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A STUDY OF THE PREVALENCE OF HANDICAPPING CONDITIONS AFFECTING CHILDREN, AND A CASE FINDING INTERVENTION IN THE REFUGEE CAMP POPULATION OF THE GAZA STRIP.

C.A. SAUNDERS,
ASSISTANT PROFESSOR,
FACULTY OF EDUCATION,
THE UNIVERSITY OF CALGARY.
FOR :
THE SOCIETY FOR THE CARE OF
HANDICAPPED CHILDREN - GAZA.

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SECTION 1

INTRODUCTION

The aim of the research programme is to provide an estimate of the prevalence of handicapping conditions of children in the refugee camp population of the Gaza Strip.

Handicap is defined in relation to educational factors and includes any condition that is permanent or semi-permanent which will affect the children's level of performance in school, their chances of entering school, or their chances of staying in school. Estimates based on such criteria will provide information necessary for the planning of special education services in the Gaza Strip, and will encompass the full range of conditions from severe multiple handicap through to children who have received education to a particular level but have been excluded from school because of specific academic learning difficulties . In addition, the survey has included children who are in need of specialist medical or paramedical treatment because they suffer from conditions sometimes associated with severe handicap (epilepsy); or conditions which may lead to handicapping disorders if left untreated (middle ear infection and strabismus); or conditions which, although not necessarily handicapping in an educational setting, can be ameliorated by treatment and can increase the chances of the child succeeding in school and vocation. This would include children in need of treatment from the physiotherapist, opthalmologist or speech therapist.

The interview based survey was conducted on a stratified sample of the refugee camp population. The interview collected details of each household structure in order to provide a definition of the sampled population, and an estimate was made of the numbers of children not receiving education who fall into a series of categories. In order to assist in the interpretation of these numbers they have been transformed into prevalence rates for specific conditions or categories. Rates are expressed as "n" cases per thousand in the defined population .

The terms prevalence and incidence are used in this report and it is important to distinguish between the two. The prevalence of a condition refers to the numbers of persons in a defined population who suffer from the specified condition at a given point in time, while incidence refers to the occurrence rate of that condition. There is sometimes a wide discrepancy between these two rates, particularly if the condition is usually associated with additional medical problems likely to affect survival. Thus the condition can occur frequently in population, but at any one point in time the prevalence may be relatively

low if few individuals survive. Cerebral palsy, particularly in countries where medical facilities are poor, is one of several frequently occurring conditions which demonstrates this discrepancy. However other conditions, such as genetically determined hearing loss, present similar rates of incidence and prevalence since the condition and associated factors have minimal affect on the chances of survival.

Rationale for the Study

The main objective of this programme was to collect data on the types of handicapping conditions children suffer from in the Gaza Strip. This information will allow for the rational planning of services for such children, and provide support for funding applications. To date this type of information has been largely subjective, and has usually been based either on the impression that particular conditions are common, or an extrapolation from epidemiological studies conducted in Europe or North America. As far as the author is aware the only recent reliable study of handicap in the Gaza Strip was conducted by Thomson and Chumbley (1984). This was a sample survey which screened for visual disorders in all age groups.

The present survey served other important objectives. Although it was separately financed, it formed part of the University of Calgary Post Graduate Diploma in Rehabilitation. The survey was validated by the University as a compulsory course for the diploma. The students who acted as the fieldworkers were accredited marks for their participation and had to complete assignments based on it. The author, who was also the diploma co-ordinator, developed a student training element into the survey. Students were involved at all stages of its development, running and follow-up. They learned skills relating to research design and interview technique. They participated in the interview of parents of handicapped or at risk children, and the assessment of these children. As an assessable part of the course they had to complete family case studies and do an assignment based on the interpretation of the final survey results. This combination of survey with diploma was designed to maximise the commitment of the students to the research, and to develop their understanding of the issues of handicap, family and services in the Gaza Strip. All of the students, on completion of the course, will become practitioners in Gaza. Therefore the benefits of this commitment and understanding should be passed on to the community being studied.

There has been recent and justifiable criticism of studies of handicapped children who have limited or no service provision when these children derive neither direct

nor significant benefit from this contact (see Mittler, 1981) The survey met this type of criticism in three important ways :

(i) It acted as a case finding exercise for the "Mothers Home Early Intervention Outreach Program". All children identified as handicapped or at risk of handicap from birth to seven years of age were contacted by home teachers and included in the home visiting programme. Because of the need for clients by this programme, contact was extended beyond the research sample areas whenever possible. Thus the survey acted as a direct case finding mechanism for the home intervention programme, and as a means of publicising this sevice.

(ii) A special education unit is planned for the village in which the pilot study was conducted. The results derived from the pilot study were used to support the application to the funding agency.

(iii) Individual families were given specific advice on availability of treatment for certain conditions, and in some cases were put directly in touch with services.

Background To The Study

The Gaza Strip is a unique community with major sectors showing the characteristics of impoverishment, overcrowding and high fertility typical of many "third world" countries. However its service infrastructure is more typical of an intermediate level of development. Free primary education is open to all except the most obviously handicapped; a range of hospital and clinic services is available even if limited to those who can afford health insurance; infant medical services are free upto the age of 3 years and immunization programmes have had proven success as illustrated by the data from this survey on poliomyelitis (see Fig.1,p.24). However, although the established infrastructure is good commpared with that of many parts of the world, the quality of service is extremely poor relative to that available in Europe or North America. The schools are overcrowded, poorly equipped, and children who make inadequate progress are excluded more often than helped -- an issue to be discussed in more detail later in the report. Like wise the health services are poorly equipped and medicines are expensive and often unavailable.

Approximately two thirds of the half million population are registered refugees, of whom nearly 225,000 live within the eight refugee camps established in the Strip (UNRWA, 1984). Although T.V. aerials and solar heating panels seem common throughout the camps, and some compounds are comfortable by any standard, the general impression of camp conditions is gross overcrowding,poor sanitation and frequent encounters with real poverty.

The United Nations Relief and Works Agency (UNRWA) administers the camps and makes available educational, health and welfare services to all registered refugees. Services for the indigenous population are provided mainly by the Israeli authorities, although a limited but important service is given by a number of local charity organizations, including The Society for the Care of Handicapped Children under whose auspices this programme was conducted.(1)

The Gaza Strip therefore operates under the dual system of Israeli Civil Administration and UNRWA. A well established development agency based in Gaza compiled a report on government and independent health service provision.(2) It suggests that the quality and quantity of government administered provision has deteriorated since 1980. UNRWA is reported as offering a significantly better service, although this is still far from adequate. However the Civil Administration retains control of all local development initiatives, and frequently offers substantial obstacles to these developments (Benvenisti,1984).

It is within this context that the survey was conducted.

The Survey Sample

The eight refugee camps of the Gaza Strip contain over one third of the population of the Strip. Because of the relatively uniform nature of the conditions and services which pertain across these camps, they offer a convenient and easily defined population for sampling. The non-camp population represents both registered refugees and persons indigenous to the Strip in a variety of rural and urban settings. Sampling from the non-camp population would have required considerable preliminary work to ascertain the balance of these variables, and this was not possible within the time constraints offered by the diploma course. By confining the sample to the camps the aim was to give a highly reliable study of a proportionally significant

NOTE*

1. For a full review of these organizations see Kelly A., 1984

2. The author respects the request of the field director of this agency not to cite the authorship of this report.

TABLE 1 : SAMPLE SIZE BY CAMP : NUMBER OF HOUSEHOLDS, NUMBER OF PERSONS.

	SAMPLING CATEGORIES					
	NUMBER OF HOUSEHOLDS SAMPLED	TOTAL NUMBER OF FAMILIES IN CAMP	PERCENTAGE SAMPLE	NUMBER OF PERSONS IN CAMP	TOTAL NUMBER OF PERSONS IN SAMPLE	PERCENTAGE SAMPLE
CAMP						
MAGHAZI	324	2042	15.8%	10125	2810	27.75%
JABALIA	1530	9586	16.0%	49400	13093	26.5%
EL BUREIJ	425	2919	14.6%	15459	3678	23.8%
DEIR AL BALAH	277	1776	15.6%	9626	2389	24.8%
BEACH CAMP	1198	7693	15.6%	38424	10879	28.3%
RAFAH	1433	8801	16.3%	46845	12247	26.1%
KHAN YUNIS	1155	6265	18.4%	31691	9440	29.8%
NUSEIRAT	768	4806	16.0%	25367	6608	26.0%
TOTALS :	7110	43888	16.2%	226937	61144	26.9%

NOTE* : Camp populations taken from U.N.R.W.A. Restigration Statistical Bulletin for the second quarter 1984. NO. 2/84.

population of the strip, and at the same time allow for cautious generalization from this to the remainder of the Strip.

A stratified sample of households was used. On the basis of figures presented by UNRWA (1984) on the current number of registered families per camp, and the initial estimate by the author of being able to interview in approximately 5000 dwellings, it was possible to derive a sampling fraction of between 11% and 12% . This fraction was used to calculate the number of interviews per camp necessary to conform to the stratification procedure. The initial intention was to interview in every "nth" household throughout each camp. However on visiting the camp the author considered that this was not feasible given the inconsistency of the house numbering system, the fact that two numbering systems are used indiscriminately, and that the layout of the camps is maze-like in complexity. Consequently it was decided to sample by blocks and to interview in every household in each selected block. This method made it difficult to conform to the precise sampling fraction, and also accounted for the larger sample than was originally intended. Table 1 presents the percentage sample by camp, and shows the range to be 14.6% to 18.4% with a mean rate of 16.2%.

Table 1 also indicates a disprepancy between percentage sample of families/households and persons per camp. The UNRWA data classifies by family but interviewing was by household. It is therefore evident that often more than one family, as defined by UNRWA, live together in one household. The overall percentage sample of persons was 26.9% .

Training of Field-workers

The post-graduate training programme started in June 1984 and the preliminary courses introduced the students to concepts relating to handicap, special education and rehabilitation. It also included courses relating to causation and identification of handicap, and factors affecting the prevalence and incidence of handicap in various types of communities.

All the students are residents of the Gaza Strip. Ten of the sixteen live in refugee camps, and there are only two camps out of the eight in the Gaza Strip which do not have at least one student residing there. Thus all students entered the specific training programme for the survey with some knowledge of the subject area to be researched, and a full understanding of the population and geography of the areas to be sampled.

The specific training began at the begining of October 1984. The main feature of this training was to involve the students as much as possible in all aspects of the preparation for the survey. The writer had a clear idea of the information needed for the research, the method and sampling procedure. However the refinement of this information into an interview schedule, and the developing of a procedure for working in the camps came from discussion with student groups and visits to camps with the students. Through such discussions and visits the writer gained an understanding of many factors such as the vagaries of street planning and numbering systems in the camps, the problems and possiblities of interviewing various members of the family and the protocol involved in this. Discussion influenced decisions on research criteria and procedure, and reinforced the students' sense of involvement with the project and understanding of the rationale for the survey.

After the pilot interview schedule had been drawn up, students practised interviews between themselves and a number of volunteer teachers from the Centre, and these were checked through by the writer and anomalies were discussed. The final stage in the training came during the pilot study when the writer accompanied each pair of students during their early interviews. Problems in completion of the schedule were discussed either with individual students if it was a particular problem, or with the group if it was a general problem.

