewers 1. _____

2. _____

Name of Auditor: _____

Name SEX M ☐ F ☐

Date of Birth or age at time of application

Place of Birth Shiakha or village

Governorate

is it Urban ☐ rural ☐

is it different from his/her present residency

Yes No

if yes what is his present residency

shiakha or village

Governorate

Urban ☐ Rural ☐

how long has he/she been in this area years _____ Months_____

Date of Application for rehabilitation

Address at time of application

is it different from his place of birth Yes ☐ No ☐

is it different from his present residency Yes ☐ No ☐

History of Disablement:

Age at onset or discovery of hearing impairment

Since birth After birth at age of

Does not know

Cause of hearing impairment (Check one or more)

Prevalent Since birth (Congenital)

Disease (Specify) _____

_____

Accident: home ☐ Street ☐ work ☐

Other specify _____

Drugs: Specify ☐

Other Specify ☐

Was the Impairment

Suddenly ☐

Gradually ☐

Not known ☐

Did the impairment start

In one ear ☐

In both ears ☐

Is the Impairment now

In one ear ☐

In both ears ☐

Is it improving

Deteriorating ☐

Unknown ☐

is any of the parents deaf or hard of hearing: Yes ☐ No ☐

If yes who? Father ☐ Mother ☐ Both ☐ None ☐

is there any kinship between parents: Yes ☐ No ☐

is there any of brothers and/or sisters who suffer from hearing impairments

None ☐ Some of them ☐ All of them ☐

are those who are hearing impaired brother or sisters

brothers only ☐ sisters only ☐ both ☐

is there any relatives (to father or mother) who are hearing impaired

Yes ☐ No ☐

if yes are they

relatives to father

relatives to mother

relatives to both

if any of brothers or sisters are hearing impaired were they so in the same way (degree, age, cause etc.)

Yes ☐ No ☐

was the hearing impairment noticed or identified by

(Check one)

Father	☐	Mother	☐
Wife	☐	brothers or sisters	☐
Son or daughter	☐	other significant	☐
Family doctor	☐	child clinic	☐
School teacher	☐	school clinic	☐
The client himself	☐	other specify	☐

Was this identification

After illness ☐

After an accident ☐

None of the above ☐

What type of help was sought when impairment was identified (check one)

Family doctor ☐ Maternity & child clinic ☐

Public hospital ☐ Otolarngist ☐

University hosptial ☐ Folk ways ☐

Nothing

If medical help was sought was it

Immediately after showing symptoms ☐

Few days later ☐

Few weeks later ☐

One month to three months ☐

More than three months ☐

Not sure ☐

What type of medical action was taken

Medication ☐ Surgery in ear(s) ☐

Surgery of tonsils or nose ☐ Description of hearing aid ☐

Speech therapy ☐ Nothing ☐

Was such medical intervention useful in

improving hearing ☐

stopping deteriorition ☐

caused deterioration ☐

no effect ☐

If a hearing aid was recommended, was the subject

able to get it

not able to get because

it was expensive

it was not available in the market

If he got a hearing aid was it

on his own expense

from a rehabilitation facility

from a school clinic

paid for through other agencies

If he used a hearing aid before coming to the rehabilitation facility did he continue to use it _____

_____

stop using it _____

_____

use it for sometime _____

_____

use in some places _____

_____

Was he able to communicate by speech and hearing before impairment

Yes ☐ No ☐

What was his method(s) of communication when he applied for rehabilitation:

expression	reception
talking	hearing with or without hearing aid
writing	speech reading
sign language	reading printed materials
combination	combination

Does he/she suffer of any other impairment or illness before coming to rehabilitation

type date of onset

Was he using other orthotics or prosthetics when first coming to rehabilitation

Yes ☐ type

No ☐

Socioeconomic aspects:

(1) Family structure

was he/she at the time of applying for rehabilitation

Single ☐ Married ☐ Divorced ☐ Widow ☐

with children ☐ without children ☐

living with parent family ☐ living with his own family ☐

living alone ☐

Sources of income: own from work ☐ insurance ☐ other ☐

Parent support ☐

Support from wife and/or children ☐

Social security ☐

	Name	relation to the client	Age	Sex	marital status	educational level	economic activity	income per month	Disability if any
1		client							
2									
3									
4									
5									
6									
7									
8									
9									
10									

Educational history (inputs)

did the client attend any education before onset of impairment

Yes ☐ No ☐

if yes what level

primary less than 3rd grade
3rd grade
4th grade
5th grade
6th grade

preparatory 7th grade
8th grade
9th grade

secondary General ☐ 10th grade
technical ☐ 11th grade
12th grade

Higher 13th grade
14th grade

University _____

Name of College: _____

completed ☐

not completed ☐

Was education abandoned because of impairment

Yes ☐ No ☐

If impairment occured before school age or if general education was abandoned because of impairment

did he/she join special education

Yes ☐ No ☐

if yes, how many years did he/she spend in that education

primary 1 2 3 4 5 6 7 8

preparatory (vocational) 9 10 11

what type of special education did he attend

public special School for the deaf ☐

private special School for the deaf ☐

special classes for the deaf in a special school ☐

special classes for the deaf in general school ☐

other specify

Did he or she: go daily from home to school and vice versa ☐

live with some relatives near the school ☐

live in the school itself ☐

was he/she using a hearing aid in the period of education

Yes ☐ No ☐

If he did not use a hearing impaired, why?

because it was not preseribed ☐

it was hazardous ☐

it was not profitable ☐

Vocational history (inputs)

Did the client have

vocational training before impairment After ☐ No ☐

work experience before impairment After No

If he had vocational training before impairment was it suitable after impairment Yes ☐ No ☐

If he had work experience before impairment

was it abandoned because of impairment ☐

or due to other reasons ☐

If he had work experience after impairment

did he lose it because :

it was not suitable for his abilities ☐

place of work was far from home ☐

lack of communication ☐

low payment ☐

negative attitudes from mates ☐

mistreatment of supervisors ☐

Still with the work but seeks

a higher skillful work ☐

more suitable work ☐

higher rate of payment ☐

a more secured work ☐

a nearby work ☐

other reasons specify ☐

Was previous work with

Government ☐

public sector ☐

private sector ☐

his own business ☐ at home ☐ outside home ☐

working for the family against payment ☐

working for the family without payment ☐

PART B

INDIVIDUALIZED PROGRAM

Date of referral or Applying to Rehabilitation

Period passed since impairment

- In the same month ☐
- In the first six months ☐
- In the first year ☐
- In the second year ☐

3rd ☐	4th ☐	5th ☐
6th ☐	7th ☐	8th ☐
9th ☐	10th ☐	11th ☐
12 ☐	13 ☐	14 ☐
15 ☐	16 ☐	17 ☐
18 ☐	19 ☐	20 ☐

more than 20

referral source

- family doctor ☐
- clinic ☐
- hospital ☐
- social affairs unit ☐
- school ☐
- parents ☐
- self ☐
- other (specify) ☐

Has he/she ever been referred to rehabilitation service at any time in his/her life

where

when

why

Evaluative services

Place	Type of evaluation	Month	Date	Year	Period passed after referral (days)
	Intake (Initial) Interview				
	general medical examination				
	ear nose and throat "				
	audiological examination				
	other examinations				
	psychological evaluation				
	socioeconomic evaluation				
	vocational (work) evaluation				
	speech evaluation				
	other (specify)				
	1.				
	2.				
	3.				
	4.				
	5.				

