

**A SURVEY OF TEACHERS' KNOWLEDGE ABOUT HEARING
IMPAIRMENT AND REFERRAL SERVICES**

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May 2015

Certificate

This is to certify that this Dissertation entitled '*A study of Teachers' knowledge about hearing impairment and referral services*' is a bonafide work in part fulfillment for the degree of Master of Special Education (Hearing Impairment) of the student (Registration No.14MSD002). This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other University for the award of any other diploma or degree.

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Dedication

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Abstract

The concept of education has changed over the time for children with hearing impairment. The trend at present is to include children with hearing impairment alongside typically developing children and modify the schools to suit the individual requirements. If children with hearing impairment have to be educated, either teachers' in regular schools should be equipped to teach them or at least should refer them to an appropriate referral center. The current study is to explore knowledge about hearing impairment, referrals and training of regular school teachers' in Ooty, Nilgiris district, Tamil Nadu. A twenty item questionnaire was developed by the researcher to be completed in about 10-15 minutes. It was designed to elicit information about knowledge, referrals and training related to hearing impairment. Questionnaire was designed based on the earlier literature. This study was conducted on the basis of a survey of 100 regular teachers from different backgrounds like Government, Private and Aided schools, educational qualification, years of work experience, and male and female teachers. The results indicated teachers are in support of educating children with hearing impairment and consider making appropriate referrals as their responsibility. However, due to lack of training and skills not all teachers' are confident in teaching children with hearing impairment. The study emphasizes the need to facilitate knowledge and skills to regular school teachers' to handle children with hearing impairment to promote inclusive education.

Key words: Children with hearing impairment, Referral service center.

Table of Content

Chapters	Particulars	Page No
Chapter I	INTRODUCTION	
	1.1 Introduction	1
	1.2 Hearing Impairment	1
	1.3 Education of children with hearing impairment	2
	1.4 Inclusive Education	3
	1.5 Need and importance of the study	4
	1.6 Objectives of the study	5
	1.7 Operational definition	6
Chapter II	REVIEW OF LITERATURE	
	2.1 Introduction	7
	2.1 Inclusive Education	7
	2.2 Attitudes of regular school teachers' towards Inclusive education of children with special needs	8
	2.3 Attitudes of regular school teachers' towards Inclusive education of children with Hearing Impairment	11
	2.4 Attitudes of trainees towards Inclusive education	14
	2.5 Attitudes of special teacher trainees towards inclusive education	15
Chapter III	METHOD	
	3.1 Introduction	18
		20

	3.2 Phase 1	22
Chapter IV	RESULTS AND DISCUSSION	
	4.1 Introduction	24
	4.2 Analysis	24
	4.2.1 Demographics (Q1 to Q3)	24
	4.2.2 Knowledge (Q4 to Q10)	25
	4.2.2.1 Gender Differences	26
	4.2.2.2 School set-up	27
	4.2.2.3 Educational Qualification	29
	4.2.2.4 Years of work experience	30
	4.2.3 Referrals (Q11 to Q15)	32
	4.2.4 Training (Q16 to Q20)	34
	4.3 Discussion	35
Chapter V	SUMMARY & CONCLUSIONS	
	5.1 Introduction	37
	5.2 Objectives of the present study	37
	5.3 Method	38
	5.3.1 Sample	38
	5.3.2 Analysis	39
	5.4 Findings of the study	39
	5.5 Educational implications	40
	5.6 Conclusion	41
	5.6 Limitations of the study	41
	5.7 Suggestion for future research	41

List of Tables

Table No.	Particulars	Page No.
3.1	Domains and Number of Questions	20
3.2	Domains and Number of Questions in the Final Questionnaire	21
3.3	Number of teachers' working in each school	23
4.1	Teachers' responses regarding "Demographics"	24
4.2	Teachers' responses regarding "knowledge" domain	25
4.3	Responses of male and female teachers' regarding knowledge domain	27
4.4	Response of Government, Private and Aided school teachers' regarding knowledge domain	28
4.5	Responses of undergraduate and postgraduate qualified teachers' regarding knowledge domain	29
4.6	Responses of teachers' regarding knowledge domain based on their years of work experience	31

List of Figures

Figure No	Particulars	Page .No
3.1	Framework of steps in preparing the Questionnaire	19
4.1	Percentage of correct responses given by males and females	27
4.2	Percentage of correct responses given by Government, Private and Aided school teachers'	29
4.3	Percentage of correct responses given by under graduation and post graduation qualified teachers'.	30
4.4	Percentage of correct responses as given by the teachers' based on years of work experience.	31

CHAPTER I
INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 Introduction

“Education is the complete development of individuality of the child so that he can make an original contribution to human life according to the best of his capacity”

-T.P.NUNN

Education plays an important role in shaping one's life. It is a process of discovering new things to increase the knowledge. It helps one to adapt to ever changing world and to grow both personally and socially. It helps one to contribute productively to the society. In this context, education is important for all children irrespective of their ability, disability, gender, caste, etc. Government policies like free and compulsory education for children in age group 6-14 years i.e., Right to Education Act (2009) emphasizes education to all children. This holds true for children with special needs such as children with hearing impairment, mental retardation, cerebral palsy, visual impairment and others. Education is even more important for these children as it helps them to overcome the challenges arising out of their disabilities and even helps to contribute to the society.