The Pilot Study

The village of Bet Hanoun in the North of the Gaza Strip was selected for the pilot study. The interview team completed its work in two weeks and, as far as could be ascertained, all households were interviewed with a total of 785 interviews being collected. From the 4408 children recorded, 195 were seen and assessed by the author. Of these, 126 were classified as having some form of condition likely to affect their education.

As a result of the experience gained on the pilot study some modifications were made to the layout of the interview schedule prior to the printing of the final version. An additional question was included which asked of married couples who had children listed on the interview schedule whether they were first cousin relatives. This factor is known to have some relevance to the incidence of handicapping conditions, and discussion with families during the pilot study seemed to indicate that first cousin marriages were very common.

Problems relating to the organization of students into groups and the development of areas of responsibility were dealt with.

The Interview Schedule

The interview schedule was designed in the form of two tables, one for information on adults living in the household, and one for information on children. (A child is defined as any person not old enough to carry an identity card. Carrying of this card is required by all persons from their sixteenth birthday onwards and is rigidly enforced by the authorities. It provides a reliable and convenient method of distinguishing the child from the adult population in this survey). Information on adults includes: sex, relationship to head of household (wife, child, parent, other relation, other person), work status. Information on children includes: sex, age, parentage, whether in school, whether attended school in the past, if so, for how long, reasons for non-attendance now, whether working, whether possibly handicapped. Information on handicap was elicited by the following question: "Do any of your children suffer from any problems with their hearing or sight; do they have difficulty with their walking or ability to use their hands; is their speech okay; are they slow in learning or have any other problems?" A return visit was made to all households where there were children with possible handicaps. The writer was accompanied by two or more of the field-workers and a brief assessment and report was made. This interview was open-ended except in the case of middle ear infection. This was found to be the single most frequently occurring condition in the pilot study (29 of the 126 handicapped children). Because of the relatively

straight forward nature of the information required a questionnaire was compiled for the students to complete at the time of first interview whenever such a case was identified. In some cases audiometric assessment was given when children were suspected of suffering from a significant hearing loss.

Method of Working

An initial visit was made to each camp and sample blocks were identified in various sections of the camp. This preliminary work was carried out with students resident in the camp and those others who had knowledge of that particular camp structure. After this the team followed the method developed during the pilot study. The students were divided into four teams and each was assigned one quadrant of an area or block. It was the team's responsibility to divide this into sections and ensure that each house in each section was visited. After the first day in a new camp the author went with a group of two to four students to visit all houses with children recorded as having a possible handicap within their area. This procedure continued throughout the time the team was working in the camp, but it was the most time consuming element in the process. The students were able to identify more cases in one day than the author could visit, and consequently the interviewing in each camp was completed before the assessment of recorded children. In the larger camps assessment continued for upto two weeks beyond the completion of interviews. During this time students worked full time on interview coding and checking.

Assessment Procedure

The author saw all children recorded on the first interview as being possibly handicapped. The only exception were children suffering from regular and frequent discharge from the ear (assumed to be symptomatic of otitis media) but with no other reported problems and no reported hearing loss. No standard assessment procedure was used. An open ended interview was given in order to elicit information on the child's functional level. When appropriate, questions were asked about speech, comprehension, self-help and social skills, mobility, schooling, medical treatment and drugs. Frequently medical records were kept in the home and the author was often shown these. The "Illiterate E test" was used to ascertain visual acuity of children reported to have visual impairment (although the author recognizes that this was not appropriate for all conditions), and a screening Audiometer was used to test children reported to suffer from

hearing loss.

Apart from the important functions of case identification for the home intervention project referred to in the Rationale, and counselling parents on specific aspects of their children's problems, the purpose of collecting this information was for the classification of children into categories relevant to this survey. This classification was combined with basic information on age, sex, school status and so on for later analysis. Details of criteria used for the classification system are discussed under the heading of particular conditions or groups of conditions in Section 3 of this report.

Data Handling

The team included one research assistant whose task it was to collate all incoming data. She first listed all interviews by date, house number, number of adults and children, and possible handicap. Each interview schedule received an identification code and was then recorded on a separate register by code number, house number, date, interviewer, and confirmed handicap. Case records of all children visited, handicapped or otherwise, were typed onto separate record sheets and identified by code number. Thus there was a cross referenced record of all interviews made and all children visited. This register and case record sheet was then fed to the home intervention project.

Each interview was coded onto sheets before transfer to the computer. The coding frame involved the use of a 21 digit line for each person recorded in the interview. This summarizes their status in the household, sex, age, schooling, whether they are handicapped, etc. Each interview was coded by one of the field-workers and checked independently by a colleague.

Data entry began in March 1985 and took four months to complete.(3) Files were compiled for each camp, analysed separately and combined. Data analysis and cross-tabulations have been on-going.(4) The data and analysis programme have been stored on a hard disk and remain accessible for further analysis at a future date.

NOTE 3 : A Texas Instruments Professional Computer with hard disk and MS-DOS operating system was used.

NOTE 4 : Data was analysed using the "Survey Analysis Package and General Data Analyser" published by Mercator Computer Systems - Bristol (1984).

Reliability of the Survey

Three types of checks have been used on the accuracy of the data :

1. a proportion of households were reinterviewed and responses between first and second interview were compared.
2. As the data was processed and crosstabulated various discrepencies became apparent in the totals. These can be used as an index of coding errors.
3. The sampling error across blocks and camps has been calculated.

TABLE 2 : REINTERVIEW ANALYSIS – PERCENTAGE AGREEMENT BETWEEN FIRST AND SECOND INTERVIEW.

RESPONSE CATAGORY	TOTAL # OF RESPONSES	TOTAL # THE SAME	PERCENTAGE AGREEMENT
WIFE	580	568	98%
NUMBER OF CHILDREN > 15 YEARS	1508	1380	91.5%
FIRST COUSIN RELATIONSHIP	841	641	76%
EMPLOYMENT STATUS	2542	2171	85%
NUMBER OF CHILDREN < 16 YEARS	2549	2464	97%
CHILDREN'S AGE	2474	1609	65%
ATTENDS SCHOOL	2475	2421	98%

Reinterviews : A total of 667 reinterviews (9.4% of the total number of first interviews) were conducted as a check on the reliability of various key items on the schedule. The specific households selected for reinterview were chosen at random from five of the eight camps. Nuseirat was excluded from the procedure because it was the final camp in the main survey, and there would have been an inadequate time span between first and second interview. Bureij and Maghazi camps were excluded for travel convenience factors. First and second interviews were conducted by different students.

Table 2 presents the percentage agreement for seven variables and the number of responses on which the agreement calculation was based. On four items - wife status, number of children of less than 16 years, school attendance, number of children of more than 15 years - the agreement was over 90%, which is high. Employment status has an 85% agreement factor. This is also high given that such a variable can change significantly in the time between interviews, particularly in communities like the camps where unemployment is very high and subject to seasonal fluctuations and political influences. Thus a degree of difference is to be expected even given perfect reporting.

The response agreement to the question concerning first cousin relationship between man and wife was relatively low, at 76% . This may reflect some degree of embarrassment when answering this question, although the author has experienced little evidence of this during discussions with various people in various contexts. Perhaps confusion between degrees of relationship (i.e. first and second cousin marriage) accounts for the relatively high inaccuracy.

TABLE 3 : REINTERVIEW ANALYSIS - DIFFERENCE IN CHILDREN'S GIVEN AGE BETWEEN FIRST AND SECOND INTERVIEW.

35% of the given ages of children were different between first and second interview.

	1 YEAR DIFF.	2 YEAR DIFF.	3 YEAR DIFF.	>3 YEAR DIFF.	TOTAL
NUMBER	730	115	20	3	868
PERCENTAGE	84%	13%	2%	1%	100%

Agreement between the reported ages of children is also low in spite of the fact that dates of birth are recorded on identity cards etc. This is often the case in such surveys (U.N. Publications, 1978). Also a review of Table 3 indicates that of the 35% of responses that were given as inaccurate, 84% of them were only out by one year. If the total of given age agreements is added to the total number of responses out by only one year, the resulting percentage agreement of responses for given age plus or minus one year is 94.5% (i.e. 2339 responses out of 2474). Compared with the author's previous study in West Africa (Saunders, 1984) this is extremely high.

Agreement does not necessarily equal accuracy as there may be consistency of error. However it is a good index of such, and overall this study demonstrates a high level of agreement which suggests reliable census data and accurate reporting.

Crosstabulation discrepancies : Table 4 presents discrepancies in totals due to coding errors on a number of variables. The discrepancies range from 0.15% to 0.74% of coded responses.

TABLE 4 : PERCENTAGE CODING ERRORS DERIVED FROM POPULATION TOTALS IN DIFFERENT CROSSTABULATIONS.

VARIABLE	TABLES	DISCREPANCY	DIFFERENCE	% CODING ERROR
CHILD POP. 7-12yrs.	14,16	10964:10890	74	0.67%
SCHOOL STATUS	16	116 Miscoded from 15564	—	0.74%
MARRIAGE REL\SHIP.	9,10	18150:18220	70	0.4%
ADULT POP.	5,8	31668:31717	49	0.15%

Sampling Error and Confidence Limits of Sample

Appendix 2 presents the mean, variance, sampling error (standard deviation) and 95% confidence limits for six variables used in the study. The variables were selected for their general representativeness of population characteristics and/or their relevance to the identification of handicapping disorders. The calculations for number of persons per household and number of children per household were based on the mean number per block. First cousin marriage was calculated as a proportion of all marriage to first cousin marriage, and school status as a proportion of the population of school aged children to those children in school. Each of the above calculations was made across the 36 blocks sampled in the survey. The proportion of all children to children classified as handicapped was calculated across the eight camps using two different classifications of handicap.

The 95% confidence limits calculation uses the sampling error statistic (standard deviation) as a measure of the variables dispersion and relates it to the variables mean. This gives the range of values for that variable that would be expected to be found in 95% of samples. The range of mean number of persons per household across blocks is 7.6 to 10, and for children per household 3.4 to 4.9. The range for the proportion of all marriages to first cousin marriages is 1.6:1 to 3:1, and for school age children to children in school 1:1 to 1:1.1 across blocks. The relatively low sampling error for each of these variables gives a small range and suggests an even distribution of values for each of these variables across the camps as a whole.

The values for the distribution of handicap within the camps indicate much less uniformity. Two calculations were made. The proportion of all children to the number classified as handicapped produced the range 1:26 to 1:55 across the eight camps, indicating either a lack of uniformity in the distribution of conditions or problems with the identification of such conditions. The difficulty involved in accurate identification of certain types of condition is discussed in the following sections. However these identification problems have been excluded from the second calculation which uses data for severe handicap only, and gives the range 52:1 to 115:1.

The large sampling error producing this wide range for the confidence limits is to be expected. The data is made up of frequencies for many different types of conditions each with a different aetiology and relatively low frequency. Some conditions have a genetic link confining a significant proportion of each condition to a specific area or block within one camp (for example five cases of epidermolysis bullosa to two families, or four cases of congenital cataract to one family). Therefore one conclusion to be drawn is that a relatively large sample is required for the accurate estimation of prevalence rates. The author is confident that the sample size used in this study in combination with the advantages of stratification meet the necessary demand for accuracy.

SECTION 2 - POPULATION CHARACTERISTICS

This section presents an overview of the population characteristics derived from the study.