Date of admission (meeting of screening committee)

Date of licensing

Date of employment if any

Total amount of time (days) from referral to

licensing _____

employment _____

persons engaged in working with the case (check as needed)

Director of Center/office ☐

General practitionner doctor ☐

Ear, nose and throat specialist ☐

Audiologist ☐

speech therapist ☐

rehabilitation counselor ☐

Psychologist ☐

Social worker ☐

work evaluator ☐

vocational training instructor ☐

educational instructor ☐

psychotherapist ☐

group or recreational worker ☐

placement officer ☐

psychiatrist ☐

other specify ☐

Rehabilitation Services

1. referral to surgery ☐
2. medication ☐
3. Hearing Aid ☐
   - from the agency ☐
   - from other agency ☐
4. other devices (specify)
   - type _____
   - source _____
5. Speech therapy
   - period: _____ month
   - place: in the center/office ☐
     outside (specify) ☐
6. Counseling ☐
7. Financial support ☐
   - from the center/office ☐
   - from other resource ☐
   - no support ☐
8. transportation fees ☐
9. vocational training
   - period month
   - place of training _____
     - Inside the center/office ☐
     - in the neighbourhood of the center/office ☐
     - in another rehabilitation center/office ☐

in a training center with MSA ☐

in a shop near his home residence ☐

on the job training ☐

no training ☐

type of vocation: _____

11. Placement

through the effort of the Director

the counselor ☐

placement officer ☐

labour force office ☐

his parents ☐

his own effort ☐

his own business ☐

his family business ☐

returned to previous job ☐

12. Follow up and follow through

		period passed since licensing
1st	date completed _____	_____
2nd	date completed _____	_____
3rd	date completed _____	_____

Costs of rehabilitation (not including fixed costs)

1. medical care (charge to other agencies, LE
2. hearing aid (execluding any payments from the client)
3. speech therapy (arranged through other agency)
4. other orthotics and/or prosthetics or physical restoration
5. charges for any evaluations completed outside the office
6. vocational training (if outside the center)
7. fincancial support
8. transportation fees
9. other specify
    a.
    b.
    c.
    d.

Grand Total

PART C

Rehabilitation outcomes

Did you get any of the following services from rehabilitation center/ office or through it?

- improvement in hearing ability due to training ☐
- improvement in communication abilities ☐
  - expression ☐
  - reception ☐
  - a hearing aid ☐
- repairment of an old hearing aid ☐
- getting other orthotics or prosthetics ☐
- surgery or treatment of other diseases ☐

Which of the following do you believe that rehabilitation helped you in?

- dealing with other persons ☐
- financial support during rehabilitation ☐
- dealing with problems with family ☐
- dealing with problems with people ☐
- meeting with other deaf people ☐
- being able to depend on myself ☐

Which of the following activities do you take part in by yourself or with other family members?

	myself	with other members
reading newspapers	☐	☐
listening to the radio	☐	☐
watching T.V.	☐	☐
meeting visitors	☐	☐
visiting with others	☐	☐
going to work and back	☐	☐
using public transportation	☐	☐
shopping	☐	☐
driving	☐	☐
going to cinema	☐	☐
travelling in the nearby areas	☐	☐
travelling outside town/city	☐	☐
travelling outside country	☐	☐
caring for children	☐	☐
going to pray	☐	☐
meeting with friend of same sex	☐	☐
meeting with friends of other sex	☐	☐

Which of the following roups do you have membership?

- Association for the deaf ☐
- club for the deaf ☐
- public club ☐
- work club ☐
- work union ☐

other private associations ☐

a coffee grou! ☐

a ploitical party ☐

a local council ☐

Which of the following happened after you finished your rehabilitation in the office/center?

marriage to a hearing person ☐

marriage to a hearing impaired person ☐

divorce and not remarried ☐

divorce and remarried ☐

death of spouse ☐

having choldren for the first time ☐

having other children ☐

left parents home to own home ☐

being able to support self financialy ☐

being able to share in supporting the family ☐

left the village or origin residency to a new area near work ☐

Was rehabilitation successful with you in?

being able to express yourself verbally ☐

being able to express yourself by signs ☐

being able to read printed materials ☐

being able to write what you want to say ☐

being able to apply for jobs in writing ☐

reading newspapers ☐

completing school education ☐

Do you have a job at the present time?

Yes ☐ No ☐

If yes ask the following questions.

Are you satisfied with your job?

Yes ☐ No ☐

If yes, why are you satisfied?

job is suitable ☐
job is near to my home ☐
it is a governmental job ☐
it gives me a high payment ☐
I have good friends in it ☐
I have good supervisors ☐
I have other colleagues who are deaf ☐
It is the only work available for me ☐

If No, why are you not satisfied?

work is not suitable for me ☐
time of work is not convenient for me ☐
place of work is far from my home ☐
work is not a parmenant job ☐
payment from work is low ☐
my colleagues in work do not understand me ☐
supervisors in work do not understand me ☐

What type of employment do you have?

- Governmental ☐
- public industry ☐
- private sector ☐
- sheltered workshop ☐
- paid work for the family ☐
- unpaid work for the family ☐
- private business

Income per month in Egyptian pounds _____

Difference between income before and after rehabilitation in Egyptian pounds _____

Was this your first time for employment Yes ☐ No ☐

If no was it second time ☐

third time or more ☐

What were the reasons for leaving previous jobs

- work was unsuitable ☐
- work was hard ☐
- far distance from home ☐
- lack of communication ☐
- treatment of colleagues ☐
- low payment ☐
- work was hazardous ☐
- it was a temporary work ☐
- other specify ☐

Do you think that rehabilitation could,

- help you enhance your knowledge and skills ☐
- improve work habits ☐
- help you acquire new work habits ☐
- give you a chance to choose a parmanent career ☐
- provided you with training devices ☐
- provided you with work devices ☐

II. If he has no job at time of interview what he thinks were reasons behind his unemployment.

- employers do not like to hire disabled persons in general ☐
- employers do not like to hire hearing impaired persons ☐
- I have had an opportunite to work but it was not suitable ☐
- work opportunities are rare in community ☐
- I prefer to wait until I have a governmental work ☐
- type of work that I can do is not wanted in the community ☐
- I did not find enough help from the rehabilitation facility ☐
- other reasons specify ☐

What are economic changes in your life?

- it was the first time to have income from a job ☐
- my income increased ☐
- I was able to live without social security ☐
- I was able to initiate a private business ☐
- No change in income ☐

APPENDIX C

APPENDIX C

A COMPARATIVE EVALUATIVE STUDY OF TWO MADELS

FOR REHABILITATION OF THE HEARING IMPAIRED PERSONS

IN EGYPT

Questionnaire Form B

1. General information

   Center/office:

   Address: City/town

   Governorate

   Telephone

   year of establishment

   Name of association to which the center or office is affiliated

   Date and number of registration

2. Description of the building

   Owned Rented Borrowed

   Area of the building in square meters:

   Number of rooms 1 2 3 4 5 6 7

   8 9 10 more than 10

   Number of floors 1 2 3 or more

   Is there any annexations to the building?

   Yes No

If yes is it

in the same town or district

in another town or district

in other governorate

Is the building location in the center of the town

At a distance from the centr of the town

Can the center/office be reached by public transporation?

