A FEOFILE OF PATIENTS SEEKING PHYSICALLY HANDICAPPED CERTIFICATE

Register No.M9503

An Independent Project work submitted In part fulfilment for the First Year M.Sc, (Speech and Hearing) to the University of Mysore.

**ALL INDIA INSTITUTE OF SPEECH AND HEARING
MYSORE 570 006
MAY 1966**

DEDICATED TO

MY PARENTS

Who are my critics when I think there is nothing more to perfect,

Who sing my praise when I think there is nothing worth of praise.

CERTIFICATE

This is to certify that this Independent Project entitled

"A PROFILE OF PATIENTS SEEKING PHYSICALLY HANDICAPPED CERTIFICATES"

is a bonafide work, done in part fulfilment for the first year,
Master of Science (Speech and Hearing), of the student with Register No.M9503.

Dr. (Miss)S.Nikam

Mysore
May 1996

Director
All,India Institute of Speech and Hearing
Mysore 570 006

CERTIFICATE

This is to certify that this Independent Project entitled

"A PROFILE OF PATIENTS SEEKING PHYSICALLYHANDICAPPED CERTIFICATES"

has been prepared under mysupervision and guidance.

Mysore
May 1996

Guide

**Dr. (Miss)S.Nikam
All India Institute of Speech and Hearing
Mysore 570 006.**

DECLARATION

I hereby declare that this Independent Project entitled

"A PROFILE OF PATIENTS SEEKING PHYSICALLY HANDICAPPED CERTIFICATES"

is the result of my own study under the guidance of Dr. (Miss) S. Nikam, Director, All India Institute of Speech and Hearing , Mysore, and has not been submitted earlier at any University f or any other Diploma or Degree.

Mysore   Reg.No.M9503
May 1996

Bhushan, your encouragement and motivation is a major factor for the completion of this project. Thanks for the constant inspiration.

Vinita, laughter is the shortest distance between two people. Thanks for filling my life with fun and laughter.

Some people are close to heart. You are one among them. Thank you Nidhi.

Thanks to those who are not here but whose good wishes are always there with me. Thank you Sanghamitra, Meenakshi, Parag, Shailesh and Ramdev.

Thanks to all my classmates and especially Anu for adjusting with me, Sharmila, Megha, Rahul and Arvind.

I am indebted to all my relatives wherever they may be for their blessings and good wishes. Special regards to Jhunupisi and my grand parents.

They say, "Pain nourishes courage. You cannot be brave if you've only had wonderful things to happen to you". This is for the person of my life because of whom I am more courageous and facing and fighting the world, better ever thought I would.

Last but not the least., Thank you GOD.

TABLE OF CONTENTS

Page No

INTRODUCTION

India, the seventh largest nation in the world in -area and second in population. India has one-sixth of the world's population, approximately 880 million (Census, 1991), but one third of total population in the country is classified as 'less developed'. WHO (1986), estimate is one-eighth of the general population is disabled in India and about one million adding each year.

The problem, is thus one of colossal magnitude - of gigantic proportion.

Handicap refers to the disadvantages experienced by the individual in activities of daily life that derived from impairment but not necessarily solely determined by the amount of impairment. Impairment is any physical deficit associated with anatomical structures or physiological functioning. From these two terms evolve the concept of disability, which is real, assumed or probable inability of individual to remain employed as a consequence of permanent impairment.

International Labour Organization defined disabled person as an individual whose prospects of serving, retaining and advancing in suitable employment are substantially reduced as a result of a duly recognized physical or mental impairment.

The problem of the physically handicapped in India cannot be studied without taking into consideration the socio-economic background of Indian society as a whole. Factors like poverty, illiteracy, malnutrition, rural economy, unemployment and fatalism must be evaluated in relation to their impact on the problem of the physically handicapped. The other factors which contribute towards disability are neglect, ignorance, apathy and absence of adequate preventive measures. Both in the developed and developing countries the disabled find themselves by and large, excluded from society.

About 450 million people (IYDP - 1981), roughly ten percent of world's population are mentally or physically disabled. According to recent WHO estimate the figure may be higher. By the end of the century, there will be an estimated 800 million disabled people of whom 250 million will be children. Taking into account the families of the

disabled and those directly involved in seeking to support them, the UN (1983) has estimated that not less than 25% of the world's population are affected by disability.   The above estimates of the disabled are only a guess as nobody yet knows the exact number. The absence of vital statistics in regard to the disabled statistics in regard to the disabled their number variety of disability etc. makes their rehabilitation task extremely difficult.

Thus, this study has been undertaken to have an outline of those persons and his/her surrounding environment who are seeking the facilities from government.

The year 1981 was proclaimed by a resolution of the United Nations General Assembly in 1976 as International Year of Disabled Person. "ITDP, with the key note them, Full Participation and Equality". The aim of the year was to encourage rehabilitation of the estimated 450 million people on earth who were suffering from some form of physical or mental impairment.

A number of facilities and concessions have to be provided in order to move towards the cherished goals of

3

equal opportunities and promotion of human rights.   Given rehabilitation services and support a large number of the disabled cannot only be capable of independent living but can contribute to society in several ways.   History is replete with examples of many such persons, as Surdas who was totally blind, President Roosevelt, orthopaedically handicapped, Berthoven whose contribution to music is unique despite his deafness, Hellen-Keller deaf blind, who is an inspiration to disabled all over the world.

UN estimate is that 72 million in India are disabled. The NSSO 1991 indicated that 3.242 million are hearing handicapped, 1.966 million are speech handicapped and 4.482 million are hearing and/or speech handicapped. Out of this 78-79% is the rural population and 20-23% is the urban population.   No systematic survey is known to have been conducted in the country in respect of mental retardation. But NSSO 1991 estimates about 3% among children are mentally retarded.   It is an established fact that mental retardation is much more in rural areas and among the disadvantaged sections of society compared with those in urban areas, towns and cities and among elites. High incidence in India is due to extreme poverty, malnutrition, poor health care etc.

4

The Government of India has made sincere efforts and have come up with various schemes and programs to facilitate this bulk of population to function as 'differently abled' and contribute to national growths.

In the Ist, IInd, IIIrd five year plans, there was no separate allocation for the Welfare of the Physically handicapped. In IV Plan an amount of Rs.2.5 crores was provided under the head "Welfare of Physically Handicapped". This amount is being increased under each Five Year Plan, the Vth Plan had an amount of Rs.11.25 crores and VIth Plan had Rs.25 crores. Since then in the amount of money allocated for welfare of physically handicapped is increasing.

The Government of India has various schemes for the Welfare of the handicapped. The following are a few of those -

1. Scheme of assistance to disabled persons for purchase/fitting of aids/appliances.
2. Scheme of integrated education for the disabled children:

   a) Books and stationery of Rs.400/- per annum.

   b) Uniform allowances Rs.50/- per annum.

3. Scholarship for disabled.

4. Children educational allowances.

5. Railway travel concessions.

6. Vocational training/Rehabilitation Centers.

7. Special employment exchange for the physically handicapped.

8. In Central Government establishment and undertakings 3%, jobs have been reserved for the physically handicapped.

9. Income tax concessions.

10. Professional tax exemption.

11. Economic assistance like differential rate of interest on Bank loans for self-employment.

The reason handicapped individuals or their relatives avail certificates include need for tax exemption, special, school admission, employment, railway concessions etc.

Despite the work already done for the disabled by the Government of India and voluntary organization it has not been possible to touch even the fringe of the problem.

AIM OF THE STUDY

The present study aims to present a brief profile of a person seeking handicapped certificate in terms of some Preselected parameters. An attempt has been made to do so

for two groups, one with hearing-impairment and another with mentally retardation, also any difference between the same have been investigated.

The details of this type of result would help the rehabilitation process. Further from this study some feedback can be provided to the legislature about the handicapped individual regarding socio-economic status, support systems etc. This might help in the formation of policy which would help in better and holistic rehabilitation and the integration of the people with handicaps.

METHODOLOGY

The methodology of the present study is discussed under the following headlines :

1. Subjects
2. Data collection and parameters on which data was collected
3. Procedure of collecting data.
4. Statistical procedure used for data analysis.