1.2 Hearing Impairment

Hearing impairment is a hidden handicap. The term hearing impairment indicates some damage or malformation of the hearing mechanism or defects in the hearing apparatus. It is categorized by its type, severity and age

of onset. There are three types of hearing loss like conductive hearing loss, sensory neural hearing loss and mixed hearing loss. Based on severity there are five types ranging from mild to profound (mild, moderate, moderately severe, severe and profound) and based on age of onset there are two types, pre-lingual deafness and post-lingual deafness. There are three major causes of hearing loss: Pre-natal causes like viral and bacterial infections, Peri-natal causes like birth asphyxia, low birth weight, Rh incompatibility and Post-natal causes like foreign bodies in the ear, injury etc. There are three levels of prevention measures: primary prevention aimed at preventing the impairment from occurring, secondary and tertiary prevention includes habitation and rehabilitation aimed at compensating for the hearing impairment by the use of amplification and other rehabilitation strategies. Therefore, education as a part of rehabilitation has to be provided to these children to overcome their challenges.

1.3 Education of children with hearing impairment

In olden days, there was hardly any formal education provided to children with hearing impairment and were generally neglected and abused. From 1960's onwards, the attitude towards them had a sudden change and slowly the society started realizing the importance of educating them. Hence, program were started to educationally rehabilitate them. During 1980's, there was a significant positive and constructive change in the attitude due to the research findings in identification and rehabilitation processes. Recent years have witnessed a further change in the attitude of educating children with hearing impairment by bringing in the philosophy of inclusion. The trend at present is to include children with hearing impairment and children with any other disabilities in

regular schools and modify schools to suit the individual requirements of the special children.

1.4 Inclusive Education

“A process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. It involves changes and modifications in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the state to educate all children”

- UNESCO

Inclusive education not only benefits children with special needs but all other children in the classroom. It allows them to develop individual strengths, work on individual goals while participating in the life of the classroom with other students of their own age, to learn and accept individual differences. India is one of the countries which participated in the Salamanca Framework of action and signed International statement about inclusion, in which concept of inclusive education was initiated in the world. From the time of independence in 1947, many attempts have been made by the Indian Government for inclusion by creating many policies around special education. However, their implementation efforts neither resulted in an inclusive education nor the goal of “education for all”. Inclusion though is the most preferred still it is in the emerging state in India.

An essential component for success in Inclusive education is teachers’ knowledge, awareness and confidence to handle the children with special needs. Understanding the implicit and explicit characteristics in teachers is an

important precursor for improving teaching practices for children with special needs (Levies, Bornhalt & Lennon, 2005). Research findings in UK reveals that the mainstream teachers are lacking in confidence to manage the special educational needs of children in regular classrooms (Avraminds, Bayless & Burden, 2000), Similar findings were reported in US that the mainstream teachers of US schools do not know to manage children with hearing impairment due to lack of necessary knowledge in handling these children (Dantas, 2007) and in India also similar results were highlighted by Gangadharan and Malar (2009) that in realistic situation there are no uniform or standard machinery for orienting mainstream educators about inclusive education except consultation and orientation with Integrate Education Resource Teachers (IERT) due to which teacher's in mainstream schools lack knowledge and skills. Therefore, it is essential that mainstream teachers have necessary knowledge and skills, if inclusion has to be successful.

1.5 Need and importance of the study

In formal set-ups, teachers are the professionals who disseminate the knowledge in schools. They are the key members on a large scale to impart education. If a child with hearing impairment has to benefit, either teachers in regular schools should teach them or at least they should refer the child with hearing impairment to an appropriate rehabilitation centers. This would enable them to progress and develop faster. The efficiency with which a teacher can refer a child with hearing impairment depends on whether he or she has knowledge about where a referral should be made. Some of the other factors include previous experience related to children with hearing impairment, exposure during teacher training to handle children with hearing impairment

and the belief that even children with hearing impairment can be educated. Due to lack of awareness not all the teachers are comfortable referring the child with hearing impairment. Keeping this in view, it is interesting to know as to how many of the teachers are aware about the factors mentioned above and have knowledge regarding rehabilitation centers involved in interventional services to children with hearing impairment in their surroundings.