	Yes	No
Are there special rooms for		
reception	Yes	No
counseling	Yes	No
general medical examination:	Yes	No
Audiological examination:	Yes	No
Psychological evaluation:	Yes	No
Social evaluation:	Yes	No
Vocational evaluation:	Yes	No
Vocational training shops	Yes	No

Is the centr or office known to

Health services	Yes	No
Social affairs units	Yes	No
Schools of the deaf	Yes	No
Medical doctors	Yes	No
Local councils	Yes	No
To the public in general	Yes	No

2. Personnel (check the personnel working with the center/office at present time)

Title	Full time	Number employed	Part time	Number employed
Director				
Rehabilitation counselor				
Medical doctor				
Specialist of ear				
Audiologist				
Speech patheologist				
Psychologist				
Vocational evaluator				
Case social worker				
Group worker				
Speech therapist				
Educational instructor				
Vocational instructor				
Recreational worker				
Accountatnt				
Technicians				
Interpreters				

Information on employees of the center/office

Job Title	Name	Education last degree	Period of education From	To	Major	Minor	Experience with main office	Experience outside the office	Type of Employment Part-time	Full time

Specify personnel by type of employment

1. Personnel employed by the center/office

Title	Working hours	
	Full time hrs.	part-time hrs.

2. Personnel borrowed from the Ministry of Social Affairs and paid by it.

Title	Working hours per week	
	Full time	Part time

3. Personnel borrowed from other Agencies in the Community

Title	Work hours per week	
	Full time	Part time

4. Can you define types of personnel who are rarely or not found in the local community.

1.

2.

3.

4.

5.

Process

A. REFERRAL

Average of 1976 and 1977

Source of Referral	All Clients %	Hearing impairment % clients
Social units		
hospitals		
school clinics		
schools of deaf		
private clinics		

Do clients usually come: by themselves

with a parent

with friends

How many times does a client need to come to the centr/office before admission to rehabilitation?

1 2 3 4 5

6 7 8 9 10 or more

Clients

	Applied		Admitted		Completed rehabilitation		Did not complete	
	all clients	hearing impaired	all clients	hearing impaired	all clients	hearing impaired	all clients	hearing impaired
1977								
1978								

Evaluation - Check as suitable

	In the office	Outside the office	
		Against Changes	Free
Initial intervies			
Medical general examination			
Ear, nose and throat			
Audiological examination			
other medical evaluations			
Psychological testing			
Psychiatric screening			
Social case study			
Vocational (work) evaluation			
Speech evaluation			

Services

	Inside the center/ office	Outside the center/ office	
		Against charges	Free
Surgery			
Medical treatment			
Hearing aids			
Speech therapy			
Other crthotics and prosthetics			
Rehabilitation counseling			
Psychotherapy			
Vocational training			
Education			
Recreation			
Residency			
Transportation			
Food			
Financial support			

Difficulty of cases

For counselors; psychologists, social workers, medical doctors and vocation instructors.

Can you order the following cases according to difficulty of counseling (give a rank of 1 to the easiest 2 to the next in difficulty and so on).

Blind

Mentally retarded

Upper amputation

Lower amputation

Low vision

Hard of hearing

Deaf who can talk

Deaf mute

Negative T.B. cases

Negative leprotic

Cardiac cases

Hemiplegia

Paraplegic

Polio

Senal diseases

Do you usually ask the hearing impaired client to bring another person who can talk when he comes to you?

Yes No

Client evaluation procedures

1. Psychologists

A. Please specify types of psychological tests that you usually implement for the hearing impaired: (include title of the test, author, publisher, date of publishing, norms and comment on its validity and reliability for use with those clients). Use a separate paper for evaluation and follow the given form for evaluation.

B. If there is no available tests, what are other procedures that you usually use to report on these cases:

1.

2.

3.

4.

2. Audiological evaluation:

Is there any type of audiological evaluation in the center/ office: Yes No

If yes specify:

Tunning fork

Audiometer

Speech audiometer

None

If there is no tools, what of the following resources are used

	In local community	outside
private clinic		
public hospital		
university hospital		
the center for the deaf in Cairo		
school clinic		
institute of hearing		
other specify		
none		

Vocational evaluation:

What are the main methods you use for vocational evaluation with your hearing impaired clients (check as applied)

vocational work history

school reports

psychological testing

I.Q. score

situational evaluation

work samples

on job training

Training of personnel in rehabilitation of the hearing impaired

	Period from	to	Place
Director			
Rehabilitation counselor			
Social worker			
Psychologist			
Vocational instructor			
Teacher			
Other specify			

Do you think that there is a need for training programs in the field of rehabilitation of the hearing impaired?

Yes No

If yes what is the most suitable length of training period (months weeks)

What are other needs you feel your center or office needs to raise its level of performance in rehabilitation of the hearing impaired?

1.
2.
3.
4.
5.
6.
7.
8.

Name of interviewer:

Name of Director:

Date completed:

APPENDIX D

رقم سرى

دراسة تقويمية مقارنة
لنموذجين لتأهيل المعوقين سمعياً
فى جمهورية مصر العربية

إستمارة جمع البيانات (النموذج الأول)

البيانات التى تجمع فى هذه الاستمارة
سوف لاتستخدم إلا لأغراض البحث فقط

مركز / مكتب _____ محافظة _____

إسم المؤهل _____

العنوان _____

تاريخ إكمال الاستمارة _____

إسم الباحث _____ توقيعه _____ التاريخ _____

إسم المراجع _____ توقيعه _____ التاريخ _____

(١)

الجـــزء الأول

أولا بيانات عامة :

الاسم النوع ذكر ☐ أنثى ☐

تاريخ الميلاد / / ١٩ أو السن عند تقديم الطلب _____ سنة

محل الميلاد شياخة أو قرية

مركز محافظة

١ ــ هل محل الميلاد : حضر ☐ ريف ☐

٢ ــ محل الاقامة الحالى شياخة أو قرية

مركز محافظة

حضر ☐ ريف ☐

٣ ــ هل محل ميلاده مختلف عن محل الاقامة الحالى نعم ☐ لا ☐

٤ ــ منذ متى يقيم فى هذه المنطقة سنة شهر

٥ ــ التقدم التأهيل :

أ ـ تاريخ التقدم التأهيل / / ١٩

ب ـ عنوان الاقامة عند التقدم للتأهيل

جـ ـ هل هو مختلف عن محل الميلاد نعم ☐ لا ☐

د ـ هل هو مختلف عن محل الاقامة الحالى نعم ☐ لا ☐

هـ ـ بعد محل الاقامة عنـــد التقدم للتأهيل عن المكتب أو المركز بالكيلو متر _____

ثانياً تاريخ المرض :

١ ــ السن عند حدوث التعوين السمعى أو عند اكتشافه

منذ الولادة ☐

بعد ذلك فى سن سنة _____ شهر _____

غير معروف ☐

(٢)

٢ ــ سبب التعويق السمعى (املأ الخانات المناسبة)

موجود منذ الولادة ☐

مرض (حدد النوع) _____

حادث : منزلى ☐ طريق ☐ عمل ☐

حادث آخر يذكر _____

عقافير (أدوية) أذكر اسم العقار _____

أسباب أخـــرى تذكر _____

٣ ــ هل كان التعويق

فجأة ☐

تدريجياً ☐

غير معروف ☐

٤ ــ هل بدأ التعويق فى أذن واحدة ☐ فى الأذنين ☐

٥ ــ هل التعويق الآن فى أذن واحدة ☐ فى الأذنين ☐

٦ ــ هل الحالة تتحسن ☐ تتدهور ☐ ثابتـــه ☐

٧ ــ هل أى من الأبوين أصم أو ضعيف السمع . .