1. SUBJECTS

A) Subject Selection:

The subjects who were selected for this study met the following criteria:

(i) They were the registered cases of a speech and hearing center in the financial year 1.4.94 - 31.3.1995.

(ii) All of them had been issued disability certificates either for hearing-impairment or mental retardation.

For convenience of data tabulation and interpretation the subjects were divided into two groups, namely group A and group B.

Group A constituted of those subjects who were issued disability certificate for hearing handicap.

Group B constituted of those subjects who were issued disability certificates for mental retardation.

B) Number of subjects

The total number of subjects in Group A were 305, in the age range of 1 to 85 years. The mean age of this group was 13.4 years and the median age was 8.9 years. Of these 201 subjects were males and 104 were females.

The total number of subjects in group B were 320, in the age range of 2 to 49 years. The mean age of the subject was 11.5 years and median age was 8.8 years. Of these 205 subjects were males and 115 were females.

2) DATA

Data was collected from the case files of selected cases for the following parameters.

   (i) Age
  (ii) Sex
 (iii) Place of residence
  (iv) Area of residence.
   (v) Religion
  (vi) Economic status
 (vii) Educational background

(viii) Martial status
      (ix) Employment status
       (x) Complaint with which the subject reported.
      (xi) Family history of illness or handicap.
     (xii) Histroy of consanguineous parentage.
    (xiii) History relevant to the presenting problem
     (xiv) Associated problem
      (xv) Degree of impairment
     (xvi) Purpose of issue of the certificates.

    For parameters numbered VIII, IX, XIII and XVI data was only collected from Group A and for parameter numbered XIV, data was collected only for group B. In the remaining parameters data was collected for both groups..

3. PROCEDURE

    The information was collected on a data sheet which was in the form of tabulated columns. The cases were on Y-axis and parameters were in X-Axis.

S.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Case I														
Case II														

Key:
 1. Age
 2. Sex
 3. Place
 4. Area
 5. Region
 6. Economic Status

7. Education
    8. Marital Status
    9. Employment Status
10. Complaint
11. Family History
12. Relevant medical history or associated problem
13. Degree of impairment
14. Purpose.
    (See Appendix-1)

4. STATISTICAL ANALYSIS

    For each parameter percentage of its categories were calculated using the relation, number of that particular category occurred divided total number of cases multiplied by 100.

ie.   Number of particular category
       X 100
       Total number of cases

    The obtained scores for a parameter was then represented in graphical forms like pie diagrams or histograms etc.

    To see the statistical significance of comparable parameters between two groups Pearson Chi^2 test for independent samples were administered.

RESULTS AND DISCUSSION

The collected data for each parameter were hand scored and analyzed for obtaining percentage of population in each category of a particular parameter. The obtained percentages for each group were represented in tables.

To see the significant difference in comparable parameters, "Pearson Chi-square test for independent sample" were administered.

1. AGE AND SEX OF THE SUBECTS

(i) Group A

    Age

Total number of subjects   : 305

                                              Percentage

Total number of males   : 201   65.9
Total number of females   : 104   34.1

Age range :   1 year – 85 years
Mean age   : 13.43 years
Median age :   8.97 years.

Table-1 a) : Distribution showing subjects according to age
            and sex.

Age in years	Number of males (M)	Number of Females (F)	Total number of subjects (M+F)	Percentage (%)
0-10	110	60	170	55.73
10-20	47	30	77	25.24
20-30	16	10	26	8.52
30-40	14	0	14	4.59
40-50	8	4	12	3.93
50-60	2	0	2	0.65
60-70	2	0	2	0.65
70-80	0	0	0	0.00
80-90	2	0	2	0.65
	201	104	N = 350	

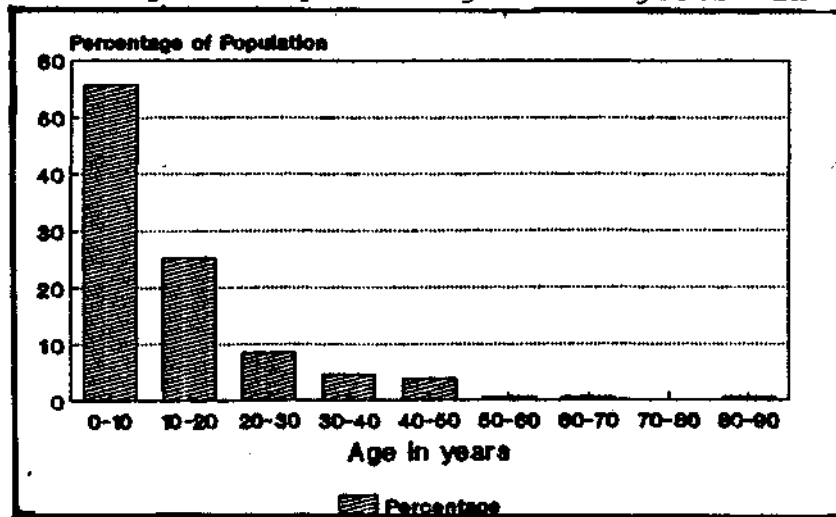Fig.Ia: Showing   the   percentage of subjects   in   each   age

Fig.I b: Pie-diagram showing the sex distribution of Group A

Table Ia, shows that in Group A, a majority of the subjects were in the age range 0-10 years (170 subjects, 55.73%), followed by age range 10-20 years (77 subjects, 25.24 %) and age range 20-30 years (26 subjects, 8.52%). Higher age ranges 50-60 years, 60-70 years and 80-90 years had only 2 subjects each. The age range 70-80 years had no subject.

More than 50% (i.e. 55.73%) of population were in the age group of 0-10 years.

As the age increases the number of subject decreases. In higher age groups there were no female subject. This could be due to the fact that in Indian society more attention is given for problems of men than women.

Fig. Ib, Shows that male constituted 65.9% and female 34.1% of the population. Majority of the subjects were males.

(ii) Group-B

Total number of subjects   :   320

                                                        Percentage

Total number of males   :   205   64.1
Total number of females   :   115   35.9

Age range   :   2 years - 49 years
Mean age   :   11.5 years
Median age :   8.8 years.

Table-Ib: Distribution showing subjects according to age and
          sex.

Age in years	Number of males (M)	Number of Females (F)	Total number of subjects (M+F)	Percentage (%)
0-10	122	58	180	56.25
10-20	62	36	98	30.62
20-30	13	12	25	7.81
30-40	4	4	8	2.50
40-50	4	5	9	2.81
	205	115	N=320	

Fig Ic : Showing the percentage of subjects in each age
           group.

Fig. Id : Pie diagram showing sex distribution of Group-B.

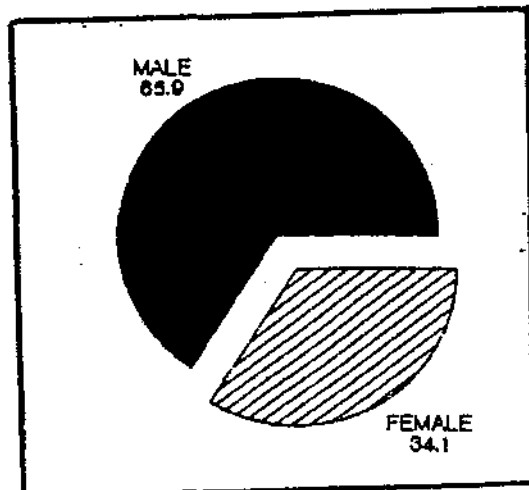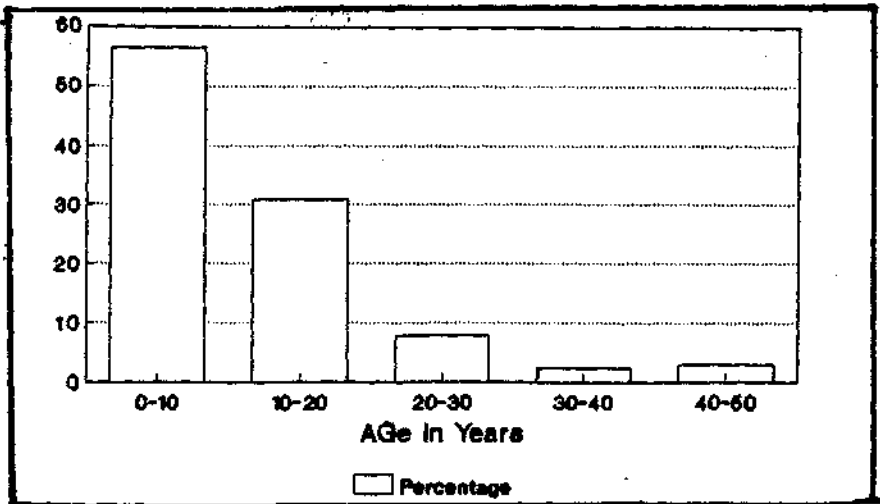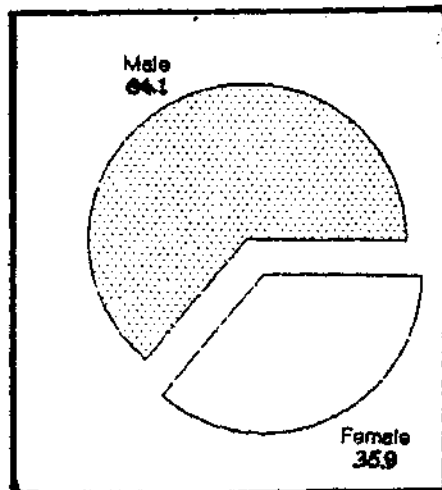In table Ib, shows that in Group B majority of subjects were in the age range 0-10 years (180 subjects, 56.25%) followed by 10-20 years (98 subjects, 30.62%), 20-30 years (25 subject, 7.81%), 30-40 years (8 subject, 2.50%) and 40-50 years (9 subjects, 2.81%).