The ease with which teachers can make referrals will help children with hearing impairment in availing appropriate educational services as early as possible without any wastage of time as early identification and intervention plays an important role. Research findings reveal that infants identified with hearing loss as young as possible with appropriate early intervention, can be mainstreamed in regular education classrooms. (Joint Committee on Infant Hearing, 2000). Recent research has concluded that children born with hearing loss are identified and given appropriate intervention before six months of age demonstrated significantly better speech and reading comprehension than children identified after six months of age. (Yoshinago-Itano et al, 1998). Current research on teachers' knowledge has focused on teachers' responses to the inclusion of children with hearing impairment in regular schools. However there has been little available research examining teachers' fundamental knowledge about referrals to be made. Therefore, the present study is taken up to explore teachers' knowledge about hearing impairment and referrals.

1.6 Objectives of the study

1. To explore teachers' knowledge about hearing impairment.
2. To find the differences between male and female teachers' knowledge about hearing impairment.

3. To find the differences among Government, Private and Aided school teachers' knowledge about hearing impairment.
4. To find the differences between undergraduate and postgraduate teachers' knowledge about hearing impairment.
5. To find the differences between teachers' knowledge about hearing impairment based on their years of work experience.
6. To find out teachers' knowledge about referral services for children with hearing impairment.
7. To explore the details of training received in hearing impairment by teachers'.

1.7 Operational definition

Referral service centers: In the present study, this term refers to any hospitals, early intervention centers, special schools, Local hearing clinics, Government and Non-Government Organizations working in the rehabilitation of children with hearing impairment

CHAPTER II

REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

This chapter presents in brief the literature about teachers' knowledge about hearing impairment, positive and negative attitudes of teachers' and their level of confidence in handling children with hearing impairment. In this chapter, we shall discuss about the available literature and summary of the findings of the research studies under the following sections.

2.1 Inclusive Education

2.2 Attitudes of regular school teachers' towards Inclusive education of children with special needs

2.3 Attitudes of regular school teachers' towards Inclusive education of children with Hearing Impairment

2.4 Attitudes of trainees towards Inclusive education

2.5 Attitudes of special teacher trainees towards inclusive education

2.1 Inclusive Education

The journey to becoming an Inclusive School may be long and challenging at present, but ultimately this journey can strengthen a school community and benefit all children with special needs. The term "Inclusion" is not just the placement of students with disabilities in general education classes but the fundamental change in the way a school community supports individual needs of each child. Inclusive education not only beneficial for children with special needs but it also provides an opportunity for student those who do not have disabilities to flourish (Jalan, 2004).

The study conducted by Mitchell and Brown (1991) highlighted that there are obvious benefits for children with special needs in mainstream classrooms. In regular schools they develop their social skill and also the language skills as par with the typically developing children.

2.2 Attitudes of regular school teachers' towards Inclusive education of children with special needs

Attitudes of teachers' towards inclusive education have been studied since 1950s in many part of the world. The summery of all the studies reveals that teachers' are somewhat negative and less confidence in handling the child due to lack of training and experiences.

Pham (2008) investigated the attitudes of regular school teachers' towards inclusive education of students with disabilities in Vietnam. The study sample consisted of 529 regular school teachers and 32 administrators of 24 lower secondary inclusive project schools of six districts which are funded by International Non-Governmental Organizations (INGOs) that took part in survey. A questionnaire was developed by modifying the questions from standardized tool Attitude towards Mainstream Scale (ATMS) which is developed by Larrivee and Cook (1979). The results of the study indicated teachers had both positive and negative attitudes towards inclusive education of students with disability but attitudes varied based on how they understood the general philosophy of inclusion and their ability to teach children with disabilities. The study also revealed that teachers agree that there are positive benefits about inclusion for students with disabilities and they expressed their need extensive re-training for inclusion since they need necessary expertise to teach students with disability.

Dapudong (2014) investigated the international school teachers' knowledge and attitude towards inclusive education of children with special needs in the Eastern Seaboard region of Thailand. A descriptive survey research was used in the study. A stratified sampling method was used on 203 teachers of four schools and then Fifty-two male and female general education and special educational needs teachers were selected as samples for the study. Modified Opinions Relative to the Integration of Children with Disabilities (MORID) used as a tool for this study which is modified from Opinion Relative to Integration (ORI). Results indicated that they have moderate knowledge and neutral attitudes towards inclusion. It was highlighted that there is a need for schools to provide more special educational needs training, sufficient learning support providers and educational resources as well as in-depth specialization courses that provide specialized practices for implementing the special educational need strategies in their classrooms.