الأب فقط ☐ الأم فقط ☐ الأب والأم ☐ لا أحد ☐

٨ ــ هل توجـــد قرابة بين الوالدين نعم ☐ لا ☐

٩ ــ هل يعانى أحد الاخوة أو الأخوات من تعويق سمعى

لا أحد ☐ بعضهم ☐ كلهم ☐

(٣٠)

١٠ — عدد الاخوة ذكور _____ إناث _____

١١ — عدد المصابين منهم ذكور _____ إناث _____

١٢ — هل يوجد أقارب من ناحية الأب أو الأم يعانون من تعويق سمعى

نعم ☐ لا ☐

١٣ — إذا كانت الإجابة بنعم هل هم

اقارب للاب فقط ☐

أقارب للام فقط ☐

أقارب للاثنين ☐

١٤ — إذا كان العميل متزوجاً فهل الزوج / الزوجة لديه تعويق سمعى

نعم ☐ لا ☐

١٥ — إذا كان لدى العميل أبناء فهل يعانى أى منهم من تعويق سمعى

نعم ☐ لا ☐

عدد الأبناء : ذكور _____ إناث _____

عدد المعوقين سمعياً ذكور _____ اناث _____

١٦ — إذا كان أى من الأخوة والأخوات معوقين سمعياً هل حدث لهم التعويق السمعى بنفس الطريقة (الدرجة — السن — السبب) نعم ☐ لا ☐

١٧ — هل تم التعرف على التعويق السمعى بواسطة :

الأب ☐ الأم ☐

الزوجة ☐ الاخوة والاخوات ☐

الابن أو الابنة ☐ آخرون ذو علاقة بالاسرة ☐

طبيب الأسرة ☐ وحدة رعاية طفولة ☐

مدرس فى المدرسة ☐ وحدة صحية مدرسية ☐

جهة طبية ☐ المصاب نفسه ☐

آخرون أذكرهم _____

(٤)

١٨ ــ هل كان هـــذا التعرف

بعد مرض ☐

بعد حادث ☐

بعد الولادة ☐

لاشيء من هذا ☐

١٩ ــ أذكر نوع المساعدة أو العلاج الذى لجأ إليه المصاب أو أسرته بعد التعرف على التعويق . . .

طبيب الاسرة ☐ عيادة أطفال ☐

مستشفى عام ☐ طبيب أنف وأذن ☐

مستشفى جامعى ☐ طرق شعبية ☐

لا شيء ☐

٢٠ ــ إذا كان تم اللجوء إلى جهة طبية هل كان ذلك . . .

عقب ظهور أعراض ضعف السمع أو الصم مباشرة ☐

بعد عدة أيام من ظهور الاعراض ☐

بعد عدة أسابيع من ظهور الاعراض ☐

بعد شهر إلى ثلاثة أشهر ☐

بعد أكثر من ثلاثة أشهر ☐

غير متأكد ☐

٢١ ــ ماهو الإجراء الطبى الذى تم بالنسبة للحالة

عـــلاج طبى دوائى ☐ جراحة فى الاذن ☐ جراحة فى اللوز أو الانف ☐

وصف معين سمعى ☐ تدريب النطـــق ☐ لاشيء ☐

(٥)

٢٢ — ما هو أثر الاجراء الطبى

تحسن السمع ☐
وقف تدهور السمع ☐
إستمرار فى تدهور سمعى ☐
لم يكن له أثر ملحوظ ☐

٢٣ — إذا كان قد وصف للمريض معين سمعى

هل كان ذلك عن استشارة من طبيب متخصص نعم ☐ لا ☐

٢٤ — إذا كانت الاجابة نعم فهل

استطاع الحصول عليه ☐
لم يستطع الحصول عليه لارتفاع ثمنه ☐
لم يستطع الحصول عليه لعدم توفره فى السوق ☐
لم يحاول الحصول عليه . . . ☐

٢٥ — إذا كان قد حصل على معين سمعى هل كان ذلك

على حسابه الخاص ☐
من هيئة تأهيل ☐
من وحدة صحة مدرسية ☐
عن طريق هيئة أخرى ☐

٢٦ — إذا كان قد استخدم معينا سمعياً قبل تقدمه للتأهيل

فهل استمر فى استخدامه نعم ☐ لا ☐

(٦)

٢٧ ــ هل كان قادراً على التخاطب لفظياً قبل اصابته بالتعوق السمعي

نعم ☐ لا ☐

٢٨ ــ ماهي طريقة تخاطبه عنـــد تقدمه للتأهيل

تعبـــير		إستقبـــال	
كلام	☐	سمع باستخدام سماعة طبية أو بدونها	☐
كتابة	☐	قراءة شفاه	☐
إشارة	☐	قراءة الكلام المكتوب	☐
أكثر من طريقة	☐	إشارة	☐
		أكثر من طريقة	☐

٢٩ ــ هل كان العميل يعاني من أي قصور بدني آخر أو مرض عنـد تقدمه للتأهيل

نعم ☐ النـوع ــــــــــــــــــــــــ

تاريخ حدوثه ــــــــــــــــــــــــ

لا ☐

٣٠ ــ هل كان يستخدم أطراقاً صناعية أو أجهزة تعويضية عنـــد تقدمه للتأهيل

نعم ☐ النـوع ــــــــــــــــــــــــ

لا ☐

(٧)

ثالثاً الجوانب الاجتماعية والاقتصـــادية :

١ ــ التكوين الاسرى :

هل كان عنـد التقـــدم للتأهيل

أ ـ أعزب (لم يسبق له الزواج) ☐ متزوج ☐ مطلق ☐ أرمل ☐

ب ـ له أولاد ☐ ليس له أولاد ☐

جـ ـ يعيش مع أسرة والديه ☐ يعيش مع أسرته الخاصة ☐ يعيش بمفرده ☐

٢ ــ مصادر دخـــله :

	القيمة الشهرية	
	مليم	جنيه
عمله الخاص		
ملكية عقـــار		
تأمين اجتماعى		
ضمان اجتماعى		
مساعدة من والديه (مايخصه من دخل الاسرة)		
مساعدة من أولاده أو زوجتـــه		
مصادر أخرى (تذكر)		
جملة الدخل الشهرى		

لا يوجد دخل خاص ☐

٣ ـ التكوين الأسرى عند تقـــدمه للتأهيل :

الاسم	قرابته للعميل	السن	النوع	الحالة الزواجية	المستوى التعليمى	النشاط الاقتصادى	الدخل الشهرى		العجز إن وجد
							مليم	جنيه	

(٩)

النشـــاط الاجتماعى :

ما هى الانشطة التى كان يقوم بها قبل التـأهيل (اختر ماينا سب)

الاستيقاظ منفرداً	☐
النظافة الشخصية	☐
قضاء حاجته الشخصية بالمنزل	☐
الحركة داخل المنزل	☐
رعاية أطفـــال	☐
تبادل الحديث مع أفراد الاسرة	☐
مقابلة الضيوف	☐
الخروج خارج البيت لقضاء حاجيات البيت	☐
الذهاب إلى المدرسة بمفرده أو الى مركز التأهيل	☐
استخدام المواصلاب العامة بمفرده	☐
التردد على النوادى الاجتماعية	☐
حضور المناسبات العامة	☐
التردد على دور العبادة	☐
لقاءات مع أصدقاء	☐

(١٠)

زيارة أقارب	☐
قراءة الصحف اليومية	☐
مشاهدة برامج التليفزيون	☐
ذهابه للسينما	☐
السفر خارج المدينة	☐
السفر خارج القطر	☐
قيادة سيارة	☐
قيادة دراجة أو موتوسيكل	☐
ممارسة أنشطة رياضية	☐

ما هى .....