Similarly like Group A as the age increases the number of subject decreases. More than 50% i.e. 56.25% of the population was in the age range of 0-10 years.

Unlike group A in group B there were female subjects in higher age groups. But the majority of population i.e. 64.1% were male. In both groups males were more in proportion than females.

In group B age range is much narrower than group A. In mentally retarded group there were no subject above age of 50 years.

Table Ic : Sex distribution of two groups.

	Group-A	Group-B	
Males	0 – 201 E – 198.13	0 = 205 E = 207.87	406
Females	0 – 104 E – 106.87	0 = 115 E = 112.1	219
	305	320	625

For the data presented, calculated Chi^2 value is follows:

Xobs^2 = 0.2304,

Which is less than the expected value of 3.84 at 0.05 level of significance at 1 degree of freedom.

Therefore, we accept the null hypothesis that in the population the two groups i.e. hearing-impaired and mentally retarded do not differ in relative frequency distribution of people among males and females.

2. PLACE WHERE THE SUBJECT RESIDES.

Table Ila: Distribution showing number of subjects in each groups with their weighted percentage based on place where they reside.

| Place (State) | Number of subjects | |
	Group A	Group B
A. Andra Pradesh	5 (1.63%)	1 (0.31%)
B. Karnataka	268 (87.8%)	319 (99.69%)
C. Kerala	31 (10.16%)	0 (0.0%)
D. Tamil Nadu	1 (0.32%)	0 (0.0%)
	305	320

17

Fig. II Showing the percentage of subjects of both groups in each category.
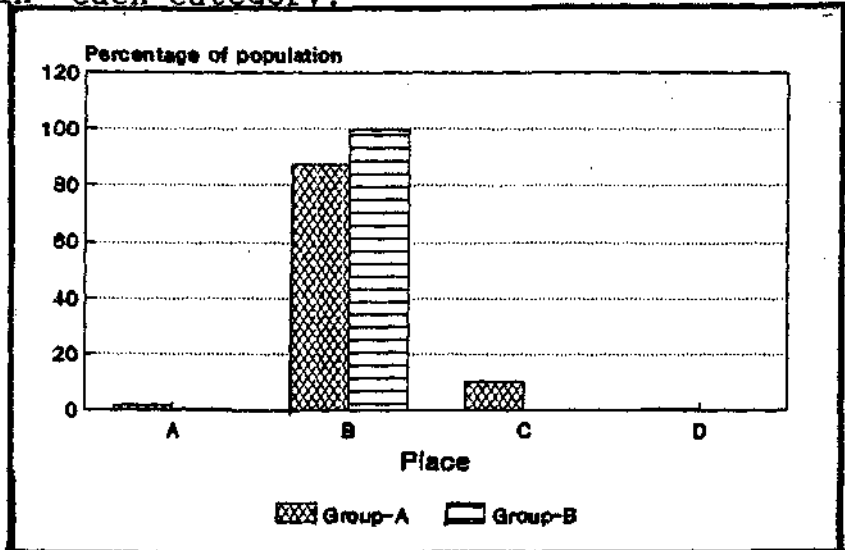
In both groups majority of population i.e. 87.8% in hearing-impaired group and 99.69% in mentally retarded group hailed from Karnataka.   In group A subjects had also reported from other states but in group B only one subject had come from Andra Pradesh.

Table II b) Distribution of subjects in Group A and B based on place where they reside.

	Group-A	Group-B	
Andra Pradesh	O=5 E=2.93	O=1 E=3.07	6
Karnataka	O=268 E=286.64	O=319 E=300.54	587
Kerala	O=31 E=15.13	O=0 E=15.87	31
Tamil Nadu	O=1 E=0.49	O=0 E=0.51	1
	305	320	625

18

For the data presented, calculated Chi^2 value is as follows

$X^2_{obs} = 23.23,$

which is greater than value of 7.82 at 0.05 level of significance at 3 degree of freedom.

Therefore, we reject the null hypothesis that in the population the two groups i.e. A and B do not differ in relative frequency distribution of people among different states.

In other words, Group A and B differ in relative frequency distribution of people among Andra Pradesh, Karnataka, Kerala and Tamil Nadu. Since the institute from which data was collected is located in Karnataka, the cases reporting from Karnataka were maximum.

3.AREA FROM WHERE THE SUBJECT HAD COME

Table III a: Distribution showing number of subjects in each group based on area and their weighted percentages (indicated in brackets).

Area	Number of Subjects	
	Group A	Group B
Rural	90 (29.5%)	180 (56.3%)
Urban	215 (70.5%)	140 (43.7%)

19

Fig.III   Showing percentage of subjects in each group   for
           50th categories.
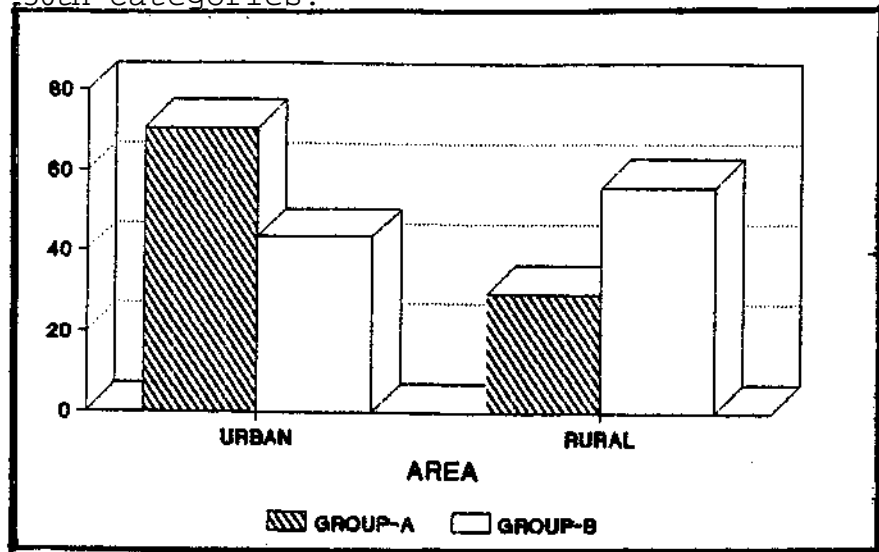
In Group A more people *i.e.* 70.5% of population hailed
from urban area and only 29.5% was from rural areas.   But in
Group B about 56.3% of population came from rural   area,
which implies that mental retardation is more in rural
areas.   It is due to extreme poverty, malnutrition, poor
health care etc.

Table III b) :Shows distribution of subjects in each group
              for both categories.