Age - Sex ratio : presents a standard picture of sex by age

TABLE 5 : MALE FEMALE RATIO - ALL CAMPS

		SEX			
CHILD/ADULT		MALE	FEMALE		TOTALS
	CHILD	52.44%	47.56%	100%	29476
	ADULT	49.07%	50.93%	100%	31668
	TOTALS	50.69%	49.31%	100%	61144

Age Distribution : Table 6 indicates some wide fluctuation over the fifteen year range. However the most significant feature of the distribution is the increased fertility or survival rate affecting the two to six year age cohort. Over the next five years this block will begin to have impact on demand for both ordinary and special education services. And if this increase in population continues at its current rate or at an increasing rate this effect could present significant budgeting problems.

TABLE 6 : AGE BY SEX - ALL CAMPS

		SEX			
		MALE	FEMALE	TOTALS	COL%
AGE	UNDER 2	1779	1616	3395	11.5%
	2	1172	1089	2261	7.6%
	3	1176	1186	2362	8.0%
	4	1110	1094	2204	7.5%
	5	1229	1088	2317	7.9%
	6	672	625	1297	4.4%
	7	773	685	1458	5.0%
	8	965	861	1826	6.2%
	9	972	917	1889	6.4%
	10	1133	971	2104	7.1%
	11	875	787	1662	5.6%
	12	1129	948	2077	7.0%
	13	887	844	1731	5.9%
	14	832	742	1574	5.3%
	15	686	633	1319	4.5%
	TOTALS	15390	14086	29476	100%

TABLE 7 : WORK STATUS BY SEX (ROW PERCENTAGE) - ALL CAMPS

	SEX		
WORK STATUS	MALE	FEMALE	TOTALS
PROFESSIONAL	81%	19%	1214
STUDENT	60%	40%	5491
SKILLED WORKER	95%	5%	1437
LABOURER	99%	1%	7545
NOT WORKING	16%	84%	16030
TOTALS	49%	51%	31717

Work status: Tables 7 and 8 give row and column percentage distribution for employment status. The 16% unemployment level for males does not necessarily reflect the true situation for unemployment. Men are often employed on a daily labour basis which means that many will be recorded as employed even though actual work and payment are infrequent and irregular. The large percentage of persons in higher education is not a recent phenomenon. The Palestinian people have a reputation for placing a high value on education. The discrepancy between the percentage of the population continuing education beyond school and professional employment opportunities suggest a large proportion of the unemployed or manual workers have higher education qualifications. The value this society seems to place on education may well have a positive effect on attitude to provision of special education facilities, and pressure by parents to have all their children in education for as long as possible.

TABLE 8 : WORK STATUS BY SEX (COLUMN PERCENTAGE) - ALL CAMPS

	SEX		
WORK STATUS	MALE	FEMALE	TOTAL
PROFESSIONAL	6%	1%	4%
STUDENT	21%	14%	17%
SKILLED WORKER	9%	0.5%	4.5%
LABOURER	48%	0.5%	24%
NOT WORKING	16%	84%	50.5%
TOTALS	15694	16123	31717

TABLE 9 : FIRST COUSIN RELATIONSHIP IN MARRIAGE (HOUSEHOLD STATUS) – ALL CAMPS

STATUS	MARRIAGE RELATIONSHIP FIRST COUSIN	NOT FIRST COUSIN	TOTALS
HEAD OF HOUSEHOLD	59%	41%	6207
WIFE	59.5%	40.5%	6409
CHILD OF H.H.	55%	45%	2434
PARENT OF H.H.	69%	31%	170
RELATION OF H.H.	53%	47%	3000
TOTALS	59%	41%	18220

First Cousin Marriage : Tables 9 and 10 present figures for first cousin marriage. This is likely to be a significant factor in the incidence of some genetically determined conditions. It was beyond the scope of this study to investigate such a specialized topic, but the findings presented here do suggest the need for such work in the near future.

It is noteworthy that this marriage factor applies equally to each category in the employment classification, and also across generations within the household status classification. This item had relatively poor reinterview agreement (76%). However, in spite of this, it is clear that first cousin marriage continues to be very common within this society.

TABLE 10 : FIRST COUSIN RELATIONSHIP IN MARRIAGE (PROFESSIONAL STATUS) – ALL CAMPS

STATUS	MARRIAGE RELATIONSHIP FIRST COUSIN	NOT FIRST COUSIN	TOTALS
PROFESSIONAL	63%	37%	908
STUDENT	60%	40%	127
SKILLED WORKER	56%	44%	1023
LABOURER	57%	43%	5317
NOT WORKING	58%	42%	10775
TOTALS	59%	41%	18150

SECTION 3 - HANDICAP

Community Attitude to Handicap

This study did not investigate attitude to handicap in a systematic way although the author gained a strong impression of attitudes at an anecdotal level. During the preparation for the study the students were adamant that the team would frequently meet cases where parents were rejecting and neglecting their handicapped children; and cases where parents would express shame and seek to shut away their children. Such cases did occur and some very distressing situations were met, as would be expected in any society, particularly where little or no service is available to help families and children, and where access to knowledge of handicap is very limited. However the overall impression was one of deep concern for children handicapped or otherwise. Several instances come clearly to mind of profoundly handicapped children who were being cared for in exemplary fashion by mothers who have been given neither hope nor help by doctors and educators. Often such people were aided by other members of the extended family living within and outside the household. They discussed problems freely and were interested in whatever advice and help could be offered.

Such examples are important. The students seemed to undergo a significant attitude change with regard to handicap in their community (although, again, there is no objective measure of this). Far from feeling that they were an isolated group of people pursuing an esoteric and socially irrelevant course of study, they began to see themselves as offering an important and expressly needed service to the community. Such an attitude change not only had a positive effect on the course, but it must also have been reflected in the general way of discussing issues relating to handicap with members of the community. It is hoped that because of this the survey had the additional effect of alerting the community to the beginnings of service development and demonstrating by example that members of the community are thinking positively about such issues.

Overall Results - Introduction

Tables 11 and 12 present the overall rates for conditions identified in the survey. Four of these categories are not mutually exclusive. Children suffering significant hearing loss with regular discharge from the ears are listed in the two categories "otitis media" and "significant loss", and children handicapped by the effects of poliomyelitis are listed in the two categories "polio handicapped" and "polio hand./not hand". In all other cases a child is listed in only one category. In some instances this presents a problem because some children suffer from

multiple handicaps. When this occurs the child is categorised according to the primary condition. Usually this represents a simple decision, for instance, a child who is severely mentally handicapped but also has strabismus and suffers from seizures would be classified as "severe M.H.". In other cases the distinction is less clear cut and the author had to make a decision based on his clinical experience of handicap.

TABLE 11 : ALL HANDICAPS PRESCHOOL AGE AND SCHOOL AGE - ALL CAMPS

	AGE		
HANDICAP	UNDER 6 YEARS	OVER 5 YEARS	TOTALS
NOT HANDICAPPED	12265	16497	28762
MILD M.H.	0	23	23
DEVELOPMENTAL DELAY	51	0	51
SEVERE DEV. DELAY	13	0	14
SEVERE M.H.	15	53	68
PROFOUND M.H.	5	15	20
DOWN'S SYNDROME	8	23	31
BEH. DISORDER	0	5	5
EPILEPSY	13	16	29
HYDROCEPHALUS	3	5	8
SPINA BIFIDA	2	2	4
DIPLEGIA	6	8	14
QUADRAPLEGIA	8	8	16
HEMIPLEGIA	1	8	9
ATHETOSIS	0	5	5
ATAXIA	1	3	4
OTHER PHYSICAL HAND.	3	18	21
POLIO HANDICAPPED	1	7	8
POLIO HAND./NOT HAND.	1	24	25
ALBINISM	1	1	2
NEEDS GLASSES	0	24	24
BLIND/PARTIALLY SIGHTED	8	22	30
OTITIS MEDIA	103	90	193
SIGNIFICANT HEARING LOSS	3	25	28
PROFOUND HEARING LOSS	14	[illegible]	18
SPEECH DISORDER	1	13	14
NOT HAND./NEEDS AID OR PHYSIO	13	8	21
TOTALS (EXCLUDING NOT HAND.):	274	440	714
TOTAL:	12539	16937	29476

TABLE 12 : PREVALENCE OF CONDITIONS BY AGE GROUP - ALL CAMPS

PREVALENCE PER 1000 CHILDREN

HANDICAP	PREVALENCE PER 1000 0-5 YEARS	PREVALENCE PER 1000 6-15 YEARS	PREVALENCE PER 1000 0-15 YEARS
MILD M.H.	____	1.36	____
DEVELOPMENTAL DELAY	4.1	____	____
SEVERE DEV. DELAY	1.0	____	____
SEVERE M.H.	1.2	3.1	____
PROFOUND M.H.	0.4	0.9	____
DOWN'S SYNDROME	0.6	1.4	1.0
BEH. DISORDER	____	0.3	____
EPILEPSY	1.3	0.9	1.0
HYDROCEPHALUS	0.2	0.3	0.3
SPINA BIFIDA	0.2	0.1	0.1
DIPLEGIA	0.5	0.5	____
QUADRAPLEGIA	0.6	0.5	____
HEMIPLEGIA	0.1	0.5	____
ATHETOSIS	0	0.3	0.2
ATAXIA	0.1	0.2	0.1
OTHER PHYSICAL HAND.	0.2	1.1	0.7
POLIO HANDICAPPED	____	0.4	____
POLIO HAND./NOT HAND.	____	____	1.8*
ALBINISM	0.1	0.1	0.1
NEEDS GLASSES	0	1.4	____
BLIND/PARTIALLY SIGHTED	0.6	1.3	1.0
OTITIS MEDIA	8.2	5.3	6.5
SIGNIFICANT HEARING LOSS	0.2	1.5	____
PROFOUND HEARING LOSS	1.1	2.0	1.6
SPEECH DISORDER	____	0.8	____
NOT HAND./NEEDS AID OR PHYSIO	1.0	0.5	____
SAMPLE POPULATION	12539	16937	29476

* Prevalence calculated using 8 to 15 years sample population which equals 14182.

Classification of Handicaps

Following is a category by category discussion of Tables 11 and 12, emphasizing the criteria for inclusion of children into the various groups:

Not handicapped : This category includes all children not identified as handicapped by their parents and hence not seen by the author. An additional 237 were identified by their parents as possibly handicapped, but after assessment by the author were classified as not handicapped.

The 237 include four main groups :

1) Children excluded from school because of poor academic performance. Usually such cases were recorded on first interview as school exclusion, but not referred for specific assessment by the parents because they did not view their children as being handicapped. However a small number of such children were seen, but provided no additional handicaps were evident they were classified as not handicapped. They still retain their school exclusion status and are dealt with later in the report.

2) Children who were considered by their parents as being handicapped because they have difficulties at school in terms of academic progress. As in goup one, provided there is no specific disability contributing to this, these children are classified as not handicapped, even though their academic problems may be severe. This group will also be discussed later in the report.

3) Children with permanent but minor disabilities judged by the author to be unlikely to affect their chances of entering school or their school performance in a significant way. For instance several children were seen who had lost their vision in one eye due to accidents. Provided vision in the other eye was good these children would not be included in the data.

4) Children with treatable medical conditions such as asthma, allergy, bronchitis, rheumatoid conditions and so on.

The exclusion from the data of children who came within groups 3 and 4 above is not to deny that their conditions were sometimes distressing, and in group 4 occasionally the cause of significant educational problems. However, even if the effect was severe enough for them to be excluded from school (in which case they fall into the same general category as group 1) it was still beyond the scope of this study to diagnose such conditions and assess with any degree of accuracy the nature and long term effect such condition might have on a child's education.