_____

_____

_____

(١١)

رابعاً التاريخ التعليمى :

١ ــ هل التحق العميل بأى تعليم قبل حدوث العجز

نعم ☐ لا ☐

٢ ــ إذا كانت الاجابة نعم ماهو المستوى الذى وصل إليه فى آخر مرحلة تعليمية

(حدود المرحله والمستوى)

الابتدائى

أقل من الصف الثالث ☐

الصف الثالث ☐

الصف الرابع ☐

الصف الخامس ☐

الصف السادس ☐

الاعدادى

الصف الأول ☐

الصف الثانى ☐

الصف الثالث ☐

الثانوى عام ☐

الصف الأول ☐

الصف الثانى ☐

الصف الثالث ☐

فنى ☐

فوق المتوسط : التخصص _____

الصف الأول ☐

الصف الثانى ☐

دراسة جامعية

كليـــة _____

أكمل الدراسة ☐

لم يكمل الدراسة ☐

(١٢)

٣ ــ هل انقطع عن تعليمه بسبب الاصابة نعم ☐

لا ☐

٤ ــ اذا كان التعويق قد حدث قبل سن المدرسة أو كان التعليم العام قد قطع بسبب العجز

أ ـ فهل التحق العميل بالتعليم الخاص نعم ☐ لا ☐

ب ـ اذا كانت الاجابة نعم ــ كم سنة قضاها فى التعليم الخاص

إبتـــدائى ١ ٢ ٣ ٤ ٥ ٦ ٧ ٨

اعدادى (مهنى) ٩ ١٠ ١١ التخصص _____

٥ ــ أى نوع من التعليم الخاص التحق به

مدرسة حكومية للصم ☐

مدرسة خاصة للصم ☐

فصول خاصة ملحقة بمعهد تربية خاصة ☐

فصول خاصة ملحقة بمدرسة عامة ☐

جمعية تأهيل الصم ☐

(١٣)

٦ — هل كان العمل خـــلال فترة الدراسة ...

يذهب يوميا إلى المدرسة ويعود منها (يقيم مع أسرته) ☐

يقيم مع أحد أقاربه ويذهب يوميا إلى المدرسة ☐

يقيم فى معهد آخر أو جمعية ☐

يقيم فى المدرسة ويعود فى نهاية الأسبوع لأسرته ☐

٧ — هل كان يستخدم معينا سمعياً فى خلال مرحلة التعليم

نعم ☐ لا ☐

٨ — إذا كانت الاجابة لا ما هو السبب . . .

لأنه لم يوصف له معين سمعى ☐

لأن المعين السمعى كان يضايقه ☐

لأن المعين السمعى لم يفده ☐

لأنه كان يشعر بالخجل من حمله ☐

خامساً : التـاريخ المهنى .

١ — هل تلقى العميل تدريباً مهنياً قبـل العجز ☐ بعده ☐ لا ☐

٢ — هل كان للعميل خبرة فى عمل قبل العجز ☐ بعده ☐ لا ☐

٣ — إذا كان العميل قد تلقى تدريباً مهنياً قبل العجز — هل كان هذا التدريب يناسبه بعد العجز

نعم ☐ لا ☐

٤ — إذا كانت لديه خبرة فى عمل قبل العجز هل انقطع عنه بسبب العجز ☐

أو بسبب أخير غير العجز ☐

(١٤)

٥ ــ إذا كانت لديه خبرة فى عمل بعد العجز قبل حضوره للتأهيل يهل ترك هذا العمل

نعم ☐ لا ☐

٦ ــ إذا كان قد ترك العمل هل كان ذلك بسبب . .

أ ـ عدم ملاءمته لقدراته ☐

ب ـ بعد مكان العمل عن المسكن ☐

جـ ـ صعوبة التخاطب مع الآخرين فى مجال العمل ☐

د ـ انخفاض الأجر ☐

هـ ـ عدم تقبل الزملاء ☐

و ـ سوء معاملة رؤسائه له ☐

٧ ــ إذا كان لازال فى العمل فهل كان هدفه عند حضوره للتأهيل البحث عن .

أ ـ عمل أكثر مهارة ☐

ب ـ عمل أكثر ملاءمة لقدراته وخبراته ☐

جـ ـ عمل يعطيه أجرا أكبر ☐

د ـ عمل أكثر استقرارا ☐

هـ ـ عمل أكثر قربا لمسكنه ☐

و ـ أسباب أخرى توضح _____

_____

٨ ــ هل كان عمله السابق على حضوره للتأهيل مع . .

أ ـ الحكومة ☐

ب ـ القطاع العام ☐

جـ ـ القطاع الخاص ☐

د ـ عمله الخاص ☐ فى المنزل ☐ خارج المنزل ☐

هـ ـ يعمل لدى الأسرة بأجر ☐ و ـ يعمل لدى الأسرة بغير أجر ☐

(١٥)

الجـــزء الثـــانى

﴿ برنامج التـــأهيل ﴾

١ — تاريخ التحويل أو التقدم بطلب للتأهيل / / ١٩

٢ — الفترة التى مضت منذ بدء العجز وقبل التقدم بطلب التأهيل

- فى نفس الشهر ☐
- فى الستة اشهر الاولى ☐
- فى السنة الاولى ☐
- فى السنة الثانية ☐

السنة الثالثة	☐	الرابعة	☐	الخامسة	☐	السادسة	☐
السابعة	☐	الثامنة	☐	التاسعة	☐	العاشرة	☐
الحادية عشر	☐	الثانية عشر	☐	الثالثة عشر	☐	الرابعة عشر	☐
الخامسة عشر	☐	السادسة عشر	☐	السابعة عشر	☐	الثامنة عشر	☐
التاسعة عشر	☐	العشرين	☐	بعد أكثر من ٢٠ سنة			☐

٣ — الجهة التى حولت العميل

- طبيب الاسرة ☐
- عيادة طبية ☐
- مستشفى ☐
- وحدة اجتماعية ☐
- مدرســـة ☐
- أحد الأبوين ☐
- من تلقاء نفسه ☐
- أخرى (تذكر) _____

(١٦)

٤ — هل سبق تحويله إلى خدمات تأهيلية فى أى وقت من حياته ...

اين التاريخ / / ١٩

سبب التحويل _____

٥ — دراسة الحالة :—

المكان	نوع الفحص أو الدراسة	التاريخ	الفترة التى مضت منذ تقدمه للمكتب باليوم
	المقابلة الأولى (استقبال)		
	الفحص الطبي العام		
	فحص الأنف والأذن والحنجرة		
	الفحص السمعى		
	فحوص طبية أخرى		
	الفحوص النفسية		
	الفحوص الاجتماعية		
	الدراسة المهنية		
	تقييم الكلام		
	فحوص أخرى (تذكر)		
	١		
	٢		
	٣		
	٤		
	٥		

(١٧)

٦ ــ تاريخ القبول للتأهيل (تاريخ قرار لجنة القبول) / / ١٩

٧ ــ تاريخ قرار لجنة الشهادات / / ١٩

٨ ــ تاريخ الالتحاق بعمل ان وجد / / ١٩

٩ ــ الوقت الذى انقضى بين التقدم للتأهيل والحصول على شهادة التأهيل شهر يوم

١٠ ــ الوقت الذى انقضى بين التقدم للتأهيل والالتحاق بعمل شهر يوم

١١ ــ الأشخاص الذين اشتركوا فى العمل والذين تقابلوا مع الحالة (اختر ماينا سب)