	Group-A	Group-B	
Rural	O=90 E=131.76	0=180 E=138.24	270
Urban	0=215 E=173.24	0=140 E=187.76	355
	305	320	625

20

For the data presented, calculated X Chi^2 value is as follows:

$$X_{obs}^2 = 44.42$$

The obtained Chi^2 value is greater than expected value of 3.84 at 0.05 level of significance at 1 degree of freedom.

Therefore, we reject the null hypothesis that in the population the two groups do not differ in relative frequency distribution of people between rural and urban areas.

In other words, hearing-impaired and mentally retarded groups differ in relative frequency distribution between urban and rural areas.

4. RELIGION OF THE SUBJECT

Table-IV a: Distribution showing number of subjects in Group A and Group B according to religion.

Religion	Number of subjects	
	Group-A	Group-B
Hindu	273 (89.5%)	295 (92.1%)
Muslim	26 (8.5%)	23 (7.2%)
Christian	6 (2%)	2 (0.7%)
Others	0 (0.0%)	0 (0.0%)

Fig.IV : Showing Distribution of percentage of population of each group in each religious category.

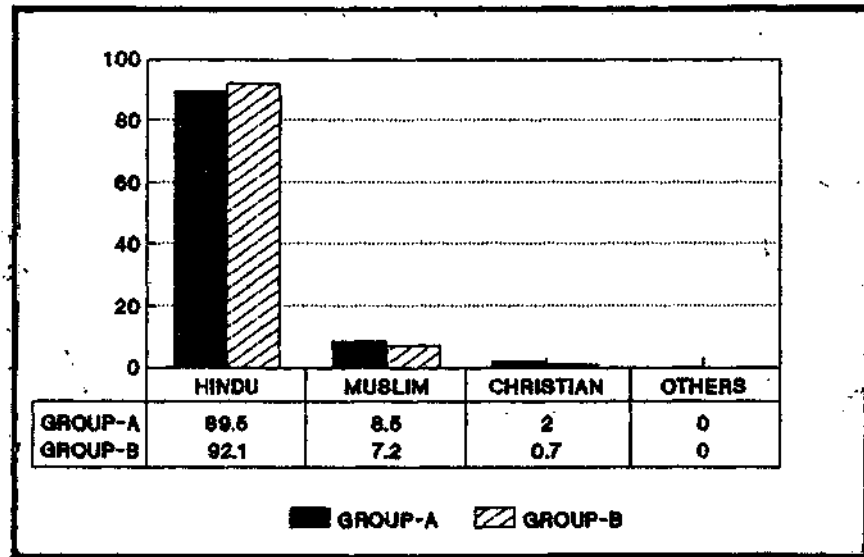|	HINDU	MUSLIM	CHRISTIAN	OTHERS
GROUP-A	89.5	8.5	2	0
GROUP-B	92.1	7.2	0.7	0

GROUP-A   GROUP-B

Table-IV a, Shows that majority of subjects in both groups were Hindus followed by Muslims and Christians. In Group A, the number of Muslims and Christians were more than Group-B.

22

Table IV b: Showing distribution of subjects in Group A and
             Group B based religion.

	Group-A	Group-B	
Hindu	0=273	0=295	568
	E=277.18	E=290	
Muslim	0=26	0=25	49
	E=23.91	E=25.093	
Christian	0=6	0=2	8
	E=3.90	E=4.09	
Others	0=0	0=0	0
	E=0	E=0	
	305	320	625

For the data presented, calculated Chi^2 value is follows:

$$Xobs^2 = 2.73,$$

which is lesser than expected value of 7.82 at 0.05 level of
significance at 3 degree of freedom.

        Therefore, we accept the null hypothesis that in the
population the two groups do not differ in relative
frequency distribution of people among different religions.

5. ECONOMIC STATUS OF THE SUBJECT

Table-Va: Showing distribution of number of subjects in Group A and Group B with their weighted percentage according to monthly income.

Monthly Income	Number of subjects	
	Group-A	Group-B
< Rs.1200/-	278 (91.1%)	294 (92%)
Rs.1200/- Rs.2500/-	21 (6.9%)	24 (7.5%)
> Rs.2500/-	6 (2%)	2 (0.5%)

Fig.V : Shows the percentage of population in each category of income for Group A and Group B.
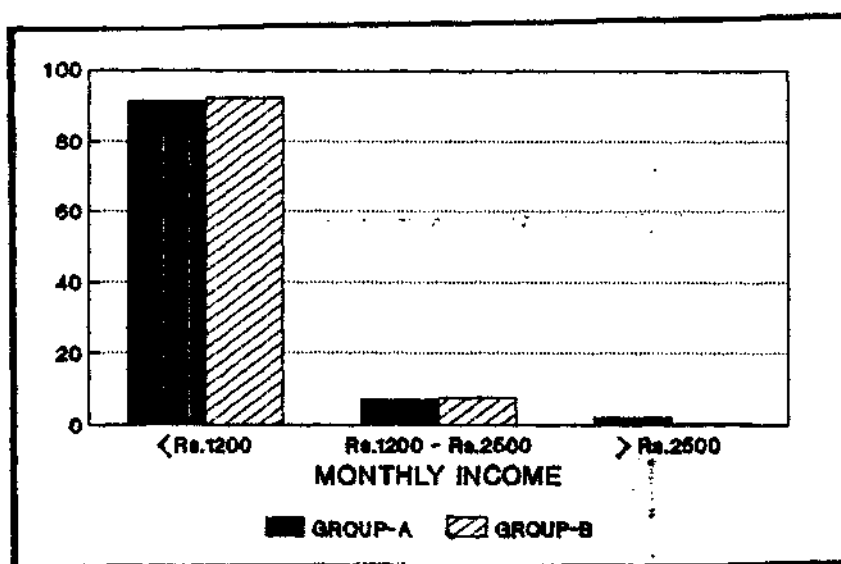
In both groups 91% of population belongs to lower economic status. In Group A, they had got aids free of cost. Income group of Rs.1200/- Rs.2500/- constituted about 7% of population. There were very few number of patients in income group of Rs.2500/- per month.

24

Table-Vb : Showing distribution of subjects in two groups
based on their monthly income.

Monthly income	Group-A	Group-B	
< Rs.1200/-	O=278 E=279.14	O=294 E=292.86	572
Rs.1250/- Rs.2500/-	O=21 E=21.96	O=24 E=23.04	45
> Rs.2500/-	O=6 E=3.9	O=2 E=4.09	8
	============ 305	============ 320	======== 625

For the data presented, calculated Chi^2 value is as follows:

X_{obs}^2 - 4.257.

which is lesser than expected value of 5.99 at 0.05 level of significance at 2 degree of freedom.

Therefore, we accept the null hypothesis that in the population the two groups do not differ in relative frequency distribution of people among different income group.

25

6. EDUCATIONAL BACKGROUND

Table VIa: Shows the distribution of subjects in Group-A according to level of education and their weighted percentage.

Level of Education	No. of subjects	Percentage (%)
No formal education	204	66.9
School level education	98	32.1
College level education	3	1.0

Fig.VIa: Shows number of person in each category of education for Group-A
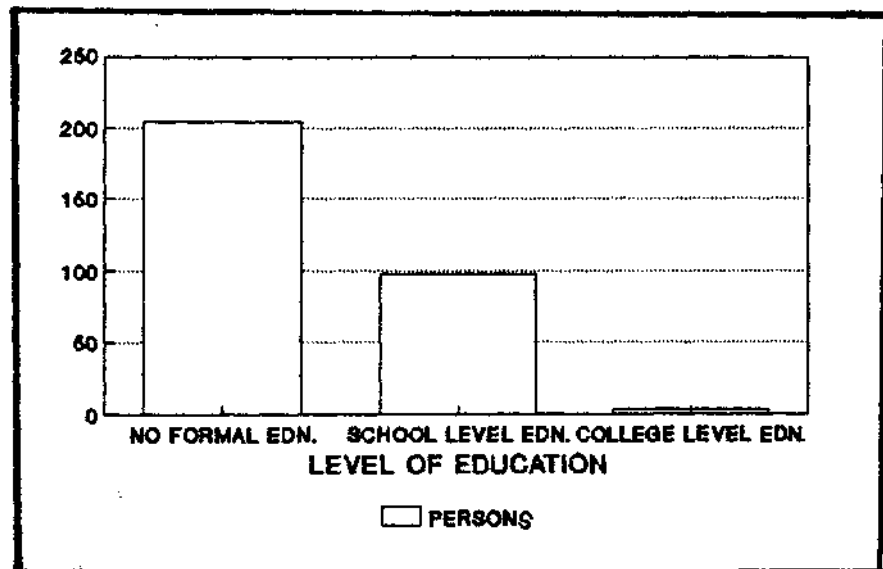
In hearing-impaired group 66.9% of population did not have any formal education. Only 32.1% had school level education and only 1% had college level education. Though it was noted that most of the population were school going

but percentage of population attending school is less. This could be due to non-availability of special schools in our country or lack of information to parents about these school.