Mild Mental Handicap : All children who are categorised as mildly mentally handicapped are of school age. Some have attended school and been excluded and others have not gained entry to school. All these children display adequate language, self-help and independence skills, although one or more of these areas is usually reported as poorly developed. Social skills, particularly difficulties in relating to peers, are a main criterion for classification. Their parents often report that they tend to play only with younger children.

Appendix 1 contains selected case notes to illustrate how these criteria operate in practice. Case notes 1 to 3 are for children classified as not handicapped but who retain school exclusion status. Case notes 4 to 6 are for children who have been classified as mild mental handicap. Case notes 13 to 15 are of children who have been classified as severe mental handicap.

Developmental Delay and Severe Dev. Delay : These two groups of children are less than six years of age and represent the general catchment category for all children who demonstrate some degree of delay in motor, language, self-help or social skills, but show no evidence of other clinical conditions used in the set of categories in Tables 11 and 12.

Typical of children classified as Developmental Delay are children who have not as yet begun to verbalize or make word-like sounds by 2 years of age, or children who demonstrate limited mobility or exploratory skills by the time they are eighteen months. It is usually a classification for children who show a specific language or motor delay, or a minor generalised delay. Such children would be classed as at risk of handicap, although handicap is by no means certain. All of these children have been referred to the Mothers Home Early Intervention Outreach Program, and it is the existence of this programmethat supports the inclusion of these children in the data.

Children who are classified as having Severe Developmental Delay demonstrate a clear indication of future problems, although with the time constraints imposed by the study, and the diagnostic and assessment procedures available a more specific classification is difficult.

In Appendix 1 cases 7 to 9 refer to children in the category Developmetal Delay, and cases 10 to 12 illustrate criteria for Severe Developmental Delay.

Severe and Profound Mental Handicap : Severe and profound mental handicap refer mainly to children over 5 years of age although the author did include some children of less than 6 years when the developmental evidence seemed indisputable as to the appropriateness of these categories.

Severe mental handicap applies to children who demonstrate substantial problems in language and communication skills, self-help and independence skills, and often social skills. Children who have cerebral palsy and mental handicap are categorised according to their physical handicap, while children who exhibit total physical involvement and have minimal communication and social skills are categorised in the section profound mental handicap.

The case notes in Appendix 1 illustrate the distinction between severe handicap (cases 13 to 15) and profound handicap (cases 16 to 18). Case 15 and case 18 describe children who are less than 6 years of age.

Down's Syndrome : Down's Syndrome is listed separately from severe mental handicap in Tables 11 and 12 so that prevalence rates can be compared with known rates in other communities. This is done later in the report.

Behaviour Disorder : The five children included in this category are children who, in addition to being difficult to control, exhibit clinical signs suggesting organic causation of the condition. This includes bizarre behaviour patterns and for three of the five children frequent grand mal seizures. In one non-epileptic case the problems are attributed to head injuries in a car accident. Case 19 in Appendix 1 illustrates the type of disorder included in this category.

Epilepsy : Children placed in this category are free of additional problems such as severe behaviour disorder, and mental and physical handicap. No additional classification has been made on the basis of type or frequency of seizure. However the significant feature of this group is the proportion of children receiving treatment. This applies to seven of the thirteen children under 6 years of age, and twelve of the sixteen who are between 6 and 15 years. Obviously the effect of treatment is variable, but given the generally poor medical facilities available this represents an important achievement.

Hydrocephalus : The survey identified eight children with hydrocephalus, of whom five had shunts inserted which were proving effective and two had arrested hydrocephalus without a shunt insertion. For one 13 year old boy the condition was non-arrested and his mother was unable to afford treatment.

Spina Bifida : Of the four children identified as suffering from Spina Bifida two were diagnosed as being meningocele which had a minimal effect on their functioning. The remaining two were diagnosed as being myelomeningocele which led to poor bladder control. One of these children was of school age and attended school, where his major difficulty was in being accepted by school peers because of his incontinence.

Spastic Diplegia, Quadraplegia, Hemiplegia : Although the identification of spastic conditions presented no problem to the author, the distinction between diplegia and quadraplegia was sometimes problematic. However as service implications and prevalence rates are discussed for the group as a whole this should not present a difficulty. Classification has been made on the basis of physical involvement and does not include the mental handicap variable.

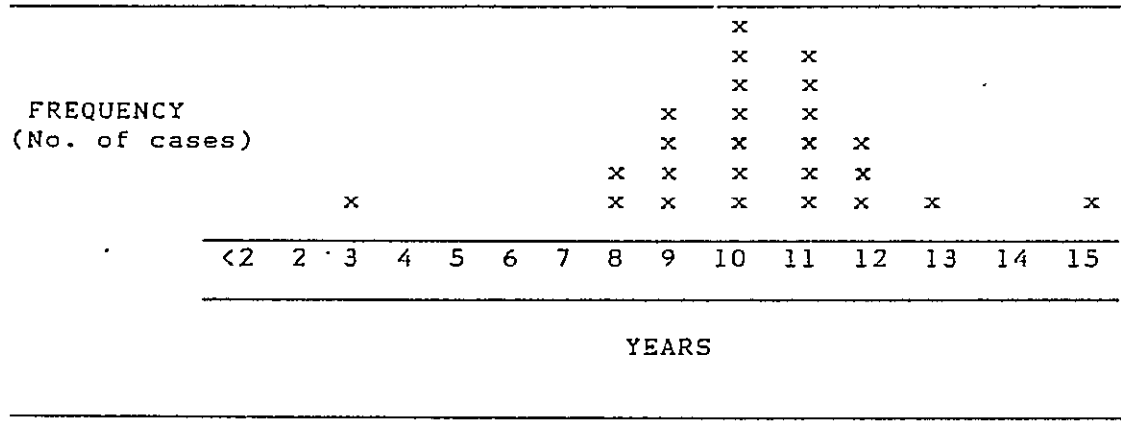
Athetosis and Ataxia : The five children identified as athetoid presented similar physical involvement. All seem to be socially well adjusted children with good self-help and independence skills. All have typical "athetoid" speech. One 13 year old girl is attending school and making good progress. The other children have not been entered for school.

One of the ataxic children is also attending school and is making good progress in spite of some speech and mobility problems. The remaining three children show evidence of some degree of mental handicap. One attended school for a short time before being excluded.

Other Physical Handicap : This is a general category which includes children with a variety of conditions leading to severe physical handicap. Twelve of these children had conditions that were either congenital deformities or progressive metabolic disorders which the author was unable to diagnose. Two children from the same family suffered from muscular dystrophy, and five, from two different families, from epidermolysis bullosa. One boy had a double amputation, and one a spinal injury from a bullet wound.

Poliomyelitis - Handicapped and Not Handicapped : Although the information on children handicapped by the effects of poliomyelitis is used in its own right in the discussion of service implications, it has also been combined with information on all children who show evidence of having contracted poliomyelitis. This presents the interesting and optimistic picture of how this disease has been controlled. Of the cases identified only one occurs in the under 8 years age group. Fig.1 illustrates the frequency of the condition across age groups. Note the strong peaking effect at 10 years. This is not indicative of incidence because mortality and complete recovery must also be taken into account.

FIG. 1 : FREQUENCY OF POLIOMYELITIS BY YEAR COHORT.



Visual Disorders : In identifying and assessing visual disorder the author was interested in the frequency of visual disability likely to affect school performance. No attempt was made to diagnose and categorise specific conditions, although the high frequency of cataract was noted. Strabismus also occurs very frequently although this has not been included in the data. The crude estimates obtained by this study can be supplemented by the results of a carefully conducted screening survey of visual disorders by Thomson and Chumbley (1984). Children over the age of five years were assessed on the "Illiterate E test" if visual disorder was reported by parents. Children with bilateral vision of 6/36 or worse were recorded as partially sighted or blind. Children with unaided bilateral vision of 6/18 to 6/36 were included in the "needs glasses" category provided they did not possess and use corrective lenses. However because case finding relied on report rather than screening the author recognises that this is likely to be a substantial underestimate of the frequency. However a number of important issues are discussed in relation to this category later in this report.

Two cases of albinism were recorded in different families, although in one of these families two children over the age of 15 years also had the condition. Both children included in this study had significant visual disorder.

Otitis Media : This category includes cases of reported regular discharge from one or both ears. This was assumed to be indicative of secretory otitis media. However the author recognises that both screening and otoscopic examination are necessary for an accurate estimation of the prevalence of middle ear disease. Hinchcliffe and Sade (1971) conducted a preliminary screening study of Beduin children in Beer Sheva (a city 50 kilometres South of the Gaza Strip) and reported a prevalence of 20/1000 for chronic otitis media. The implications of this common condition for education and treatment are discussed later in the report.

Significant and Profound Hearing Loss : As with some of the conditions previously discussed, accurate detection of hearing disorders in a population requires a screening process rather than an interview based survey. Parents and teachers often find hearing loss difficult to recognise, particularly if it is over a range of frequencies rather than a relatively uniform loss. The effects of hearing loss on learning and general behaviour is often attributed to below average intelligence. The difference in prevalence between the 0-5 year age group (0.2/1000) and the 6-15 year age group (1.5/1000) is likely to be a function of poor early detection of the condition in the younger age group rather than a reflection of a real difference in rates. However it is also likely that the more severe the loss the easier detection becomes. The author therefore used a loss of 50 db or more over a range of frequencies in the best ear to define significant hearing loss. Profound hearing loss included children with greater than 80 db loss in the best ear over a range of frequencies.

Case 20 in Appendix 1 illustrates audiometric results indicating some hearing loss, although it does not fall within the range defining significant hearing loss. Therefore this case is placed in the otitis media category, rather than the otitis media with significant hearing loss. Case 21 illustrates minimal loss, and 22 and 23 illustrate examples of significant and profound loss respectively.

Speech Disorder : Children are included in this category if their speech disorder is assessed as a primary disorder rather than the result of physical or mental handicap. All of the children, except one, are of school age, and in all cases the disorder is reported to have affected schooling or caused school exclusion. The four year old child included in this category has a specific speech disorder which is clearly not related to any generalized developmental delay. (See Case 24, Appendix 1).

Needs physiotherapy : None of the children included in this category havedisabilities which could be judged as handicapping although all might derive benefit from physiotherapy or physical aid of some form. Some of the children do receive this service, others cannot afford it or do not have access to it. When considering the development of paramedical services for the physically handicapped it is necessary to include this group in the calculations.

The Prevalence of Conditions

As has been explained above some conditions are difficult to identify at an early age. For instance hearing loss and mental handicap in the absence of physical anomalies may not be obvious to parents for several years. The classification system used in this study for the birth to 5 year age group is different to the one used for the 6 to 15 year age group. The developmental delay category includes children with a variety of conditions which may be specified as mental handicap, hearing loss and so on at a later age. Of course it will also include children who will prove to be not handicapped in their later years. It is because of these problems that it is more valid to discuss the prevalence of many of the conditions as they apply to the 6 to 15 year age range, although for some conditions, such as Down's Syndrome, it is relevant to discuss prevalence across the whole age range.