- مدير المركز / المكتب ☐
- الطبيب العام ☐
- طبيب الأنف والأذن والحنجرة ☐
- طبيب السمع ☐
- اخصائى علاج الكلام ☐
- مدرب نطق ☐
- أخصائى التأهيل (المرشد) ☐
- الأخصائى النفسى ☐
- الأخصائى الاجتماعى ☐
- أخصائى التقييم المهنى ☐
- مدرب مهنى ☐
- مدرس تعليمى ☐
- أخصائى علاج نفسى ☐
- أخصائى جماعات وعلاج ترويحى ☐
- أخصائى توظيف ☐
- آخرون (يذكر)

(١٨)

الخدمات التأهيلية :

جراحة (محولا من المركز إلى مستشفى) ☐

علاج طبي ☐

معين سمعي ☐

أ - عن طريق المكتب / المركز ☐

ب - عن طريق هيئة أخرى ☐

معينات أخرى (تذكر)

النـــوع _____

مصدر الحصول عليها _____

تدريب النطق

المـــدة شهراً

المكان ـــ داخل المكتب / المركز ☐

خارج المكتب / المركز ☐

مساعدات ماليـــة

من المركز / المكتب ☐

من مصادر أخرى ☐

لا يوجـــد ☐

(١٨)

الخدمات التأهيلية :

جراحة (محولا من المركز إلى مستشفى) ☐

علاج طبي ☐

معين سمعي ☐

أ - عن طريق المكتب / المركز ☐

ب - عن طريق هيئة أخرى ☐

معينات أخرى (تذكر)

النـــوع _____

مصدر الحصول عليها _____

تدريب النطق

المـــدة شهراً

المكان ـ داخل المكتب / المركز ☐

خارج المكتب / المركز ☐

مساعدات ماليـــة

من المركز / المكتب ☐

من مصادر أخرى ☐

لا يوجـــد ☐

(١٩)

أجور مواصلات

من المركز / المكتب ☐

من مصادر أخرى ☐

لا يوجـــد ☐

التـــدريب المهنى

المدة ..... شهر ..... نوع الصناعة .....

مكان التدريب

١ ــ داخل المركز / المكتب ☐

٢ ــ فى البيئه المجاورة ☐

٣ ــ فى مركز أو مكتب تأهيل آخر ☐

٤ ــ فى مركز تدريب تابع لوزارة الشئون ☐

٥ ــ فى ورشة قريبة من محل إقامته ☐

٦ ــ تدريب فى العمل ☐

٧ ــ لم يتلق أى تدريب ☐

التوظيف إذا وجد

من خلال جهود مدير المركز / المكتب ☐

مجهود أخصائى التأهيل ☐

مجهود أخصائى التوظيف ☐

(٢٠)

جهود مكتب عمل ☐

جهود الابوين ☐

جهود العميل نفسه ☐

مشروع خاص ☐

عمل خاص بالاسرة ☐

عاد إلى عمله السابق ☐

تاريخ الالتحاق بأول عمل بعد إتمام التأهيل / / ١٩

المدة التى انقضت منذ حصوله على الشهادة إلى حصوله على أول عمل بالشهر

المتـــابعة :

الاولى ☐ التاريخ / / ١٩ الفترة التى مرت منذ حصوله على الشهادة

الثانيـة ☐ التاريخ / / ١٩ الفترة التى مرت منذ حصوله على الشهادة

الثـالثـة ☐ التاريخ / / ١٩ الفترة التى مرت منذ حصوله على الشهادة

(٢١)

نفقات التأهيل

نوع الانفاق	مليم	جنيه
الرعاية الطبية (التزامات نحو هيئات أخرى)		
معين سمعى (مخصوما منه مادفعه العميل كمساهمة)		
تدريب النطق (الذى يتم خارج المكتب / المركز)		
أطراف صناعية أو أجهزة تعويضية أو نفقات إعداد بدنى		
نفقات دراسة الحالة التى تتم خارج المكتب / المركز		
التدريب المهنى (إذا كان خارج المكتب / المركز)		
مساعدة مالية		
نفقات مواصلات		
أخرى تذكر		
أ ـــ		
ب ـــ		
جـ ـــ		
مضافا اليه مايخص الفرد من نفقات ثابته		
أجور		
إيجارات		
إعاشة		
إسعاف ورعاية طبية (خاصة بالاقامة)		
د ـــ تغذية		
هـ ـــ أخرى		
الجملة		
الاجمالى العام		

(٢٢)

الجـزء الثـالث

نتـائج التـأهيـــل

أولا : العنـاصر البـدنية

١ ــ هل استفدت من أى من الخدمات التالية عن طريق مكتب / مركز التأهيل أو منه

- تحسن فى القدرات السمعية بسبب التدريب ☐
- تحسن فى قدرات التخاطب ☐
- فى التعبير ☐
- فى التفهم ☐
- معين سمعى ☐
- إصلاح المعين السمعى القديم ☐
- جهاز تعويض أو طرف صناعى ☐
- جراحة أو علاج ☐

٢ ــ أى من هذه الخدمات تعتقد أن التأهيل افادك فيها

- التعامل مع اشخاص آخرين ☐
- مساعدات مالية خلال التأهيل ☐
- مواجهة مشكلات مع الجمهور ☐
- التعرف على اشخاص آخرين من المعوقين سمعياً ☐
- الاعتماد على النفس ☐

(٢٣)

النشـاط الاجـتماعى

١ ـــ ماهى الانشطه التى يقوم بها بعد التأهيل (اختر ماينا سب)	بمفرده	بالاشتراك مع أفراد الاسرة
الاستيقاظ منفرداً	☐	☐
النظافة الشخصية	☐	☐
قضاء حاجته الشخصية بالمنزل	☐	☐
الحركة داخل المنزل	☐	☐
رعاية أطفال	☐	☐
تبادل الحديث مع أفراد الأسرة	☐	☐
مقابلة الضيوف	☐	☐
الخروج خارج البيت لقضاء حاجيات الأسرة .	☐	☐
الذهاب إلى محل عمله بمفرده	☐	☐
استخدام المواصلات العامة بمفرده	☐	☐
التردد على النوادى الاجتماعية	☐	☐
حضور المناسبات العامة	☐	☐
التردد على دور العبادة	☐	☐
لقاءات مع أصدقاء من نفس جنسه	☐	☐
لقاءات مع أصدقاء من الجنس الآخر	☐	☐

(٢٤)

زيارة أقارب	☐	☐
قراءة الصحف اليومية	☐	☐
مشاهدة برامج التليفزيون	☐	☐
ذهابه للسينما	☐	☐
السفر خارج المدينة	☐	☐
السفر خارج القطر	☐	☐
قياده سيارة	☐	☐
قيادة دراجة أو موتوسيكل	☐	☐
ممارسة أنشطة رياضية	☐	☐
ما هى	_____	
	_____	

(٢٥)

٢ ــ أى من المجموعات التالية تشترك فيها :

جمعيـــة الصم	☐
نـادى الصم	☐
نـادى عام	☐
نـادى فى العمل	☐
اتحاد أو نقابة عمال	☐
مجموعة علمية	☐
جمعيات أهلية أخرى	☐
مجموعة من مقهى	☐
حزب سياسى	☐
مجلس محلى	☐

٣ ــ أى من الأشياء التالية حدث بعد انتهائك من التأهيل فى المكتب / المركز

زواج من شخص أصم	☐
زواج من شخص يسمع	☐
انجاب أطفال لأول مرة	☐
/ انجاب أطفال آخرين	☐

(٢٦)

ترك منزل الوالدين لمنزله الخاص ☐
اصبح فى امكانه أن يعول نفسه ماليا ☐
اصبح فى قدرته ان يشترك فى اعمال الأسرة ☐
ترك قريته او مقر إقامته الأصلى الى منطقة اخرى قريبة من العمل ☐