Out of 98 subjects attending school 39 were attending special school.

Table VIb: Shows the distribution of subjects in Group B according to the level of training or education and their weighted percentages.

Level of training/ schooling	Number of subjects	Percentage (%)
No training	279	86.5
Some training	41	13.5

Fig.VIb: Pie diagram showing the percentage of population according to level of training.
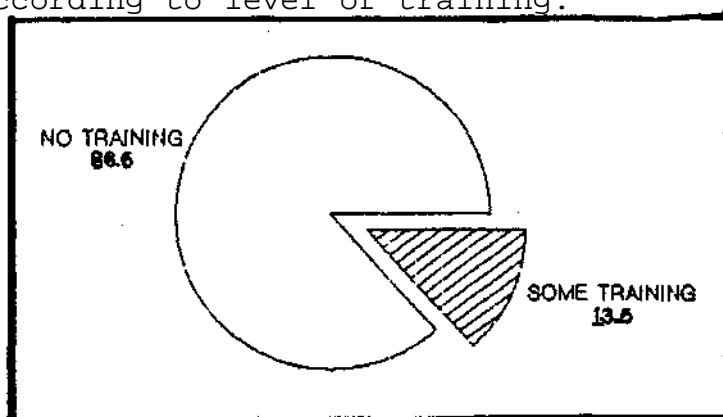
In Group B only 13.5% had any kind of training, therapy or schooling. This again shows that there could be lack of

27

training facilities for mentally retarded individuals in our country. So more training centers or rehabilitation centers are required to set-up for rehabilitation of mentally retarded individuals.

Table VIc: Shows distribution of subjects of Group B for training according to degree of mental retardation.

Degree of impairment	No training	Some training	
Mild	0=56 E=62.77	0=15 E=9.23	71
Moderate	0=87 E=90.67	0=16 E=13.35	103
Severe	0=102 E=96.78	0=8 E=14.22	110
Profound	0=34 E=32.26	0=2 E=4.74	36
	279	41	320

From the above table it could be noted that mild and moderate degree of mental retardation had received some amount of schooling or training. With increasing in degree of retardation the degree of training received was less. It is due to the fact that mild and moderate degree individuals are incorporated in schools while severe and profound are not. And even for special schooling those with mild and moderate degree of retardation stand a better chance.

28

For the data presented, the Chi^2 value is as follows:

$$Xobs^2 = 9.22$$

which is greater than expected value of 7.84 at 0.05 level of significance at 3 degree of freedom.

Therefore, we reject the null hypothesis that in the population the two groups do not differ in relative frequency distribution of subjects among different degree of retardation. In other words, the distribution of subjects between training and no training differ depending upon the degree of retardation.

7. MARITAL STATUS OF THE SUBJECTS

Table VII : Shows the distribution of subjects of Group A according to marital status.

Marital status	Number of subjects	Percentage (%)
Married	24	7.9
Unmarried	281	92.1

Fig.VII : Pie diagram showing the percentage of population distributed between married and unmarried
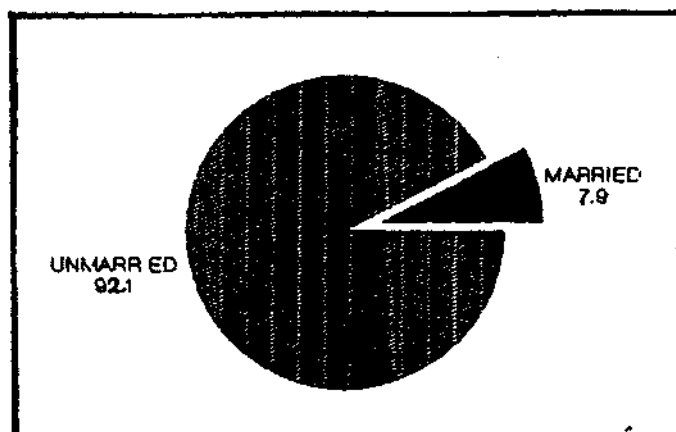
Table-VII shows that in hearing-impaired group only 24 subjects (7.9%) were married.

8. EMPLOYMENT OF THE SUBJECT

Table-VIII: Shows distribution of subjects based of   Group-A
            on their employment.

Employment	Number of subjects	Percentage (%}
A. Students	101	33.11
B. Professional	1	0.32
C. Government jobs	1	0.32
D. Skilled worker	3	0.98
E. Agriculturist	13	4.26
F. Labourer	15	4.91
G. Factory worker	0	0.0
H. Unemployed	170	55.73
I. Retired	1	0.32

Fig.VIII Shows the percentage of population of according to
         employment.

30
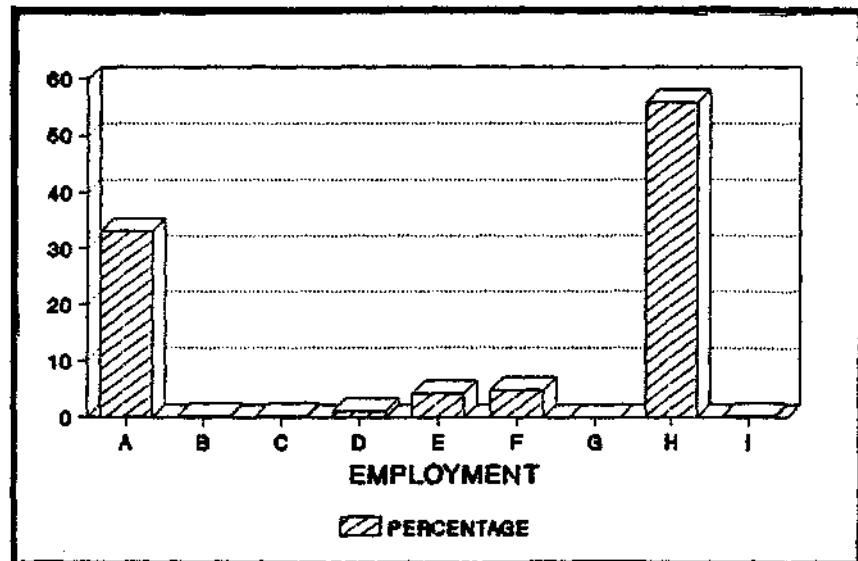
The above distribution shows that 170 subjects (55.73%) were unemployed 33.11% were students followed by labourer, agriculturist, skilled worker, professional, Government servant and retired.

High percentage of unemployment suggest that adequate and effective laws should be made for vocational rehabilitation of hearing-impaired.

.9. COMPLAINT OF THE SUBJECT

Table-IX: Shows distribution of subjects of Group A and B according to the complaint they have come.