Everling (2013) examined the attitudes, confidence and concerns of teachers in relationship to working with special education students. The study sample consisted of 52 teachers and 20 administrators of 20 schools in Texas. The result revealed that teachers' have positive attitude and concern about inclusive education and working with children with special needs. It also highlighted that lack of training and support lead to lower confidence in their abilities to handle the students in inclusive setups.

Subban & Sharma (2005) conducted a study to investigate the teachers' attitudes and their concerns about inclusive education. A semi-structured interview was conducted on 10 primary schools teachers' in Victoria. The results imply that Victorian teachers' are positively inclined towards the philosophy of inclusive education. The study also revealed that they remain cautious about the inclusion of students with severe disabilities.

Deluca, Tramontano and Kett (2014) investigated the knowledge, attitudes, practices and training of Head teachers' and teachers' of disabled children in Zimbabwe. In the study 183 teachers' and 67 head teachers' from 268 schools of four districts in Zimbabwe participated. Findings of the study highlighted that attitudes and beliefs of respondents were positive but there is lack of training in special education needs, and the need for further training emerges as a pressing issue.

Logan & Wimer (2013) conducted a study to find out the factors influencing the teachers' attitudes towards inclusive education in southeast Georgia. The study sample consisted of 203 middle and high school teachers'. Result revealed that teachers' years of experience did not play a more significant factor for inclusive education. The study also explores female teachers' are inclined to have more favorable attitudes than male teachers' toward the inclusion of students with special needs.

Subban & Sharma (2006) investigated 122 primary school teachers' of Victoria to find out their attitudes and concern about children inclusive education. The Attitude towards inclusive education scale (ATIES) was used as a tool. The findings of the study explore that teachers' who have undertaken training in special education tend to be more positive than others. It also revealed that they have lower levels of concern about implementation of inclusion.

Al Zyoudi (2004) conducted a study to find out the attitudes of teachers' towards inclusive education in Jordan. Seventy teachers' of nine schools were participated in the study. The result of the study shows that attitudes of the

teachers' influenced by severity of the disability presented in the child, years of working experience and the training received by the teachers'.

Khan (2007) interested in finding the perception of teachers' working in private schools about inclusive education. The teachers' of two private schools teaching grade one to grade sixth were participated in the study. Teachers' expressed that due to the heavy work load in the mainstream classroom they not able to meet the needs of children with special needs. They also expressed that they need additional training and resources from the management to meet the needs of children with special needs.

Bansal (2013) investigated the primary school teachers' attitudes towards inclusive education. A Attitude scale was used to find out the attitudes of 40 rural and 40 urban primary school teachers'. Result finding reveal that female teachers' are less positive about inclusive education when compare to the male teachers' and also private school teachers' shows more positive attitude towards inclusive education than the government school teaches.

2.3 Attitudes of regular school teachers' towards Inclusive education of children with Hearing Impairment

Gangadharan and Malar (2010) conducted a study to find out the awareness, attitude and competence of teacher towards children with hearing impairment in mainstream schools for inclusive education, using a questionnaire, attitude rating scale and competency checklist developed based on literature. It was administered on 200 regular educators from 28 schools (14 rural and 14 urban schools) in and around Mysore. Results reveals that mainstream teachers' did not have adequate knowledge and positive attitudes towards the education of children with hearing impairment and also they

reported to have only moderate competencies in handling children with hearing impairment in regular schools.

Prakash (2012) conducted a study to find out the attitude of mainstream teachers' towards the inclusion of children with hearing impairment, using a questionnaire developed by Giles and Tanner (1995). It was administered on 100 teachers' of different government and non-government schools in two districts of Andhra Pradesh. Results depicted that teachers' feel effective strategies which benefits children with hearing impairment should be implemented in schools and most of the teachers' agreed for the inclusion of children with disabilities in their classrooms. It also revealed that there is a significant difference in the attitudes of teachers' based on teachers' qualification, teaching experience, gender and management.

Upadhyay (2010) conducted a study to find out the importance of environmental characteristics, accessibility and equality in inclusive set-ups which are important for children with hearing impairment in inclusive set-ups. The study was conducted on 120 teachers working in regular schools. It was found that the attitudes of teachers in regular school is not very positive about children with hearing impairment studying in inclusive setups due to the lack of knowledge and skills of teachers.

Brophy and Whittindham (2013) conducted a study on teachers' perceptions on education of children with hearing impairment in inclusive educational set ups using a questionnaire. It was administered on 101 teachers' in two English speaking schools in Ottawa-Carleton. Teachers' who taught children with hearing loss for five academic years of the time of the survey were the participants of the study. This study reveals that teachers' have

favorable attitudes towards inclusion of children with hearing loss. They have high confidence in their ability to teach children with hearing loss and they also have adequate knowledge about the effects of hearing loss on language and learning. Results also revealed that their teacher education programs not prepared them sufficiently to teach children with hearing impairment effectively.