هل يعتقد ان التأهيل نجح فى تحقيق	نعم	لا
اصبح قادرا على التعبير عن نفسه لفظيا	☐	☐
اصبح قادرا على التعبير عن نفسه بالاشارة	☐	☐
اصبح قادرا على قراءة مواد مكتوبة	☐	☐
اصبح قادرا على كتابة ما يريد قوله	☐	☐
اصبح قادرا على قراءة الصحف	☐	☐
اصبح قادرا على استكمال دراسته التعليمية	☐	☐

هل لك عمل فى الوقت الحاضر نعم ☐ لا ☐

اذا كانت الاجابة نعم ← يسأل الأسئلة التالية

هل انت راض عن عملك

نعم ☐ لا ☐

اذا كانت الاجابة نعم ما هو السبب او الأسباب (تخير ما يناسب)

لأن العمل يناسبنى ☐
لأن العمل قريب من مسكنى ☐
لأنه عمل حكومى ☐
لأنى احصل على اجر مناسب ☐
لأن زملائى يعاملونى معامله طيبة ☐
لأن رؤسائى يحبونى ☐
لأن لى زملاء كثيرين من المعوقين سمعياً ☐
لأنى لا اجد عملا غير ذلك ☐

(٢٧)

اذا كانت الاجابة بالنفى ما هو السبب او الأسباب

لان العمل لا يناسبنى . ☐
لان وقت العمل لا يناسبنى . ☐
لان مكان العمل بعيد . ☐
لان العمل غير حكومى . ☐
لان الاجر منخفض . ☐
لان زملائى لا يفهمونى . ☐
لان رؤسائى لا يفهمونى . ☐

هل عملك

حكومى ☐
قطاع عام ☐
قطاع خاص ☐
مصنع خاص (محمى) ☐
عمل للأسرة يتقاضى عنه مرتبا ☐ لا يتقاضى عنه مرتبا ☐
عمله الخاص اذكره

مليم جنيه

ماهو دخلك من العمل فى الشهر

الفرق بين الدخل من العمل الحالى والدخل من العمل عند الالتحاق بالتأهيل مليم جنيه

هل هذه أول مرة تحصل فيها على عمل بعد التأهيل

المرة الاولى ☐
المرة الثـــانية ☐
المرة الثالثة فأكثر ☐

(٢٨)

ماهي الاسباب لترك العمـــل أو الاعمال السابقة التي حصلت عليها بعـــد التأهيل

العمل غير مناسب للتدريب الذى تلقيته ☐

العمل شاق ☐

بعد المسافة عن المسكن ☐

الحاجة الى مهارات للتخاطب ☐

عدم تقبل الزملاء لك ☐

عدم معاونة الزملاء معه ☐

إنخفاض الاجر ☐

خطورة العمل ☐

العمل مؤقت وغير رسمى ☐

غير ذلك (يذكر) _____

هل تعتقد أن التأهيل أمكنه

أن يساعدك فى اكتساب معلومات أو مهارات مهنية جديدة

أن يزيد معلوماتك ومهاراتك

تحسين عادات العمل

اكسابك عادات جديدة فى العمل

إعطاءك فرصة لاختيار مهنة دائمة

زودك بوسائل تساعدك فى التدريب

زودك بوسائل تساعدك فى العمل

(٢٩)

إذا كان ليس لديه عمل فى الوقت الحاضر فما هى الاسباب وراء عدم حصولك على عمل

- ☐ أصحاب الاعمال لايرغبون بتوظيف المعوقين بصفة عامة
- ☐ أصحاب الاعمال لايرغبون فى توظيف المعوقين سمعيا
- ☐ حصلت على فرصة عمل ولكن العمل لم يكن يناسب قدراتى
- ☐ فرص العمل نادرة فى المجتمع الذى أعيش فيه
- ☐ أفضل أن أنتظر لاحصل على عمل حكومى
- ☐ العمل الذى تدربت عليه غير مطلوب فى السوق
- ☐ لم أجد مساعدة كافية من المكتب / المركز
- أسباب أخرى (توضح)

أى التغيرات الاقتصادية الآتية قد حدث لك ...

- ☐ كانت أول مرة احصل فيها على دخل من العمل
- ☐ امكننى ان ازيد دخلى من العمل
- ☐ امكننى ان استغنى عن الضمان الاجتماعى
- ☐ امكننى ان ابدأ مشروعا خاصا
- ☐ لم يحدث اى تغير فى الدخل

APPENDIX E

المعهد العالى
لتقديـــم البرامـــــح

بحث تقويمى مقارن
لنموذجين لتأهيل المعوقين سمعيـــا
فى
جمهورية مصر العربيـــة

استمارة البحث

النموذج الثانى

(بيانات هذه الاستمارة سرية ولا تستعمل لغير اغراض البحث)

١ـ بيانات عامـــة

مكتب / مركـز

العنوان

مدينـــــة

محافظـــــة

تليفون رقـــم

سنة الانشـــاء

اسم الجمعية اذا كان يتبع جمعية

تاريخ ورقم الاشهار

٢ـ المبـــنى

ملوا ☐ بستاجر ☐ مستعار ☐

المساحة التى يشغلها المبنى بالمتر المربع

عدد الغرف ١ ٢ ٣ ٤ ٥ ٦ ٧

٨ ٩ ١٠ اكثر من ١٠

عدد الادوار التى يشغلها المبنى ١ ٢ ٣ اكثر من ٣

هل للمكتب او المركز مبانى اخرى تتبع له

ـ فى نفس المدينة (او الحى) ☐

ـ فى مدينة اخرى (او حى اخر) ☐

ـ فى محافظة اخـــــــرى ☐

-٢-

هل يقع المبنى

في وسط المدينة ☐

في احد اطراف المدينة ☐

هل يوجد خط مواصلات يمر بالمكتب او المركز يمكن استخدامه في الوصول اليه

نعم ☐ لا ☐

هل يشتمل المبنى على اماكن خاصة لاقسام الانشطة التالية ..

الاستقبال ☐

الارشاد ☐

الفحص الطبي للعام ☐

الفحص الطبي النفسي ☐

الفحوص النفسية ☐

الدراسة الاجتماعية ☐

التقويم المهني ☐

التدريب المهني (تبين الاقسام المهنية الموجودة) وسعة كل قسم

١-

٢-

٣-

٤-

٥-

٦-

٧-

٨-

٩-

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التدريب السمعى وتدريب النطق ☐

النشاط الترويحى الداخلـــى ☐

النشاط الترويحى والبدنى الخارجى ☐

اماكن للاقامة الداخلية للبنين ـــــــــ للبنات ـــــــــ

خدمات متنوعة اخرى تذكر (مثل الغسيل- اعداد الطعام ٠٠الخ)

هل مكان المكتب او المركز معروف

للخدمات الطبيـــــه ☐

الوحدات الاجتماعيـــة ☐

معاهد تربية الصـــــم ☐

الاطباء فى المنطقـــــة ☐

للجمهور عمومـــــــا ☐

الجهاز الوظيفي (في الوقت الحالي)

	كل الوقت	بعض الوقت
مدير		
اخصائي تأهيل		
طبيب عام		
طبيب اخصائي اذن وانف		
طبيب اخصائي سمع		
طبيب اخصائي امراض الكلام		
اخصائي نفسي		
اخصائي تقويم مهني		
اخصائي خدمة فرد		
اخصائي جماعات		
اخصائي علاج نطقي		
مدرس تعليمي		
مدرب مهني		
اخصائي ترويح		
فنيون		
مترجمو اشارات		
موظفون اداريون		
المجموع		

بيان بالعاملين فى مكتب / مركز

تضاف صفحات مماثلة عند الحاجة

الوظيفة	اسم شاغلها	اخر تعليم حصل عليه	الدرجة العلمية	الدراسة من	الدراسة الى	التخصص الرئيسى	التخصص الفرعى	الخبرة مع المكتب/ المركز	خبرته فى غير المكتب/ المركز	عطله كل الوقت	عطله بعض الوقت

توزيع الموظفين حسب نوع الاستخدام

١- موظفون معينون عن طريق المكتب / المركز

الوظيفة	العدد	كمية العمل في الاسبوع (ساعة)	
		كل الوقت	بعض الوقت

٢- موظفون منتدبون من المنشئون الاجتماعية

الوظيفة	العدد	كمية العمل في الاسبوع (ساعة)	
		كل الوقت	بعض الوقت

٣- موظفون منتدبون من جهات اخرى ..