Table 13 gives a prevalence figure of 5.4/1000 for children over 5 years of age classified as severely mentally handicapped. A review of the literature on prevalence rates in North America and Europe suggests that this figure is at the top end of the range of figures given in these studies. For instance Dupont (1981) presents a review which includes studies for a variety of age ranges. Using those studies which include age range from birth to 15 years the mean prevalence rate is 2.9/1000 with a range of 1.85 to 5.8/1000. Furthermore Abramowicz and Richardson (1975), in their review of twenty nine studies, separate those which give specific figures for severe mental handicap in "older" children as a way of eliminating under estimates arising from the problems of early identification. Using these studies they calculate a mean prevalance rate for severe mental handicap of 3.9/1000 with a range between 3 and 5/1000. Again, these studies were from Europe and North America.

In the present study figures for spastic conditions and other physical handicaps associated with mental handicap and learning difficulties are given separately. Not all of the children in this category are mentally handicapped (note Table 14 which indicates that nearly half of those in the 7 to 12 year group attend school). However most are likely to experience some learing difficulties and nine of the group can be classified as severely mentally handicapped. Table 13 includes these nine children in the category "Total Mental and Multiple Handicap", giving a rate of 5.9/1000 which puts the prevalence beyond the expected level for most studies completed in Europe and North America.

TABLE 13 : THE PREVALENCE OF GROUPED HANDICAPS, 6-15 YEARS AND 6-12 YEARS - ALL CAMPS

PREVALENCE

HANDICAP	NUMBER OF CASES	PREVALENCE PER 1000
SEVERE M.H.	53	
PROFOUND M.H.	15	
DOWN'S SYNDROME	23	
TOTAL:	91	5.4/1000
HYDROCEPHALUS	5	
SPINA BIFIDA	2	
DIPLEGA	8	
QUADRAPLEGIA	8	
HEMIPLEGIA	8	
TOTAL:	31	1.8/1000
BLIND/PARTIALLY SIGHTED	22	1.3/1000
SIGNIFICANT HEARING LOSS	25	
PROFOUND HEARING LOSS	34	
TOTAL:	59	3.5/1000
TOTAL - SENSORY HANDICAP	81	4.8/1000
ATHETOID	5	
ATAXIC	3	
POLIO (HANDICAPPED)	7	
OTHER PHYSICAL HANDICAP	18	
TOTAL:	33	1.9/1000
TOTAL MENTAL AND MULTIPLE HANDICAP	100	5.9/1000
CEREBRAL PALSY (SPASTIC, ATHETOID, ATAXIC, PROFOUND)	44	2.6/1000
SCHOOL EXCLUSION		
7-12 YEARS	172	15.8/1000
MILD M.H.	23	1.4/1000
TOTAL:	195	17.2/1000

TABLE 14 : HANDICAP AND SCHOOLING FOR AGE GROUP 7 TO 12 YEARS

	AT SCHOOL	NOT AT SCHOOL	PREV. /1000	TOTALS	PREV. /1000
HANDICAP					
MILD M.H.	2	10	0.9	12	1.09
SEVERE M.H.	2	20	1.83	22	2.02
DOWN'S SYNDROME	0	13	1.19	13	1.19
PROFOUND H.	0	9	0.8	9	0.8
HYDROCEPHALUS	2	0	---	2	0.18
SPINA BIFIDA	1	0	---	1	0.09
SPASTIC CONDITIONS	7	9	0.8	16	1.46
ATHETOSIS & ATAXIA	2	0	---	2	0.18
OTHER PHYSICAL H.	8	3	0.27	11	1.01
SIG. HEARING LOSS	26	2	0.18	28	2.57
PROF. HEARING LOSS	4	10	0.9	14	1.28
BLIND/PARTIALLY S.	8	3	0.27	11	1.01
BEHAVIOUR DISORDER	1	0	---	1	0.09
NO OBVIOUS H.	10576	172	15.79	10748	---
TOTALS :	10639	251	22.95	10890	---

A significant number of mentally handicapped children in this study are Down's Syndrome. All have been included in the category severe mental handicap even though the author recognises the possibility that a minority of this group may well develop to a higher level than this, particularly given a good educational programme. Although showing a rather wide discrepancy between the 6 year age group and the 6 to 15 group (0.6/1000 and 1.4/1000) Down's Syndrome presents a prevalence rate of 1/1000. Abramowicz and Richardson (1975) derive from their review an overall prevalence rate of 1/1000 with a range of 0.34 to 1.84/1000.

The condition of cerebral palsy appears in all its forms in this study. It is included under the categories of spastic conditions, athetosis, ataxia and a significant number of the profoundly handicapped children. The definition of the condition usually specifies that it is a non-progressive disorder affecting the developing brain which produces various forms of motor and posture dysfunction. It can be present in more than one form in the same person and can be associated with mental handicap. Children from the profoundly handicapped group have been classified as cerebral palsy if their condition conforms to this definition. The overall prevalence rate for this condition is 2.6/1000. Paroah (1981) reviews a number of specialist studies on prevalence and incidence of cerebral palsy and notes that early U.K. studies conducted in the 1950's give a prevalence range between 0.8 and 2.3/1000 for the 5 to 15 year age group.

Later U.K. studies, conducted during the 1970's give a range of between 2.3 and2.8/1000. Increasing the chances of survival with improved medical care will affect prevalence in this way if the incidence rate remains constant or even falls. The rate of 2.6/1000 in the present study is either an indication of good infant health and intensive care facilities, or a high incidence rate, or a combination of these factors. However high incidence is likely to be the main factor.

The prevalence of spina bifida was recorded as 0.1/1000 which is low. Only one severe case, a six month old baby, was seen by the author and she was in the pilot study and not included in this data. Anderson and Spain (1977) point out that spina bifida is subject to extreme regional variations in incidence both nationally and internationally. As with cerebral palsy the chances of survival increase significanlty with improved infant and intensive care facilities.

As discussed above the eradication of poliomyelitis represents a success story for the region. The overall prevalence for the 8 to 15 year group was calculated at 1.8/1000 for all detectable cases. The peaking at 10 years is also noticeable. Compared with countries where poliomyelitis is endemic this rate is low. For instance in Malawi (WHO Report, 1980) a prevalence of 6.5/1000 was found for all detectable cases. Using the peak age cohort of 10 years in the Gaza study the prevalence rate is 3.3/1000 (the sample population of 10 year olds equals 2109 children and the number of cases 7).

Epilepsy is a condition often associated with other brain disorders that give rise to mental handicap or cerebral palsy. However the children included in the epilepsy category in this study show symptoms of no other disorder. The prevalence of 1/1000 seems to be relatively low compared with given rates from other studies which can be as high as 5/1000 (Bowley and Gardner, 1980). However problems of identification and definition make such figures difficult to interpret. Certainly if all cases of children suffering from seizures in the Gaza study were included in the epilepsy category the prevalence would be significantly higher than 1/1000. The specialist service operating in the Gaza Strip for epileptic children seems relatively effective with twelve of the sixteen children in the 6 to 15 year age group and seven of the thirteen children in the 6 year age group under treatment (although this should not imply that management of the seizures is successful in all treated cases).

Blindness is essentially an age related disorder, which is to say that with increasing age prevalence also increases significantly. In U.K. the prevalence of blindness in the school age population is 0.1/1000 (D.H.S.S. 1977, cited Bowley and Gardner 1980). Five children in the present study were recorded as functionally blind which gives a prevalence of 0.2/1000. Because this figure is derived from a small number of cases care should be taken in its interpretation. However considering the findings of Thompson and Chumbley(1984) which indicate that blindness in Gaza over the full age range is eight times greater than that of England and Wales, a relatively high prevalence is to be expected. Again consistent with Thomson and Chumbley's findings cataract was common. Ten of the thirty cases included in the present study suffered from cataract, of whom four, all from the same family, received no treatment.

The educational significance of varying degrees of hearing loss, its measurement and expression in terms of prevalence rates is a complex topic. The literature presents studies with extremely high variations in rate. For instance Jacobs and Lynas (1982) consider ten European and North American Studies which present prevalence rates ranging from 0.5/1000 to 70/1000. Clearly the differences relate more to the definition of the educational significance of hearing loss than discrepancies in case finding and measurement. The measurement used in the present study of bilateral loss greater than 50 db includes children who, at the lower end of this range, would be classified as having moderately severe loss (Kadrchmer et al, 1979). Bowley and Gardner (1980) report U.K. prevalence of 1.7/1000 for children who are either involved in schooling for the deaf or partially hearing or require hearing aids to function in the ordinary school setting. Clearly individual ability to adapt to loss, particularly at the lower end of the range, will determine the educational significance of the loss, and often children with low to moderate loss can suffer as much educational disadvantage as children with higher degrees of loss, particularly if this loss is "hidden" from teachers and parents. Thus prevalence estimates and comparisons for this condition can become arbitrary or academic. However the author is confident that the children identified in this study have a degree of loss which severely affects their educational progress, and which in cases of deafness stops them gaining entry to school. A prevalence rate of 3.5/1000 represents a conservative estimate of the problem.

No valid comparison of prevalence rates for developmental delay can be made because of the lack of specificity of this condition. However it is useful to derive a combined prevalence rate for young children at risk and young children with diagnosed conditions as a way of estimating the demand for pre-school intervention. Table 11 presents the figures for the various categories of conditions for children of less than 6 years. If those conditions which would not warrant home teaching intervention are excluded (otitis media, epilepsy, not handicapped but in need of physiotherapy, and the one poliomyelitis) a total of 144 children remain in a population of 12539. This gives a prevalence rate of 11.5/1000.

Interpretation of the Prevalence Figures

The prevalence rates for those conditions which can be relatively accurately identified by a parent interview procedure appear to fall from the central to upper limits of the range of prevalence rates given by studies in Europe and North America. The general category of severe mental handicap is at the top end of this range, while Down's Syndrome and cerebral palsy fall some way towards the centre. Severe visual disorders seem to have a higher than expected rate, and although the number of cases is small in the present study this high rate is confirmed by the recent screening survey of Thomson and Chumbley (1982) which includes the Gaza Strip. Severe hearing impairment also seems to have a high prevalence rate, although this conclusion is confounded by what constitutes severe hearing impairment.

Compared with the prevalence rates derived from a similar study conducted by the author in West Africa (Saunders, 1984) the rates in Gaza are more indicative of those expected from a European/North American country than from a "developing" country. In the West African study severe mental handicap and cerebral palsy were low. The two rates combined were 1.5/1000 in rural areas (which represents approximately 80% of the population) and 3.3/1000 in urban areas. No cases of Down's Syndrome were recorded in the 7000 child sample. These rates are indicative of high infant mortality within the range of conditions that might need special medical care during infancy and childhood to support survival. Profound hearing loss was similar to the Gaza study and European figures at about 1/1000, and prevalence of conductive hearing loss caused by infection seemed high.

The two variables which affect prevalence rates in a population are the incidence rate and mortality. Prevalence is a function of the number of cases which occur in a population and their duration. There is little empirical evidence but a great deal of logical evidence to support the idea that in countries where medical services are poor incidence of many handicapping conditions will be high. This is likely to be so for those conditions often caused by lack of specialist care during the birth process, for instance cerebral palsy and some types of mental handicap, and these caused by disease during the early years, for instance cerebral palsy, mental handicap, and visual and hearing disorders. However in such countries high infant mortality can reduce the prevalence of some of these conditions to equal or below the expected levels of countries where medical services are good. For conditions where incidence is relatively uniform across populations, and Down's Syndrome is an example of this, very low prevalence will be expected in "developing" countries.