Mapolisa & Tshabalala (2013) investigated the benefits of children with hearing impairment who were educated in inclusive setups. The semi-structured interview method was used on the 21 from one cluster in Zimbabwe. The findings affirmed that most of the regular teachers' lacked in the necessary expertise and did not have adequate resources to handle children with hearing impairment

The study by Haider (2008) on 50 mainstream classroom teacher and 50 special education teachers' from four school of Lahore were participated in the study. Questionnaire was administered on the teachers' and special educators. The result of the study shows that, in general teachers' having positive attitudes towards inclusive education. The findings also show that collaboration between the mainstream and special education teachers' is important and the there should be a clear guideline on the implementation of inclusive education.

Keith (2013) investigated the attitudes of a group of lower primary school teachers' from the Gauteng area towards the inclusion of children with hearing impairment. Analysis of the study shows that teachers' were relatively positive in their attitudes towards inclusion. The study also highlighted the need for an adequate training and support for implementation of an inclusive education.

2.4 Attitudes of trainees towards Inclusive education

Pre-Service training about children with special needs will help in reaching the wide spread goal inclusive education. Attitudes of teachers' play an significant role in the child's life. Pre-Service training is a key to bring such attitudinal change in the teachers'.

Vijetha and Nair (2014) conducted a survey study to find out the existing attitudes of pre-service B.Ed. teacher trainees and their teacher educators towards inclusive education in B.Ed. colleges of Mysore. For measuring their attitudes, SACIE (Sentiment, Attitudes, and concerns about Inclusive Education) by Loreman, Early, Sharma and Forlin (2008) was used. Pre-data were collected from 968 B.Ed. trainees and 32 teacher educators from 13 B.Ed. colleges. The results revealed that majority of them were having favorable attitudes towards inclusive education. However, there were trainees who expressed their attitudes to be neutral, undecided and unfavorable. Later, five B.Ed. colleges were selected on random basis and teacher trainees of those colleges who showed neutral or unfavorable attitudes as per pre-data were given orientation program about various aspects of inclusive education. Then post test was conducted. It also revealed that there was a significant difference was found in the post test scores which can be attributed to the orientation program.

Shobha, Vijetha and Devaraj (2014) conducted a study to find out the teacher educator's attitudes, concerns and also their practices about Inclusive Education. A questionnaire was prepared by considering three major areas like attitudes of teacher educators, concerns of teacher educators and actual practices in terms of theory and practical followed by teacher educators towards inclusive education. And the questionnaire was administered on 50 teacher educators

from 15 teacher training colleges in Mysore. The results imply that even though teacher educators are inclined towards Inclusive education they expressed their apprehensions about their own teacher trainees gaining fundamental knowledge and skills of inclusive education as an integral part of their curricula as it is not a compulsory subject.

Loreman ,Sharma, Forlin & Earle (2007) investigated attitudes and concerns held by the pre-service teachers' regarding inclusive education. All the per-service teachers' of three institutions in Australia were participated in the study. Attitudes towards Inclusive Education scale (ATIES), modified version of the Interaction with Disabled Persons scale (IDP) and Concerns About Inclusive Education Scale (CIES) were used as tool in the study. Results indicated on one hand that pre-service teachers' have more positive attitudes towards inclusive education and more confidence in implementing inclusive practice. But on the other hand they are less concerns about inclusion

2.5 Attitudes of special teacher trainees towards inclusive education

A study by Costello & Boyle (2013) find out attitudes held by pre-service teachers' towards inclusive education .Study sample consisted of 193 undergraduate and post graduate pre-service secondary teachers' enrolled in secondary education courses in Australian university. A modified Teacher Attitudes to Inclusion Scale (TAIS) was used in the study. And they found that pre-service secondary teachers' had positive attitudes towards inclusive education but there was a significant difference in positive attitudes between pre-service secondary teachers' enrolled in postgraduate programs and those who were enrolled in undergraduate courses. It was shows that post graduate teachers' had more positive attitudes towards inclusive education.

Chireshe (2011) investigated the views on inclusive education in Zimbabwe. A questionnaire was developed and administered on 76 special teacher trainees were selected from Great Zimbabwe University's Faculty of Education as the sample for the present study. And the results indicated that present curriculum which was followed in Zimbabwe does not suit the special children in the regular classrooms and trainees also felt that these children only be handled by special teachers'. Regular educators could not easily adapt their teaching programmes to accommodate children with special need in their classrooms.