Complaint	Number of subjects	
	Group-A	Group-B
Hearing	25 (8.2%)	2 (0.6%
Hearing and Speech	276 (90.5%)	65 (20.3%)
Speech	4 (1.3%)	221 (69.1%)
Others	0 (0%)	32 (10.1%)

Fig.IX : Showing the percentage of population in each category for Group A and B
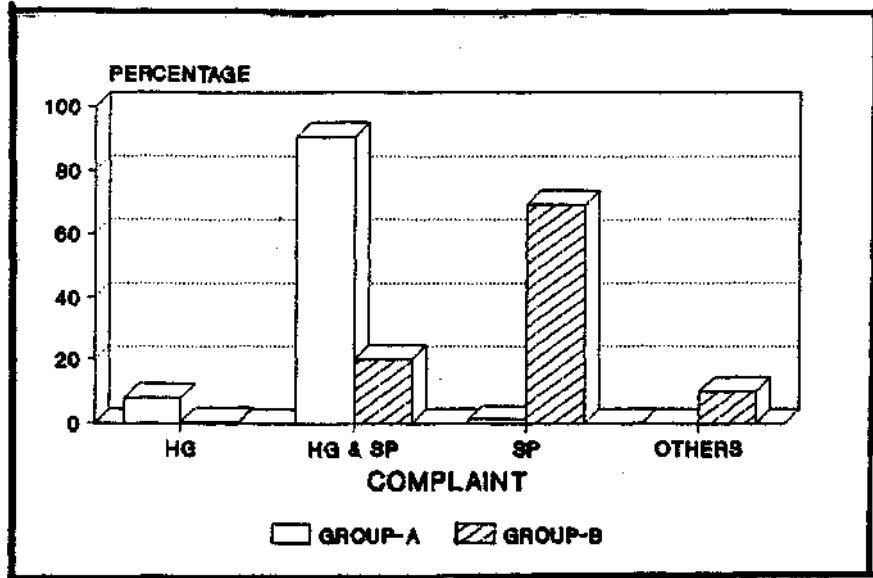

Table-IXa shows that majority of the subject came with a complaint of hearing and speech problem, followed by hearing problem. The percentage of subjects who came with the complaint of only speech problem were least.

This indicates that in hearing-impaired group presenting complaint is predominantly both hearing and speech problem.

In Group B, a majority of the subjects came with a complaint of speech problems, followed by hearing and speech problem and then others. The percentage of subjects who came with the complaint of hearing problem were least.

32

Table IX b): Shows distribution of subjects in each group according to presenting complaint.

Complaint	Group-A	Group-B	
Hearing	0=25 E=13.17	0=2 E=13.83	27
Hearing & Speech	0=276 E=166.41	0=65 E=174.59	341
Speech	0=4 E=109.8	0=221 E=115.2	225
Others	0=0 E=15.62	0=32 E=16.38	32
	305	320	625

For the data presented, calculated Chi^2 value is as follows:

$$X_{obs}^2 = 390.89$$

which is much greater than expected value of 7.82 at 0.05 level of significance at 3 degree of freedom.

Therefore, we reject the null hypothesis that in the population the two groups do not differ in relative frequency among distribution of subjects among different presenting complaints.
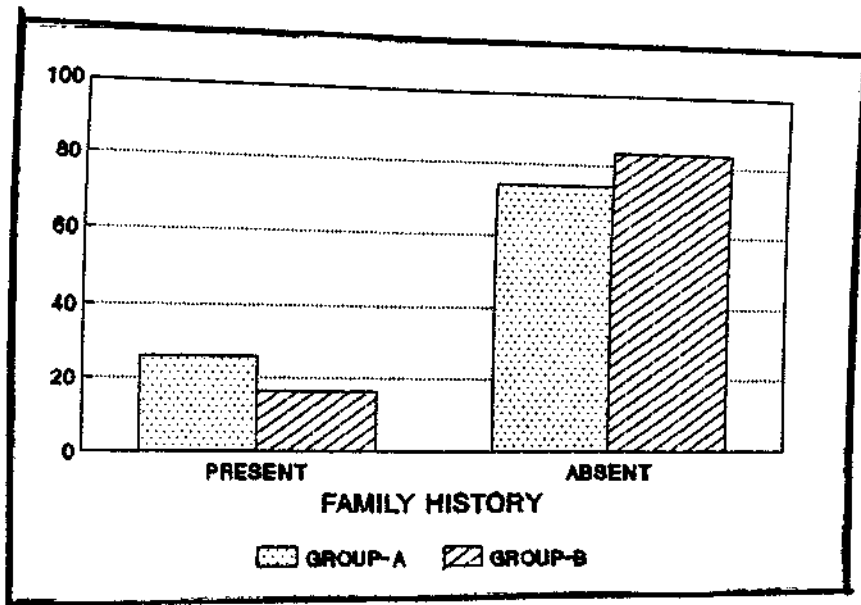
In other words, the distribution of subjects among each category depend upon the type of handicapping condition.

33

10. FAMILY HISTORY OF SIMILAR OR OTHER HANDICAPPED
CONDITION
Table Xa: Shows distribution of subjects of Group A and
Group B based on absence or presence of family
history.

Family History	Number of subjects	
	Group A	Group B
Present	79 (25.9%)	53 (16.6%)
Absent	226 (74.1%)	267 (83.4%)

Fig. X : shows percentage of population of two groups in each
category.

In Group-A, 70 subjects (25.9%) and Group-B, 53
subjects (16.6%) had positive family history of some
handicapping condition. But the number of positive family
history is more in hearing-impairment group.

34

Table Xb: Shows the distribution of subjects of two groups based of presence or absence of family history.

Family History	Group A	Group B	
Present	O=79 E=64.26	O=53 E=67.58	132
Absent	O=226 E=240.58	O=267 E=252.42	493
	305	320	625

For the data presented, the Chi ^{2} value is as follows:

$X^2obs = 8.02,$

which is greater than expected value of 3.84 at 0.05 level of significance at 1 degree of freedom.

Therefore, we reject the null hypothesis that in the population the two groups do not differ in relative frequency distribution of subject between two category i.e. presence or absence of family history of handicapped condition.

11. HISTORY OF CONSANGUINEOUS PARENTAGE.

Table XI a: Shows distribution of subjects of Group A and Group B based on positive or negative history of consanguineous parentage.

Consanguineous Parentage	Group A	Group B
Yes	81 (26.6%)	63 (19.7%)
No	224 (73.4%)	257 (80.3%)

35

Fig.XI :   Showing percentage of population of Group A and
            Group B of each category.
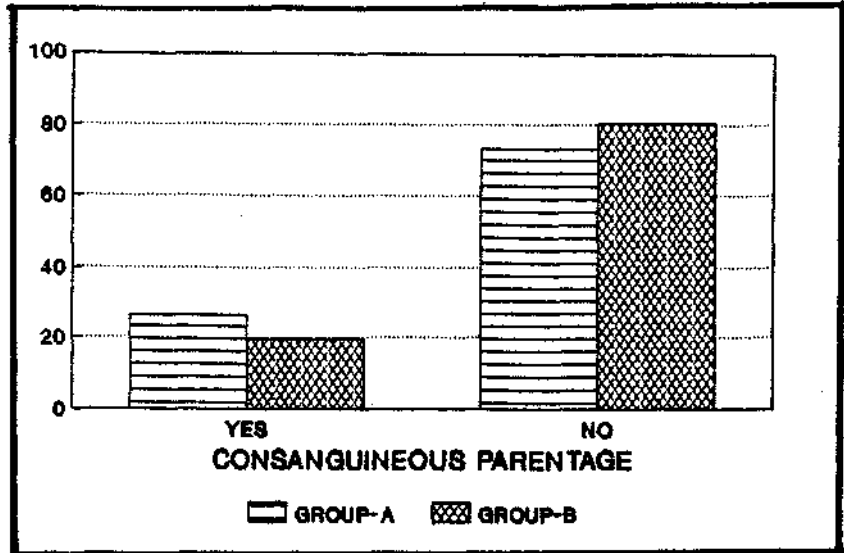

Table Xlb: Showing distribution of subjects according to
              positive or negative history of consanguineous
              parentage.

	Group-A	Group-B	
Yes	O=81 E=70.27	O=63 E=73.73	144
No	O=224 E=234.73	O=257 E=245.2	481
	305	320	625

For the data presented, the calculated Chi^2 value is as

follows:

    $Xobs^2$ $=3.77$

which is lesser than expected value of 3.84 at 0.05 level of

significance at 1 degree of freedom.

36

Therefore, we accept the null hypothesis, that in the population the two groups do not differ in relative frequency distribution of subjects among different category.

12: HISTORY RELEVANT TO THE PRESENTING PROBLEM.