The prevalence rates derived from the Gaza study suggest a higher incidence of severe handicaps than would be expected in Europe and North America. The comprehensive but rudimentary health services in combination with a good standard of parental care seem sufficient to ensure the survival of many of these children. The presence of nearly 1/1000 profoundly multiply handicapped children in the 6 to 15 year age group is a good indication of this. Very few such children would have survived or been allowed to survive in the West African context.

Absolute Figures for the Camps

Table 15 presents an estimate of the number of children with particular conditions based on the prevalence figures discussed in the previous section. These figures are for the camp population only. For an estimate of numbers for the Gaza Strip as a whole the figures need to be doubled. It seems a safe assumption, from the information available that the camp refugee population represents half the total population for the Strip. However this calculation also assumes that the prevalence rates derived from this sample are generalizable to other communities within the Strip. This is not necessarily the case. The Thomson and Chumbley study found that the rates for certain visual disorders were greatest in the village communities, intermediate in the camp communities and least in the urban communities, although these differences were not statistically demonstrated. However in the absence of any other information the prevalence rates derived from the present study should serve well.

An important point to note is the likely effect of the increasing population on the various service demands in the immediate future.

TABLE 15 : ABSOLUTE FIGURES FOR THE CAMPS ONLY

	PREV.	6-15 yrs	7-12 yrs	<6 yrs
TOTAL MENTAL AND MULTIPLE HANDICAP	5.9 /1000	370	----	----
PHYSICAL HANDICAP M.H.	1.9 /1000	119	----	----
CEREBRAL PALSY	2.6 /1000	163	----	----
BLIND & P.S.	1.3 /1000	81	----	----
DEAF	1.28/1000	80	----	----
HEARING IMPAIRED	2.57/1000	161	----	----
SCHOOL EXCLUDED & MILD MENTAL HANDICAP	17.2 /1000	----	699	----
PRESCHOOL HANDICAPPED	11.5 /1000	----	----	532
POPULATION	____	62634	40630	46295

Discussion and Recommendations

The author does not propose to present a plan of provision for the Gaza Strip. This is beyond the scope of this study and dependent upon too many financial and philosophical variables. The discussion will relate to the apparent needs for service that have arisen from the study in the context of the existing provision.

Table 14 presents the school status for the age group 7 to 12 years. This group is a good index of the degree of educational handicap experienced by the major categories of children included in the study. It eliminates the 6 year group which will give an over-estimate of school exclusion because a proportion of the younger members of this cohort will not have applied for entry. Children of 13 years and beyond, even if excluded could have received six years of schooling before this, and therefore would not warrant being classed as educationally handicapped. Thus the author uses school exclusion or lack of entry to an educational programme between 7 to 12 years as one criterion for educational handicap.

Both UNRWA and government run primary schools have a policy of retaining any children who fail the end of the year examinations in the same class for the next year. A second consecutive failure should lead to school exclusion, although this policy is not rigidly enforced. (note the child in Case Study 19, appendix 1, was retained in school even through he had failed three consecutive years). Conversely, other children can be excluded within a few days or weeks if the teacher feels they have significant problems in achieving the initial required level.

The prevalence of school exclusion for children with no obvious handicapping condition is 15.8/1000.(5*). It is within this group that we are likely to find children with mild to moderate hearing loss, intermittent hearing loss, visual disorders, specific learning problems and so on. Frequently the author was told of how children who failed the first year were placed at the back of a class of 50 or 60 children in their second year because the teacher wished to concentrate on the more able pupils. If these children had problems with academic progress because of hearing disorders then their problems would be exacerbated. On a number of occasions, at the request of parents, the author wrote to teachers concerning the results of audiometric assessment in the hope that this policy could be reversed. Whether this had any effect at an individual level is open to question. However it is clear this type of ad hoc intervention cannot have any significant impact on a system, and the type of points made need to be made in a formal inservice training context.

Often it is children with minor disabilities who suffer most. Table 14 indicates that a significant number of children with severe handicaps do function in the ordinary school system. Obvious handicaps would often engender sympathy and help from individual teachers or schools, and some children with severe disorders were treated very appropriately from an educational point of view. Referring again to prevalence it is the less severe hearing and visual disorders which are both difficult to identify and numerically prominent. The previously cited study by Hinchcliffe and Sade (1977) on middle ear infection indicates a high prevalence of this disorder, and Silva et al (1982) emphasize the significant educational problems

NOTE*
5. See Appendix 3 for a definition of school exclusion and Tables 16, 17 relating to reasons for non-attendance.

that are frequantly associated with it. Thomson and Chumbley (1982) report on the high frequency of visual disorders and make specific comment on the fact that even when families can afford corrective lenses there is a strong resistance to wearing them from a cultural/cosmetic point of view. This opinion was frequently encountered in the present study. This is not to say, however, that school exclusion is always the result of such problems, or that all children with such problems fail in the present school system. Rather, it emphasizes the point that a significant number of children are educationally handicapped by being excluded from the school, that the reasons for exclusion are often unclear, and some form of assessment and remediation should be aimed at this group as part of a general educational and rehabilitation programme. The importance of the current plans for such by the Society for the Care of Handicapped children cannot be over emphasized. In the refugee camps this could affect nearly 650 children, and if the same exclusion rates apply throughout the Gaza Strip as a whole then this figure would be doubled.

Table 14 also presents figures for the school status of the specifically defineable conditions. There are several important features to note from this. The four mentally handicapped children recorded as attending school attend the Sun Day Care Centre, the special school provision established by the Society for the Care of Handicapped Children. This currenty has 130 places for mentally handicapped children who range from mild to moderately severe. It does not offer facilities for non-ambulant or very severely handicapped children as yet and it has a long waiting list. The five blind children of school age all attend the UNRWA Vocational Training Centre for the blind as do some of the partially sighted children. Two partially sighted children attend ordinary school and four were excluded by ordinary school (using figures from Table 13 from the 6 to 15 year age range). It thus appears that for blind children, because of the relatively low prevalence compared with other categories of disorder, specialist schooling is sufficient to meet the needs of all children. This also applies to children with very severe visual disorders. However the author assumes children with significant but less severe visual disorders are less likely to receive this specialist provision and more likely to be excluded by the ordinary education system. The reverse applies to severe hearing impairment for which no specialist services exist. For this condition only four of the 14 children with profound loss were in school and two of these had private supplementary lessons; while 24 of the 26 children with severe hearing impairment managed to stay at

school, although difficulty was reported in many cases. Of the other categories less than half the children with spastic conditions attend school. Those children who present an obvious degree of mental handicap were excluded. It is consistent that eight of the eleven in the category for physical handicaps not associated with mental handicap also attend school. With this group a major criterion for school attendence seems to be accessibility to school. Case notes 25, appendix 1, illustrate the problem. This boy is a double amputee. He did attend school but financial constraints prevent his family from replacing his now inadequate prostheses. He is now unable to attend.

The refugee camps are compact, overcrowded units. Because of this however, distances between school and furthest homes are relatively short and therefore accessibility will be less of a problem than outside the camps where the school can be several miles from the home. In the pilot study village the author encountered the problems caused by distance to school far more frequently than in the main study, and it becomes a good example of the problems of defining handicap by medical condition. The disability can be defined but the handicap arising from this is a function of circumstance and provision. It is also evident that even though this study relates specifically to educational handicap arising from disabilities, a multidisciplinary approach is essential if the handicapped are to be served effectively. The following list of recommendations stem from this discussion :

1- Many children included in the severe handicap categories are integrated in the ordinary school system. This should be strongly encouraged and help given to the teachers for the identification and management of such children. In the first instance the emphasis should be on working with children with sensory handicaps. Non-technical but practical strategies could be explained and illustrated, perhaps using one or two schools as a base for screening children, setting up example programmes and running the in-service training course.

2- The Mothers Early Home Intervention Outreach Program currently run by the Society for the Care of Handicapped Children must be maintained and developed. It is the main lead into the community, and the essential element in developing parent involvement in special education programmes and in fostering a positive attitude to the handicapped. It could also act as a way of bridging the wide gap between need and service that currently exists in a number of ways that are specified below. The derived prevalence rate of 11.5/1000 children in need of early home intervention establishes it as a major service need.

3- Children with severe physical handicaps are often excluded from school because of lack of mobility aids. A good physiotherapy and mobility aid service exists in the Gaza Strip. This service needs expansion with the cost of access to it reduced or an exemption system applied. A branch of this service could be integrated into the education system.

4- A specialist day school and/or peripatetic service needs to be established for hearing impaired children. The expertise needs to be linked to the ordinary school provision to help teachers to support the large numbers of hearing impaired within this system, and linked to the pre-school visiting programme.

5- The service for mentally handicapped children needs expansion, with the integration of the less severely handicapped into the ordinary schools as one main objective. The ordinary school system is less tolerant towards this group of children than the other categories of handicapped or disabled children. If the integration of at least a proportion of so called mentally handicapped children is to be successful, careful attitude management is required. The establishment of units in ordinary schools is a very positive step in this direction and the current efforts need strong encouragement.

6- There is no educational provision for multiply handicapped children such as spastic children with severe learning difficlties. The pre-school home visiting programme does include such children. In the absence of any day provision this service could be expanded to include age groups beyond 7 years, and developed to include physiotherapy input.

7- The provision of residential facilities is a necessary step, although care needs to be taken in its development. Making such a service freely available might encourage parents to abdicate their responsibilities too readily. In order to avoid the problems experienced in Europe and North America with respect to the development of closed institutions, residential facilities need to be linked to the further development of the home visiting programme and parent support system. Residential facilities could be related to this and provided as a short-term relief service, perhaps in combination with an independence and home skills training programme. In this way it would become educational in orientation and remain firmly attached to community related elements of the overall programme for the Gaza Strip. It would not become an alternative community.

8- Some aspects of the medical service relating to handicap and disability are well established within the Gaza Strip, although no doubt there is still much scope for improvement. In the previous discussion mention has been made of treatment for epilepsy in which the majority of children are on medication, and in a significant proportion of these cases the condition is controlled. Also, of the 14 recorded cases of childhood cataract only four, all from one family, were without treatment. However effective treatment for middle ear disorders seemed to be very limited. Cases were recorded of parents taking a child for treatment for 10 or more years without effect. Given the frequency of this condition (and the figures presented in this study will be a significant underestimate) there is a strong case for the establishment of a specialist clinic to deal with the disorder.

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APPENDIX 1.

Interview number: 7822 Area: Nuseirat (Case 1)
House number: [redacted]
Interviewer: Arslan Date: 9/2/85

Sameera, female, 13 years.
This girl was involved ina car accident when she was 3 years old and the parents think this affected her behaviour. She was excluded from school after one year and currently worries her parents by a refusal to stay at home. Her speech and understanding seem normal, and she is able to perform all of the usual domestic skills appropriate for a girl of her age.
Not handicapped. 01

Interview number: 7830 Area: Nuseirat (Case -2-)
House number: [redacted]
Interviewer: Mohammed Hassan Date: 11/2/85

Abed, male, 8 years.
This boy disliked school and frequently played truant. Eventually he dismissed himself. Speech, self-help and social skills seem normal.
Not handicapped. 01

Interview number: 2879 Area: Beach (Case -3-)
House number: [redacted]
Interviewer: Hassan Date: 27/11/84

Suha, female, 10 years.
This girl has good social and self-help skills. Her speech and understanding are okay. She failed three consecutive years in the first class and was excluded from school without learning any reading and writing skills.
Not handicapped. 01

Interview number: 7851 Area: Nuseirat (Case -4-)
House number: [redacted]
Interviewer: Arslan Date: 9/2/85

Hanan, female, 14 years.
This girl is slow in her speech and her understanding is poor. She was in school for one year but was excluded. She tends to play with young children.
She can't cope with shopping tasks but does help in the house although she is not very competent.
Mental handicap - mild. 02

Interview number: 7035 | Area: Rafah | (Case -5-)
House number: [redacted] | [redacted]
Interviewer: Arslan | Date: 23/1/85

Wael, male, 8 years.
This boy's language seems to be normal although his articulation is poor. He is continent and feeds himself but needs help with dressing. He was severely delayed in walking and speech. His parents report that his speech was very poor when he was six years old, which is why he wasn't entered for school.
✓ Mental handicap - mild.