Molosiwa and Moswela (2009) investigated the preparedness of special teacher trainees on inclusive education in Botswana. Qualitative research method was used to explore how teachers' are prepared for inclusive education. Eighteen Special Education student teachers' of University of Botswana who have had experience in teaching students with disabilities in regular schools during their teaching practice were selected. A semi-structured interview method was employed on the student teachers'. Findings revealed that special education student-teachers' were not prepared to meet the learning needs of diverse categories of learners with disabilities in inclusive settings.

Chireshe (2013) carried out a study to find out the special student teacher's perception on status of inclusive education in Zimbabwe. A questionnaire was developed and implemented on 42 students from Great Zimbabwe University. The results revealed that the participants perceived inclusion lead to positive attitudes among children without disabilities and in communities. Discrimination and social stigma were perceived to be reduced, by the participants. The results also shows that lacking of specific policy on inclusive

education, scarcity of resources such as trained teachers', assistive devices and lack of understanding of the meaning of inclusive education still exists in the country.

CHAPTER III

METHOD

CHAPTER 3

METHOD

3.1 Introduction

The method employed for the present study titled ‘A survey of teacher’s knowledge about hearing impairment and referral services’ is discussed in this section. The research design used was a ‘cross-sectional descriptive survey design’. The study was conducted in two phases. First phase included preparing the questionnaire and second phase included administering the questionnaire on teachers.