Problems	Number of subjects	Percentage (%)
1. Tinnitus	34	11.14
2. Ear discharge	42	13.77
3. Earache	39	12.78
4. Vertigo	22	7.21
5. Other	17	5.57
6. Multiple	125	40,98
7. No significant history	26	8.52

N=305

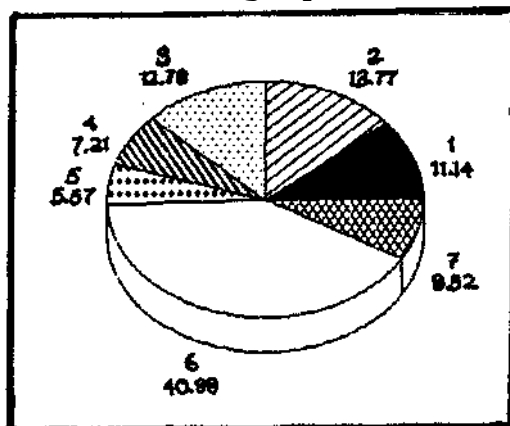Fig.XII: Pie diagram shows the percentage of population of group in each category.

Table XII shows that multiple category had majority of subjects, 125 (40.98%). This category included more than one problem, Eg. Tinnitus and ear discharge. Multiple category is followed by ear discharge, earache, tinnitus.

37

The category other included any medical problem like systemic diseases. The last category included those individuals who had no significant medical problem other than the complaint of hearing loss.

13. ASSOCIATED PROBLEM WITH MENTAL RETARDATION

Table XIII: Showing distribution of number of subjects of Group-B according to associated problem.

AssociatedProblem	Number of	Percentage
A.Microcephaly	17	5.31
B.Behavioural problem	36	11.25
c.Sensory deficits	44	13.75
D.Others	140	43.73
E.Multiple	59	18.43
F.No significant associated problem	24	7.5
	320	

Fig.XIII: Shows percentage of population of Group-B in each category.

38
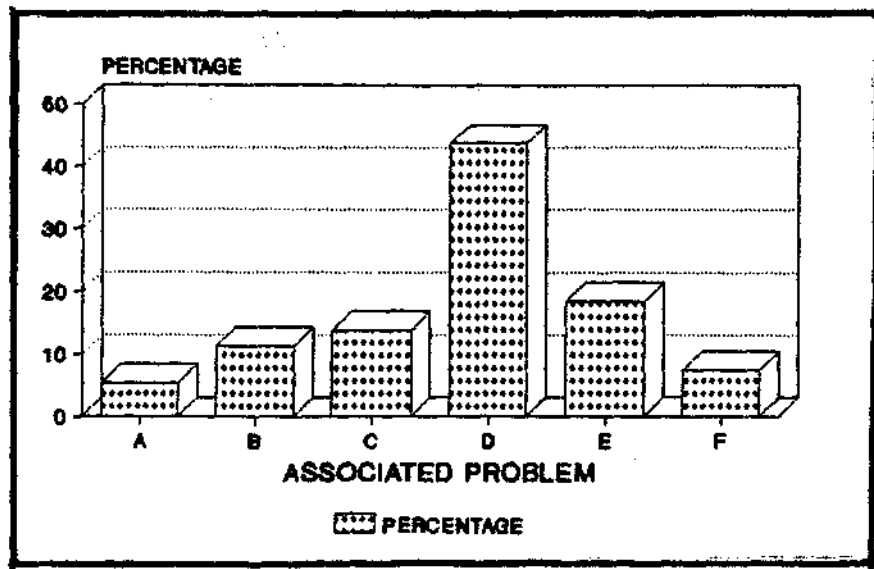
In Group-B, the category others had majority of subjects, i.e. 140 (43.75%). This category included mental retardation with cerebral palsy, brain injury, paralysis of limbs, stuttering, misarticulation, Down Syndrome etc. In the total population 20 subjects were Down Syndrome.

44 subjects (13.75%) had sensory deficits. Sensory deficits were hearing loss, visual problems, blindness etc.

Behavioural problems included hyperactivity, temper tantrums, self-stimulatory behaviour, self-injurious behaviour. These constitute of 36 subjects (11.25%). There were 17 subjects (5.31%) with microcephaly or hydrocephalus.

The category multiple included those subjects who had more than one associated problem. Egg. Sensory deficits with behavioural problems. There were 24 subjects (18.43%) in this multiple category. In 24 subjects (7.5%) there was no significant associated problem.

The above analysis shows that 92.5% of MR population has some or other associated problem.

Many of these associated problems could be prevented from occurring by proper awareness during pregnancy. Many associated problem could be corrected with adequate rehabilitative techniques. Better management strategies should be taken up so to prevent these associated problems becoming more grave.

14. DEGREE OF IMPAIRMENT

Table XIVa: Shows the distribution of subjects of Group-A based on degree of impairment and sex.

Degree	Number of Males	Number of Females	Total	Percentegie
Severe	73	33	106	34.75
Profound	128	7	199	65.25

Fig.XIVa: Column diagram shows percentage of population of Group A based on degree of impairment.
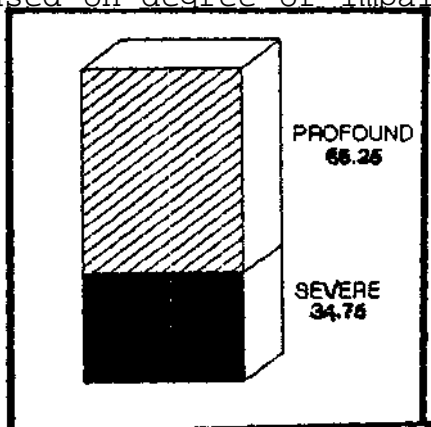
In Group-A 34.75% were severely hearing-impaired and 65.25% were profoundly hearing-impaired.

Table XIVb: Shows number of subjects of Group-A in each category.

	Group-A	Group-B	
Severe	O=73 E=69.85	O=33 E=36.15	106
Profound	O=128 E=131.15	O=7 E=67.85	199
	201	104	305

For the data presented, the calculated Chi^2 value is as follows:

$$X^2_{obs} = 0.54,$$

which is less than the expected value of 3.84 at 0.05 level of significance at 1 degree of freedom.

Therefore, we accept the null hypothesis that in the population the male and females do not differ in relative frequency distribution of subjects between severe and profound category.

Table XIVb: Shows distribution of subjects of Group-B according to sex and degree of impairment.

Degree	Number of Males	Number of Females	Total	Percentage
Mild	45	26	71	22.18
Moderate	65	38	103	32.18
Severe	68	44	110	34.37
Profound	27	7	36	11.25
	205	115	320	

Fig.XIVb: Column diagram shows the percentage of population
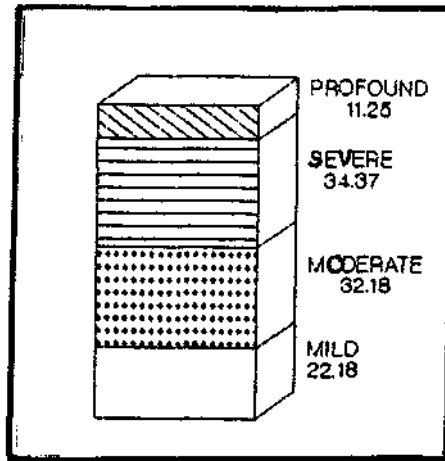according to degree of impairment.

Table XIVb shows that a majority of the cases were severely retarded followed by moderate and mild retardation. The number of subjects with profound retardation were least.

Table XIVc: Shows distribution of subjects of Group-B according to degree of impairment.

Degree	Male	Female	
Mild	0=45 E=45.48	0=26 E=25.17	71
Moderate	0=65 E=65.98	0=38 E=37.01	103
Severe	0=68 E=70.47	0=44 E=39.53	110
Profound	0=27 E=23.06	0=7 E=12.94	36
	205	115	320

For the data presented, the calculated Chi^2 value is as follows:

$$X^2obs = 4.11$$

which is less than expected value of 7.82 at 0.05 level of significance at 3 degree of freedom.

Therefore, we accept the null hypothesis that in the population the male and females do not differ in relative frequency distribution of subjects among different degree of mental retardation.

15. PURPOSE OF ISSSUE OF CERTIFICATES
    (Information available only for Group-A)

Table-XV: Shows a distribution of subjects of Group-A according to the purpose of procuring . certificates.