02

Interview No. 4501 | Area: Jabalia | (Case -6-)
House number: [redacted] | [redacted]
Interviewer: Khalid | Date: 29/12/84

Halema, female, 14 years
This girl attended school for a year but was withdrawn by the family because her progress was so poor. Her home skills are poor, and although her self-help skills are adequate she needs some supervision. She has a very poor memory and tends to play with young children. Her speech and understanding are adequate.
✓ Mental handicap - mild

02

Interview number: 5587 | Area: Khan Yunis | (Case -7-)
House number: [redacted] | [redacted]
Interviewer: Waleed | Date: 14/1/85

Abed El Kareem, male, 2 years 6 months.
This boy suffers language and motor delay. He stands with support and walks holding onto furniture, but generally bottom shuffles. He verbalises but says no words. He is beginning self-feeding. He is attentive and plays with siblings. His understanding is poor.
✓ General delay - mental handicap.

29

Interview number: 5686 | Area: Khan Yunis | (Case -8-)
House number: [redacted] | [redacted]
Interviewer: Hassan | Date: 9/1/85

Sana, female, 2 years 11 months.
This girl was delayed particularly in walking. She began to walk and speak at about 2 years. She understands speech well and speaks with single word utterances. Her self-help skills are normal for her age. Some degree of delay but not handicapped.
✓ Not handicapped.

29

Interview number: 7041 Rafah (Case - 9 -)
House number: [redacted]
Interviewer: Rawhi [redacted] 27/1/85

Omar, male, 4 year 8 months.
This boy was about 1½ years old when he had an accident. He now tends to be slow with his speech and tends to stutter and delay before beginning to say things. He was 3 years before beginning to speak. He seems a bright, attentive child with no obvious problems beyond his speech difficulty. His self-help and social skills seem normal.
✓ Language and speech disorder . 29

Interview number: 7865 Area: Nuseirat (Case - 10-)
House number: [redacted]
Interviewer: Saber Date: 9/2/85

Fayez, male, 1 year 5 months.
He is a large boy who is unable to crawl and unable to get from the prone to the sitting position on his own. He can sit without support if he is initially placed in that position. He has rudimentary exploratory behavior with hands, but problems with visual attention. (He may well have visual disorder.) he cries a lot but doesn't verbalize. His father has left the house to live alone and is reported as being mentally handicapped himself.
✓ Mental handicap - at risk. 28

Interview number: 7021 Area: Rafah (Case - 11-)
House number: [redacted]
Interviewer: Atia Date: 28/1/85

Abdullah, male, 1½ years.
This boy weighed only 2 Kg. when born at full term. His legs seem weak and he has problems standing even with support. His crawling is limited. He can sit without support. His visual attention and ability to grasp is good. He makes no speech - type sounds, but cries frequently.
✓ At risk. 28

(Case - 12-)
Interview number: 5667 Area: Khan Yunis
House number: [redacted]
Interviewer: Saber Date: 14/1/85

Majda, female, 4 years 4 months.
This girl has very limited speech but does have some understanding. She is continent, helps when being dressed and feeds herself, but not well. She tends to communicate with signs and sounds. She plays with her brothers and sisters. She is quiet and easy to control.
✓ At risk of mental handicap . 28

Interview No. 2986 Area: Beach Camp (Case - 13 -)
House number: [redacted] [redacted]
Interviewer: Hossam Date: 27/11/84

1. Yasser, male, 12 years
This boy is ambulant and has some social awareness. He greets people, shakes hands, and smiles appropriately. He has no expressive language but some comprehension of speech and general situations. He can partly dress himself, but is not fully continent. He presents no management problems.
Mental handicap - severe 04

2. Habeel, male, 8 years
This boy is more severely handicapped than his brother. He is very active but not ambulant. He bottom shuffles constantly. He has many self-stimulating behaviours which are always in evidence - clapping, flapping, noise making. He shows little social awareness.
Mental handicap - severe/profound 04

Interview number: 2720 Area: Beach (Case - 14 -)
House number: [redacted] [redacted]
Interviewer: Habeel Date: 26/11/84

Hajir, female, 11 years.
This girl is severely handicapped. She has no speech although she can understand simple requests. Her self-help skills are limited and she is sometimes incontinent. Her motor skills are good. She is quiet and passive.
Mental handicap - severe. 04

Interview number: 5690 Area: Khan Yunis (Case -15-)
House number: [redacted] ([redacted]) [redacted]
Interviewer: Atia Date: 7/2/85

Rami, male, 5 years.
Rami is a very active and good looking boy. The parents first noticed he was handicapped when he was about one year old. He failed to smile, etc. at the appropriate time. He has a lot of private words but no proper ones. He relies a lot on gesture to communicate. His self-help skills are poor although he is continent. He is a very strong boy who can be quite destructive, although his mother is able to control him well. He has some mannerisms - finger biting, etc.
Mental handicap - severe. 04

Interview number: 5593 Area: Khan Yunis (Case - 16 -)
House number: [redacted] [redacted]
Interviewer: Hossam Date: 13/1/85

Hejbel, male, 14 years.
This boy is profoundly handicapped. He has no speech and apparently no understanding. He has no mobility and no self-help skills. He just lies on a blanket in one room of a very poor house and cries constantly.
Multiple handicap - profound. 05

Interview number: 5626 Area: Khan Yunis (Case - 17-)
House number: [redacted] [redacted]
Interviewer: Atia Date: 8/1/85

Aishah, female, 12 years.
This girl is profoundly multiply handicapped. She is confined to bed and has no mobility, no self-help skills. She has no speech and limited verbalisation. The parents report no understanding. The family is very considerate and understanding of the problem.
Multiple handicap - profound. 05

Interview No. 2921 Area: Beach Camp (Case - 18 -)
House number: [redacted] [redacted]
I nterviewer: Sabah Date: 25/11/84

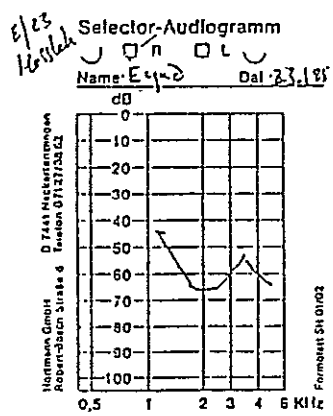
Re'ad, male, 4 years, 8 months
This boy is profoundly handicapped. He has no mobility and has considerable deformities and contractures of the legs. He has no speech nor apparent comprehension. He is unable to sit up and has very limited head control. He has a grasp reflex but demonstrates no apparent exploratory behaviour. He is on a liquid diet.
Multiple handicap - profound 05

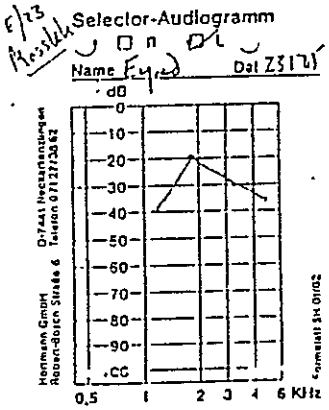
Interview number: 1257 Area: El Maghazi (Case - 19 -)
House number: [redacted] [redacted]
Interviewer: Hossam Date: 17/11/84

Abdel Hadi, male, 13 years.
This boy is severely disturbed and demonstrates extreme anger and aggression without any apparent cause. This occurs frequently in the evening and night time. He has attempted to hang his younger brother and his parents fear that he will one day succeed in injuring one of them, He sometimes displays peculiar mannerisms and has frequent epileptic fits. His parents report that he has always been a difficult child. He has had an EEG and is on sedative drugs. He has made minimal progress at school and can read only a few simple words. He has failed 3 years and only continues because the school is sympathetic to the parent's problems.
Severe psychological disturbance and epilepsy. 06

Interview number: 7045 Area: Rafah (Case - 20 -)
House number: [redacted] [redacted]
Interviewer: Mosleh Date: 23/1/85

Iyad, male, 14 years. This boy has had very severe discharge from both ears for 10 years. Often the discharge contains blood. It is also painful. His audiogramme indicates a significant loss in one ear and low average hearing in the other. His parents feel that his school exclusion was a function of his hearing problem.





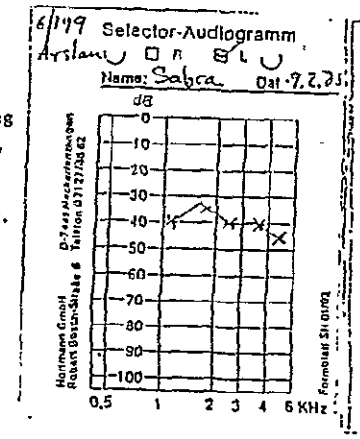
(Case - 21 -)

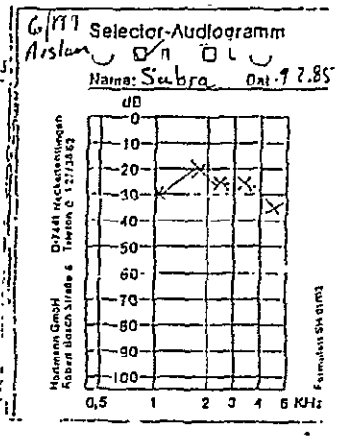
Interview number: 7821
House number: [redacted]
Interviewer: Arslan

Area: Nuseirat
[redacted]
Date: 9/2/85

Sabra, female, 14 years.
This girl attends school.
She was reported by parents to have some degree of hearing loss. The test indicates low average hearing in one ear, and minimal loss in the other.
Not handicapped.

01





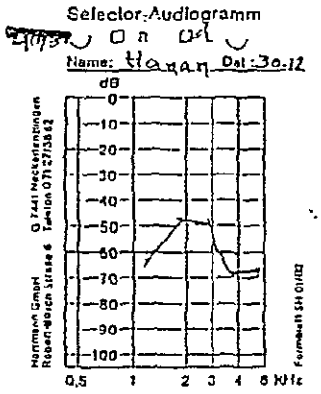
(Case -22-)

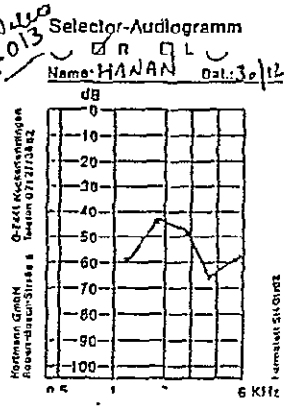
Interview number: 4013
House number: [redacted]
Interviewer: Waleed

Area: Jabalia
[redacted]
30/12/84

Hanan, female, 8 years.
This girl has a significant hearing loss. She has problems at school and feels it is her hearing which affects her performance.
Significant hearing loss.