الوظيفة	العدد	كمية العمل في الاسبوع (ساعة)	
		كل الوقت	بعض الوقت

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ماهى انواع الوظائف التى يصعب الحصول عليها فى المجتمع المحلى والتى يحتاج اليها المكتب/المركز

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٣- عملية التأهيل

أ- تحويل الحالات

متوسط ١٩٧٧، ١٩٧٨

مصدر الحالات	كل المنشآت		المعوقون سمعيا	
	العدد	٪	العدد	٪
الوحدات الاجتماعية				
المستشفيات				
الوحدات الصحية				
معاهد التربية الخاصة				
المجالس المحلية				
من تلقاء نفسه				
مصادر اخرى				
المجموع				

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هـل يحضـر العملاء عـادة

بأنفسهـم ☐

مع أحد الابوين ☐

أو الاخـوه ☐

مع الاصدقاء ☐

كم مرة يحتاج العميل ان يحضر الى المكتب / المركز قبل قبوله للتأهيل

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٧ ☐ ٨ ☐ ٩ ☐ ١٠ ☐ أكثر من ١٠ ☐

العمـلاء

السنه	متقدمين		مرفوضين		مقبولين	
السنه	كل الفئات العمر	كل الفئات العمر	كل الفئات العمر	كل الفئات العمر	أكملوا التأهيل كل الفئات العمر	لم يكملوا التأهيل كل الفئات العمر
١٩٧٧						
١٩٧٨						

المركز الادارى	البعد بالكيلومتر عن عاصمة المحافظه	المتقدمين من العمر ١٩٧٧	المتقدمين من العمر ١٩٧٨

الدراســـــة

نوع الدراسة او الفحص	في المكتب	خارج المكتب: مقابل نفقات	خارج المكتب: بدون مقابل
المقابلة الاولى	☐	☐	☐
فحص طبي عام	☐	☐	☐
فحص انف واذن وحنجرة	☐	☐	☐
فحص سمعي	☐	☐	☐
فحوص طبية اخرى	☐	☐	☐
اختبارات نفسية	☐	☐	☐
فحص طبي نفسي	☐	☐	☐
دراسة اجتماعية	☐	☐	☐
تقويم مهني	☐	☐	☐
تقويم النطق	☐	☐	☐

اخرى تذكر

الخدمات التأهيلية

الخدمة	داخل المركز/المكتب	خارج المركز/المكتب: مقابل نفقات	خارج المركز/المكتب: بدون مقابل
جراحة	☐	☐	☐
علاج طبي	☐	☐	☐
معينات سمعية	☐	☐	☐
علاج نطق	☐	☐	☐
اطراف صناعية	☐	☐	☐

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الخدمة	داخل المركز/المكتب	خارج المركز/المكتب	
		مقابل نفقات	بدون مقابل
ارشاد تأهيلي	☐	☐	☐
علاج نفسي	☐	☐	☐
تدريب مهني	☐	☐	☐
تعليم	☐	☐	☐
ترويح	☐	☐	☐
اقامة	☐	☐	☐
انتقالات	☐	☐	☐
تغذية	☐	☐	☐
مساعدات مالية	☐	☐	☐

اخرى تذكر

صعوبة الحالات ([illegible])

هل يمكن ان ترتب الحالات التالية حسب صعوبة التأهيل الكلى

(اعطى الرتبة رقم ١ للحالات الاكثر سهولة، ٢ للتي تليها في الصعوبة وهكذا)

النـــوع	الرتبـــة
مكفوفـــين	
المتخلفون عقليا	
بتر اطراف علوية	
بتر اطراف سفلية	
ضعف ابصـــار	
ضعف سمــــع	
اصم مع وجود كلام	
اصم مع عدم وجود كلام	
حالات ناقهى الدرن	
حالات الجذام السلبيه	
حالات قلب	
حالات شلل نصفى	
حالات شلل سفلــى	
حالات شلل اطفال	
حالات امراض الكلى	

هل تطلب عادة من المعوق سمعيا ان يصحبه شخص اخر ليمكن التفاهم معه

نعم ☐ لا ☐

اذا كانت الاجابة بلا فما هي وسيلتك للتخاطب مع الصم

وسائل تقييم ودراسة الحالات

١- الاخصائي النفسي

أ - رجاء تحديد الاختبارات النفسية التي تستخدمها عادة مع المعوقين سمعيا (اذكر اسم الاختبار- المؤلف - الناشر- تاريخ النشر- المعايير- واذكر رأيك في مدى صدقها وثباتها- في الاستخدام مع المعوقين سمعيا) استخدم ورقة بيضاء.

ب - اذا لم تكن هناك اختبارات نفسية متوفرة - فما هي الوسائل الاخرى التي تستخدمها عادة لدراسة هذه الحالات ...

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اذكر في ورقة منفصلة رأيك تفصيليا في هذه الوسائل

٢- التقويم السمعي

هل يوجد اي نوع من القياس السمعي في المكتب / المركز

شوكة رنانة

جهاز قياس سمع (اديومتر)

جهاز قياس سمع كلامي

لا يوجد اي وسيلة

اذا لم تكن هناك وسائل فما هى المصادر التى تعتمد عليها فى قياس السمع

	في المجتمع المحلى	خارج المجتمع المحلى
عيادة خاصة	☐	☐
مستشفى عام	☐	☐
مستشفى جامعى	☐	☐
مركز تأهيل الاصم بالقاهرة	☐	☐
وحدة صحة مدرسية	☐	☐
معهد السمع	☐	☐
اخرى تذكر	☐	☐
لا يوجد	☐	☐

٣- التقويم المهنى

ما هى الوسائل الاساسية التى تستخدمها فى المكتب او المركز فى التقويم المهنى للمعوقين سمعيا

دراسة تاريخ الحالة

تقارير المدرسة

نسبة الذكاء

المقاييس النفسية الاخرى

التقويم فى ورش

عينات ونماذج العمل

التقويم فى العمل فعلا ..

تدريب الموظفين

اذكر فيما يلى اى تدريب تلقاه العاملون (فى مجال تأهيل المعوقين سمعيا)

	المدة		مكان التدريب
	من	الى	
المدير			
اخصائى التأهيل			
الاخصائى الاجتماعى			
الاخصائى النفسى			
المدرب المهنى			
اخرون (اذكرهم فيما يلى)			
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هل ترى ان هناك حاجة لاعداد برامج تدريب متخصصة لمن يعملون مع العمم

نعم لا

اذا كانت الاجابة بنعم فما هى انسب فترة للتدريب

اسبوع شهر

ما هى الامكانيات الاخرى التى ترى ان المكتب او المركز بحاجة اليها لرفع مستوى الاداء في تأهيل العمم ...

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LIST OF REFERENCES

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