Purpose	Number of persons	Percentage
Financial Aid	226	74.09
Admission to School	22	7.21
Railway Concession	17	5.57
Tax Exemption	32	10.49
Job Reservation	8	2.62
	305	

Fig.XV :   Showing percentage of population according to purpose of issue of certificates

PURPOSE OF ISSUE OF CERTIFICATE

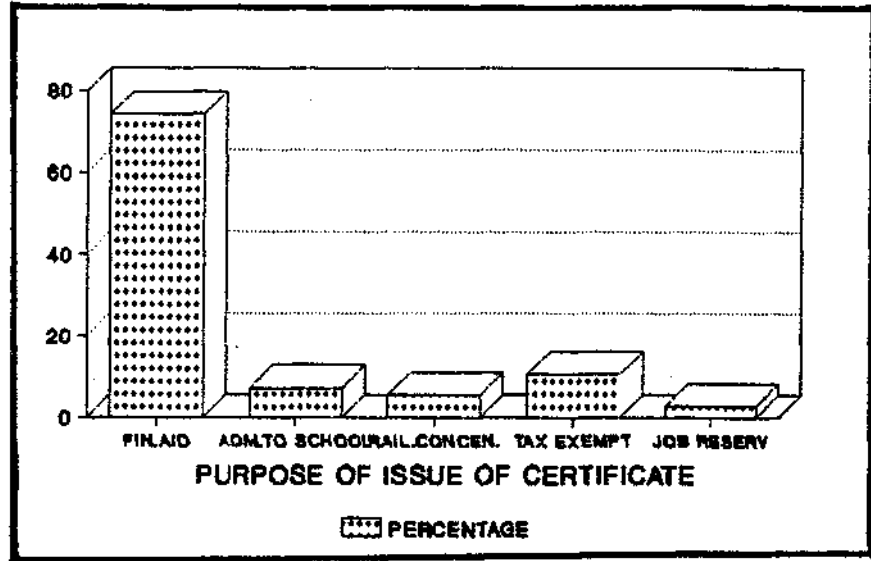▦ PERCENTAGE

Table   XV   shows   that   a majority   of   population,   226 subjects   (74.09%)   procured   certificate   for   financial   aid. 32   subjects   (10.49%)   took   for   tax   exemption   followed   by school   admission,   railway   concession   and   job   reservation. High   percentage   taking   certificate   for   financial   aid   again suggest   about   the   poor   economic   condition   of   the individuals.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY AND CONCLUSION

The study aimed to find the profile of patients seeking physically handicapped certificate in terms of a few preselected parameters.

The subjects were divided into two groups, namely the hearing-impaired and the mentally retarded. The hearing-impaired group was in the age range 1 year to 85 years, with a mean age of 13.43 years and a median age of 8.97 years. The mentally retarded group was in the age range of 2 years to 49 years, mean age 11.5 years and median age 8.8 years.

The required information was drawn from the case files. The data were presented in tabular columns and graphical forms. The percentage analysis for each parameter and Chi^2 test of independent samples were used.

On the basis of the results obtained, the following conclusions seem warranted:

45

1. In both groups, a majority of the subjects were males and in the younger age groups, i.e. 0-10 years, 10-20 years. With increase in age, the number of subjects in each age group decreased.

2. In both groups, a majority of beneficiaries were Hindus, hailing from Karnataka. In the hearing-impaired group, a majority of the beneficiaries were from urban areas where as in mentally retarded group, a majority was from the rural area. Due to economic factors and nearness to place were the subject resides, a majority of subjects were from Karnataka.

3. In both groups, a majority (92%) of subjects had income less than Rs.1200/- per month.

4. In the hearing-impaired group, 33% had some kind of formal education, where as in mentally retarded group only 13.5% had some kind of education or training. In the hearing-impaired group, 81% and in the mentally retarded group, 87% of the subjects were in school going age. A majority of those who received training in mentally retarded group were either mildly or moderately retarded. With increase in the degree of retardation the amount of training received decreased.

5. In hearing-impaired group only 24 subject (7.9%) were married, of 70 subjects who were above the legal age for marriage. A majority of the subject (55.75%) in hearing-impaired group were unemployed.

6. In the hearing-impaired group, a majority (90.5%) of the subjects came with the complaint of hearing loss and speech problem, whereas in the mentally retarded group, majority (69.1%) of subjects reported with a complaint of speech problem.

7. Incidence of positive family history and consanguineous parentage was (9%) more in hearing-impaired group.

8. In the hearing-impaired group a majority of the subjects had multiple history for the present problem. In mentally retarded group, a majority of the subjects had multiple or other associated problem. Mentally retarded had more severe associated problems than the hearing-impaired.

9. Mentally retarded were given certificates for mild, moderate severe and profound degree of retardation, whereas hearing-impaired were given only for severe and profound degree of hearing loss.

10. A majority (74.09%) of the subjects procured certificates for financial aid and assistance.

RECOMMENDATIONS

Based on the results and conclusions the following recommendations are made :

1. It should be investigated why the number of females reporting are less.

2. More schools and training centers are required for the hearing-impaired and retarded individuals.

3. Adequate community health programs should be undertaken which would help in reducing the problems associated with mental retardation and hearing loss. Better health- care schemes are recommended.

4. Creating more job opportunities and better vocational rehabilitation measures for the handicapped people.

5. Creating more awareness program for hearing problems and mental retardation.

6. Discouraging consanguineous marriage.

7. Measures to improve the overall socio-economic status.

48

8. More research should be undertaken to investigate the problems and difficulties faced by handicapped people, which would enable in overall rehabilitation and help them become a productive and independent member of the society.

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APPENDIX-I

DESCRIPTION OF PARAMETERS

i) Age

The age of the patient was recorded. Then nine age groups were made for group A and five age groups for group B. The class interval of age group is ten.

ii) Sex

The subjects were grouped on the basis of male and female.

iii) Place

The place refers from were the subject had come refers to the state where he/she was residing. The place was divided into Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

iv) Area

The area from where the cases came were considered to find out whether they came from rural or urban area.

v) Religion

Subject's religion was recorded. In religion four categories were made namely Hindu, Muslim, Christian and others which included religions other than Hindu, Muslim and Christian.

vi) Economic Status

In economic status information was recorded pending on the on the income of the earning member or the guardian. Three categories were made onthe basis of monthly income. First category constituted those, whose monthly income was less than Rs.1200/-, second category constituted those, whose monthly income was between Rs.1200 - 2000/- and the third category constituted of those whose monthly income was above Rs.2500/-.

These kind of grouping was done for economic status because the scheme for providing aids/appliances depends upon the monthly income grouped in the way above.

vii) Educational Background

For group A educational history were graded in either of the following three categories namely no formal education, school level education and college/university level education. For group B information was recorded on whether the individual has got any kind of training/schooling or not.

viii) Marital Status

This parameter was exclusively for hearing-impaired adult population. It was noted whether the adult subjects were married or unmarried.

ix) Employment

For this parameter information was exclusively obtained from group A. This following categories were made to record the employability status of the individual. The categories were students, labourer, factory worker, agriculturist (farmer), businessman and unemployed, etc.

x) Complaint

Complaint refers to the complaint with which the client had reported. In other words first statement of his or he problem i.e. what the subject or his/her caretaker felt the problem was. Four categories were made namely, hearing problem, hearing and speech problem, speech problem and others.

xi) Family History

It was noted whether individual had any body in near relative like siblings, grand parents, parents, cousins, etc. who had similar kind of handicapping condition or any other illness or handicap.

xii) Consanguineous parentage

In case of children especially people below 18 years of age, the history was recorded for consaguineous parentage.

xiii) History relevant to the presenting problem.

For group A, information was obtained regarding history of ear discharge, earache, tinnitus etc.

xiv) Associated Problem

For group B, information was recorded for associated problem along with mental retardation. Associated problem like microcephalus or hydrocephalus, behavioural problems, sensory deficits like hearing loss/visual impairment, others which were not specified like epilepsy etc. and multiple problem which included more than one associated problem.

xv) Degree of Impairment

For group A, degree of impairment was either severe or profound because certificate was only given for these two categories.   For group B, degree of impairment were classified into mild, moderate, severe or profound mental retardation.

xvi) Purpose of Issue of the Certificates

Information from only group A was available regarding purpose of issue of certificate. The categories made in this parameter were school admission, financial assistance, railway concession, tax exemption, job reservation, loan from Government etc.