Phase 1

Step1: Outlining the framework of questionnaire

Step 2: Selection of domains

Step 3: Framing the questions under each domain

Step 4: Preparing the final questionnaire

Phase 2

Step 1: Selection of Sample

Step 2: Administration of questionnaire

Step 3: Scoring for analysis

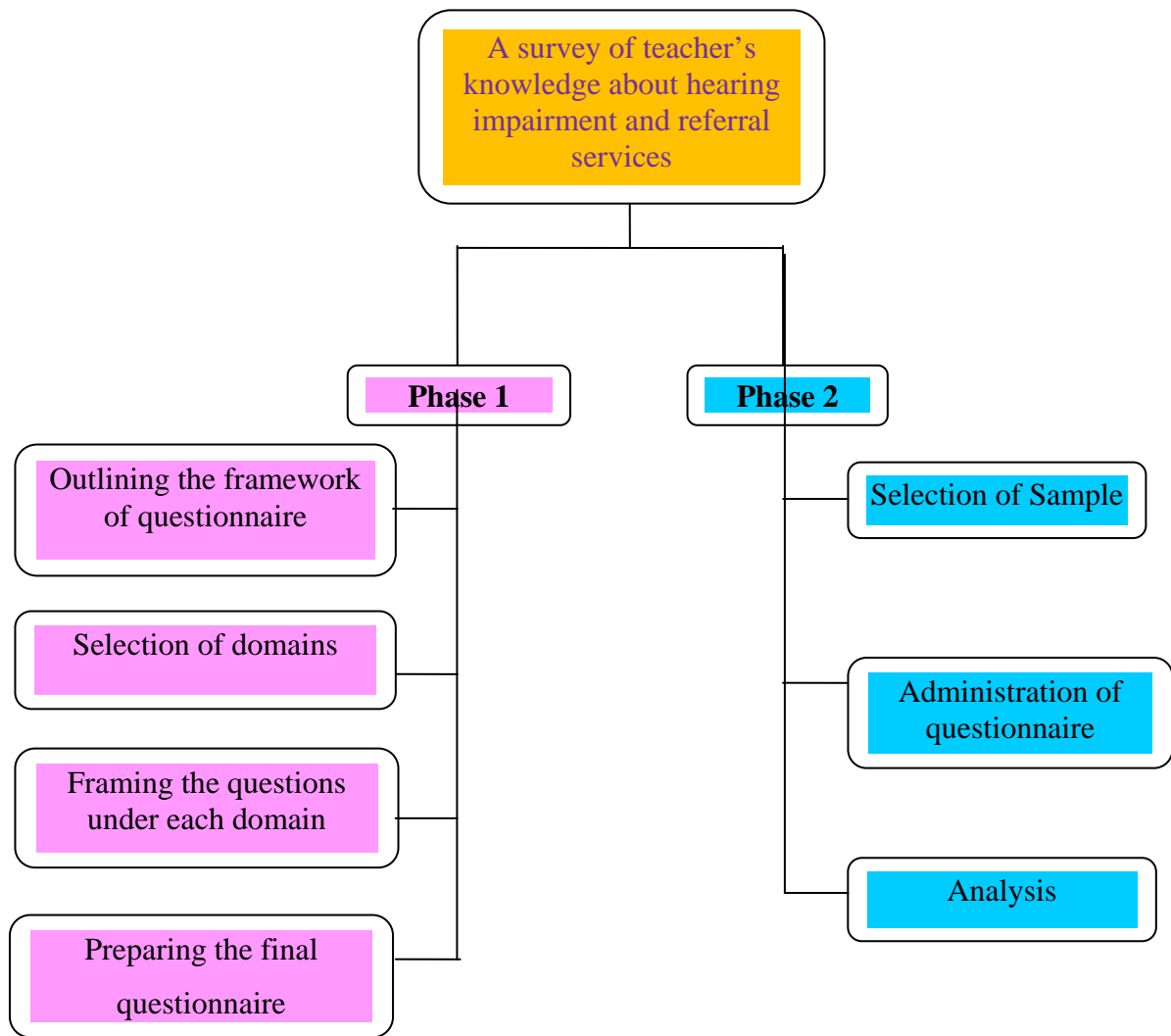


Figure 3.1 Framework of steps in preparing the Questionnaire

3.2 Phase 1:

The main aim of this phase is preparation of questionnaire which was carried out in the following four steps

Step 1: Outlining the framework of questionnaire

For assessing teachers' knowledge about hearing impairment and referral services, the framework for the questionnaire was designed to be measured in terms of different domains, consisting of different questions under each domain.

Step 2: Selection of domains

Based on the related literature and the purpose of the present study, domains were identified to assess teacher's knowledge about hearing impairment and referral services. The major domains selected were (a) Knowledge (b) Referrals and (C) Training

Step 3: Framing the questions under each domain

In this step, under each domain, based on the relevant literature, questions were framed. Demographics consisted of three questions, "Knowledge" consisted of eight questions, "Referrals" consisted of nine questions and "Training" consisted of five questions. In total, twenty six questions were framed, as shown in the table 3.1.

Table 3.1

Domains and Number of Questions

S.No	Domains	No.of Questions
1	Demographics	3
2	Knowledge	8
3	Referrals	9
4	Training	5
	Total	26

Initially, the questionnaire prepared was given to 10 experts to validate the questions. The experts were requested to read and mark whether the domains and the

questions were appropriate and also suggest whether they match the objectives of the study. The experts were three Special Educators (Hearing Impairment), one Audiologist, one Speech and Language Pathologist, one Psychologist, two General Educators, one School Administrator/Principal and one Social Worker. They were given a covering letter comprising introduction of the present researcher, topic of the present study, request for suggestions and a copy of draft questionnaire for their feedback regarding the layout and words used in the questionnaire (**Appendix A**). Questions which were marked as appropriate by 70% or above by the experts were selected and questions which were marked as inappropriate by 30% or below by the experts were deleted.

Step 4: Preparation of final questionnaire

Based on the feedback received from the experts, questions were also amended and the final version of the questionnaire was prepared. The final questionnaire consisted of twenty questions to be completed by teachers in about 10 minutes (**Appendix B**). It was designed to elicit information about the experience, knowledge, referrals and training of the teachers. The details of additions and deletions of questions under each domain are given in the table 3.2.

Table 3.2

Domains and Number of Questions in the Final Questionnaire

S.No	Domains	No.Of Questions	
		Before	After
1	Demographics	3	3
2	Knowledge	8	7
3	Referrals	9	5
4	Training	5	5
	Total	26	20

The questions in were of two types: Qualitative and Quantitative. All the questions under Demographics, Referrals and Training domains were qualitative in nature i.e., there was no correct or incorrect answer for them, but were asked to gather information. However, knowledge domain consisted of seven questions which were quantitative in nature i.e., they were either correct or incorrect answers. Therefore for every correct answer a score of '1' was given and for every incorrect answer/not answered a score of '0' was given.

3.3 Phase 2

Administering the questionnaire on the sample and collecting the data was the main aim of this phase which was carried out in following three steps

Step 1: Selection of Sample

As per 2014 statistics and information available at the Department of Education, Nilgiris district, Tamil Nadu, there are totally 124 schools and in Ooty block there are 51 schools. This information was collected by the researcher personally. Among these 51 schools, 10 schools were selected based on convenience sampling. All the teachers in ten schools were included as sample for the study. In total, 100 teachers who were working in 10 schools in Ooty Block, Nilgiris district participated in the study.

Step 2: Administering the questionnaire

The researcher approached the Principals of 10 schools for seeking permission to conduct the study by explaining the importance of the study. Accordingly, a convenient date and time was fixed for administering the questionnaire on teachers. As per the appointment given by the Principals of the respective schools, researcher visited each school to administer the questionnaire. Before administering the questionnaire, researcher gave a brief introduction about the study and instructions were given to the teachers regarding filling up of the questionnaire. All the teachers

could complete the questionnaire within duration of 10-15 minutes approximately. Number of questionnaires given to each school varied as number of teachers working in each school was different as shown in the table 3.3. In total, 100 questionnaires were given to 100 teachers in all selected 10 regular schools and the filled in questionnaires were collected back in person.