21



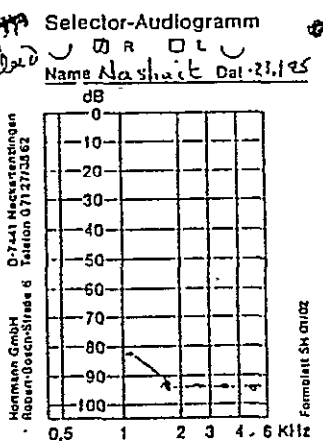


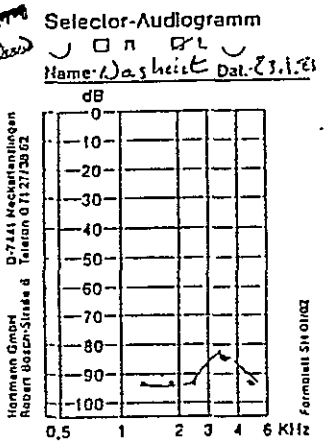
Interview number: 7059 Area: Rafah (Case - 23)

House number: [redacted]

Interviewer: Waleed Date: 23/1/85

1. Nashait, male, 9 years.
This boy has residual hearing. He has deaf speech. He is in his first year at ordinary school.
Residual hearing. 22





2. Ashraf, male, 6½ years.
This boy is in the same class as his brother. His speech is similar but better than his brother's. Testing of his hearing was not successful.
Residual hearing. 22

Interview number: 4488 Area: Jabalia (Case - 24-)

House number: [redacted]

Interviewer: Nosleh Date: 30/12/84

Sohail, male, 3½ years.
This boy uses only single words to communicate and the pronunciation of these words is poor. His understanding of speech is also poor. He tends to imitate frequently and is dependent upon gestures. His self-help skills seem normal and he plays with other children without problem.
Speech and language delay . 29

Interview No. 2955 Area: Beach Camp (Case - 25-)

House number: [redacted]

Interviewer: Khaled Date: 1/12/84

Accad, male, 12 years
This boy was involved in an accident five years ago, which led to the amputation of both legs below the knee. He was fitted with prosthesis but now these are too small, and the family cannot afford to replace them. He now does not go to school because he is unable to get there.
Physical handicap - mild/moderate

APPENDIX 2.

SAMPLING ERROR FOR MEAN NUMBER OF PERSONS PER HOUSEHOLD.

BEACH CAMP	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.237569
		B2	8.900991
		B3	9.375809
		B4	9.596774
NUSEIRAT	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.635036
		B2	8.331395
		B3	8.059172
		B4	8.418181
		B5	9.334764
KHAN YUNIS	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	9.152047
		B2	8.470589
		B3	7.737255
		B4	7.567376
		B5	8.031915
		B6	8.312236
		B7	8
RAFAH	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.370536
		B2	9.965517
		B3	8.518325
		B4	8.759562
		B5	8.472222
		B6	8.631336
		B7	9.212291
		B8	8.185186
JABALIA	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.295181
		B2	8.253796
		B3	8.597511
		B4	8.651786
		B5	9.456141
		B6	8.900311
MAGHAZI	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.675781
		B2	8.823529
DEIR BELAH	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.343512
		B2	8.90411
EL BUREIJ	:MEAN NUMBER OF PERSONS/HOUSEHOLD	B1	8.546828
		B2	9.072917

RANGE OF MEANS FROM THE SAMPLE BLOCKS: 9.965517 TO 7.567376
OVERALL MEAN FOR THE SAMPLE.....: 8.633262

VARIANCE.....: .2744806
SAMPLING ERROR: .523909

UPPER LIMITS OF 95% CONFIDENCE INTERVAL: 9.681081
LOWER LIMITS OF 95% CONFIDENCE INTERVAL: 7.585445
WHERE CONFIDENCE LIMITS = MEAN + OR - 2.SAMPLING ERROR

SAMPLING ERROR COMPARING TOTAL NUMBER OF MARRIAGES TO
FIRST COUSIN MARRIAGES.

BEACH CAMP	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.143541
		B2	2.633334
		B3	2.451128
		B4	2.449613
NUSEIRAT	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.021858
		B2	1.951111
		B3	2.677632
		B4	2.109375
		B5	1.996951
KHAN YUNIS	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.666667
		B2	2.549296
		B3	2.125851
		B4	2.634921
		B5	2.048673
		B6	2.292308
		B7	2.95
RAFAH	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	1.996377
		B2	2.444445
		B3	2.454129
		B4	1.894942
		B5	1.727273
		B6	2.144445
		B7	2.048781
		B8	1.888889
JABALIA	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	1.939815
		B2	2.454348
		B3	1.931548
		B4	2.007067
		B5	2.165517
		B6	2.304462
MAGHAZI	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.77027
		B2	2.069768
DEIR BELAH	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.989899
		B2	2.568345
EL BUREIJ	:PROPORTION OF FIRST COUSIN MARRIAGE	B1	2.713793
		B2	2.625

RANGE OF PROPORTIONS FROM THE SAMPLE BLOCKS: 2.989899 TO 1.727273
OVERALL MEAN FOR THE SAMPLE.....: 2.301149

VARIANCE.....: .1100823
SAMPLING ERROR: .3317865

UPPER LIMITS OF 95% CONFIDENCE INTERVAL: 2.964722
LOWER LIMITS OF 95% CONFIDENCE INTERVAL: 1.637576
WHERE CONFIDENCE LIMITS = MEAN + OR - 2.SAMPLING ERROR

SAMPLING ERROR FOR MEAN NUMBER OF CHILDREN PER HOUSEHOLD.

BEACH CAMP:MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	3.911602
	B2	4.059406
	B3	4.796976
	B4	4.774194
NUSEIRAT :MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	4.182482
	B2	4.191861
	B3	3.715976
	B4	4.236364
	B5	4.549357
KHAN YUNIS:MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	4.298246
	B2	4.051471
	B3	3.533333
	B4	3.411348
	B5	3.69149
	B6	3.721519
	B7	4.071429
RAFAH :MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	3.799107
	B2	4.655173
	B3	3.837696
	B4	4.081967
	B5	3.805556
	B6	3.806452
	B7	4.178771
	B8	4.194445
JABALIA :MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	4.228916
	B2	4.173536
	B3	4.232365
	B4	4.321429
	B5	5.192983
	B6	4.23053
MAGHAZI :MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	4.574219
	B2	4.352941
DEIR BELAH:MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	3.664122
	B2	4.431507
EL BUREIJ :MEAN NUMBER OF CHILDREN/HOUSEHOLD	B1	4.29003
	B2	4.510417

RANGE OF MEANS FROM THE SAMPLE BLOCKS: 4.796976 TO 3.533333
OVERALL MEAN FOR THE SAMPLE.....: 4.159979

VARIANCE.....: .1465297
SAMPLING ERROR: .382792

UPPER LIMITS OF 95% CONFIDENCE INTERVAL: 4.925563
LOWER LIMITS OF 95% CONFIDENCE INTERVAL: 3.394395
WHERE CONFIDENCE LIMITS = MEAN + OR - 2.SAMPLING ERROR

SAMPLING ERROR FOR THE PROPORTION OF HANDICAPPED CHILDREN IN EACH CAMP - ALL HANDICAPS.

BEACH CAMP:	PROPORTION OF HANDICAPPED CHILDREN:	40.85496
NUSEIRAT :	PROPORTION OF HANDICAPPED CHILDREN:	52.62295
KHAN YUNIS:	PROPORTION OF HANDICAPPED CHILDREN:	40.40741
RAFAH :	PROPORTION OF HANDICAPPED CHILDREN:	38.01361
JABALIA :	PROPORTION OF HANDICAPPED CHILDREN:	41.89809
MAGHAZI :	PROPORTION OF HANDICAPPED CHILDREN:	47.03226
DEIR BELAH:	PROPORTION OF HANDICAPPED CHILDREN:	30.56757
EL BUREIJ :	PROPORTION OF HANDICAPPED CHILDREN:	31.49153

SAMPLE MEAN.....: 40.36105

VARIANCE .....: 53.93701
SAMPLING ERROR ...: 7.344182

UPPER LIMIT OF THE 95% CONFIDENCE INTERVAL: 55.04941
LOWER LIMIT OF THE 95% CONFIDENCE INTERVAL: 25.67268
WHERE CONFIDENCE LIMITS=MEAN + OR - 2*SAMPLING ERROR

SAMPLING ERROR FOR SCHOOL AGE POP.:No. OF CHILDREN IN SCHOOL

BEACH CAMP:SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.096685
	B2	1.063963
	B3	1.074171
	B4	1.069952
NUSEIRAT :SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.033784
	B2	1.017677
	B3	1.053459
	B4	1.086614
	B5	1.043243
KHAN YUNIS:SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.061539
	B2	1.049505
	B3	1.047085
	B4	1.068441
	B5	1.030227
	B6	1.061053
	B7	1.017241
RAFAH :SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.035491
	B2	1.036145
	B3	1.024213
	B4	1.035377
	B5	1.039735
	B6	1.058005
	B7	1.028169
	B8	1.1
JABALIA :SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.067568
	B2	1.072801
	B3	1.099065
	B4	1.06142
	B5	1.092537
	B6	1.065876
MAGHAZI :SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.050762
	B2	1.022727
DEIR BELAH:SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.027132
	B2	1.053221
EL BUREIJ :SCHOOL AGE POP.:TO SCHOOL POP.	B1	1.053735
	B2	1.042553

RANGE OF PROPORTIONS FROM THE SAMPLE BLOCKS: 1.1 TO 1.017241
OVERALL MEAN FOR THE SAMPLE.....: 1.053922

VARIANCE.....: 5.365609E-04
SAMPLING ERROR: 2.316379E-02

UPPER LIMITS OF 95% CONFIDENCE INTERVAL: 1.100249
LOWER LIMITS OF 95% CONFIDENCE INTERVAL: 1.007594
WHERE CONFIDENCE LIMITS = MEAN + OR - 2.SAMPLING ERROR

APPENDIX 3.

APPENDIX 3

TABLE 16 : SCHOOL STATUS BY AGE GROUP & SEX

SEX BY AGE

SCHOOL STATUS 7 TO 12 YEAR GROUP	MALE	FEMALE	TOTALS
NOT OF SCHOOL AGE	34	45	79
ATTENDS SCHOOL	5680	4954	10634
EXCLUDED BY SCHOOL	21	26	47
EXCLUDED BY FAMILY	10	40	24
EXCLUDED, REASON UNKNOWN	80	100	180
TOTALS:	5825	5139	10964

SCHOOL STATUS 13 TO 15 YEAR GROUP	MALE	FEMALE	TOTALS
NOT OF SCHOOL AGE	21	16	37
ATTENDS SCHOOL	2072	1849	3921
EXCLUDED BY SCHOOL	94	68	162
EXCLUDED BY FAMILY	26	40	66
EXCLUDED, REASON UNKNOWN	177	237	414
TOTALS:	2390	2210	4600

School Exclusion

Table 16 presents figures for school exclusion. The term school exclusion is the generally accepted term for non-attendance. The findings on school exclusion in this study are inclusive. A proportion of the group are recorded as being excluded by family or self, but the definition of this is blurred. Often parents would say the family excluded whenin fact the school had asked them to do so, and occasionally the reverse applied with parents saying the school excluded the child because progress was poor. In this case it could have been the parents judgement of this. If an intervention programme is developed for this group of children an investigation of this subject will be a key issue.