Table 2.3

Number of teachers' working in each school

S.No	School Number	Number of Teachers
1	1	8
2	2	7
3	3	9
4	4	8
5	5	17
6	6	16
7	7	8
8	8	9
9	9	4
10	10	14
Total		100

Step 3: Analysis

Responses of each question in the questionnaire were qualitatively analyzed and also percentages of responses for each question were cumulated and are discussed with appropriate literature in the following chapter

CHAPTER IV

RESULTS & DISCUSSIONS

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

The present study on “**Teachers’ knowledge about hearing impairment and referral practices**” was broadly aimed to find out the knowledge and referral practices of teachers’ working in regular schools in Ooty. To promote inclusive education, responsibility and positive attitude among teachers plays a significant role. In this chapter, results obtained are discussed.

4.2 Analysis

All the hundred teachers responded to the questionnaire making the return rate 100%.

4.2.1 Demographics (Q1 to Q3)

In order to find out the demographic details of participant teachers, the following analysis was done as shown in table 4.1

Table 4.1

Teachers’ responses regarding “Demographics”

Question No.1 School set-up	Government 2	Private 5		Aided 3
Question No.2 Education Qualification	Diploma 1	Under graduation 28		Post Graduation 71
Question No.3 Years of working Experience	0-5 years 42	5-10 years 25	11-15 years 10	More than 15 Years 23

Among 10 regular schools selected, two were Government schools, three were aided schools and the remaining five were private schools. Among 100

teachers, 26 teachers were in Government setup, 34 were in aided schools and the remaining 40 teachers were working in private schools. Majority of the teachers qualified post graduation i.e., 73% and 26% of teachers were graduate holders and only one teacher was diploma holder. Forty one percent of teachers had less than or equal to five years of working experience, 25% between six and 10 years, 10% between eleven and fifteen years and 23% had greater than or equal to 15 years. Hence, teachers having less than or equal to five years of working experience are more in number for the present study.

4.2.2 Knowledge (Q4 to Q10)

The first objective is to explore teachers' knowledge about hearing impairment Table 4.2 shows the responses of teachers' knowledge about hearing impairment.

Table 4.2

Teachers' responses regarding "knowledge" domain

Question No.	Correct	Incorrect
4	47	53
5	43	57
6	73	27
7	41	59
8	64	36
9	32	68
10	31	69

Just under half i.e., 47% of the teachers' were having knowledge about hearing loss and remaining 53% of the teachers' either gave incorrect answers or did not answer. Seventy three percent teachers' responded children with hearing loss using hearing aids can be educated. And it is noted that more than half of teachers' i.e., 69% did not answer the questions related to an audiologist

or speech language pathologist. Majority of them were aware about the basic problems with respect to hearing loss and also 64% of the teachers' agreed that hearing loss leads to speech and language problems. It is apparent that despite lack of knowledge about hearing impairment, teachers' were positive about children with hearing impairment being educated. This is supported by Gangadharan & Malar (2010) who conducted a study to find out the awareness, attitude and competence of teachers' towards children with hearing impairment in mainstream schools for inclusive education. Findings revealed that mainstream teachers' did not have adequate knowledge to handle children with hearing impairment. Brophy and Whittindham (2013) conducted a study on teachers' perceptions on education of children with hearing impairment in inclusive educational set ups using a questionnaire. Their results indicated that teachers' know about the effects of hearing loss on language and learning, similar results were found by Dapudong (2014). But on the other hands teachers expressed that they are ready to face challenges in inclusive set ups (Nayak 2008).

4.2.2.1 Gender Differences

The second objective of the study was to find the differences between male and female teachers' knowledge about hearing impairment. In order to find out the differences between the scores of male and female teachers' percentage scores was calculated. The percentage scores calculated for the correct answers given by male and female teachers' are shown in the table 4.3

Table 4.3

Responses of male and female teachers' regarding knowledge domain

Question No.	Correct answers	Incorrect answers/ Not Answered
4	28	19
5	23	20
6	48	25
7	23	17
8	45	19
9	23	8
10	21	9

It is found as per the percentage scores, correct responses given by the female teachers' was more as compared to the male teachers'. It implies female teachers' have better knowledge (49%) about hearing impairment than the male teachers' (44%) as seen in figure 4.1. Similar results were obtained by Prakash (2012) that female teachers' show more positive attitudes than male teachers' towards inclusive education. Bhe-pajoh (1992); Leyser et al., (1994) also revealed that that female teachers' expressed more positive attitudes than male teachers'. Zyoudi (2011) also obtained similar results.

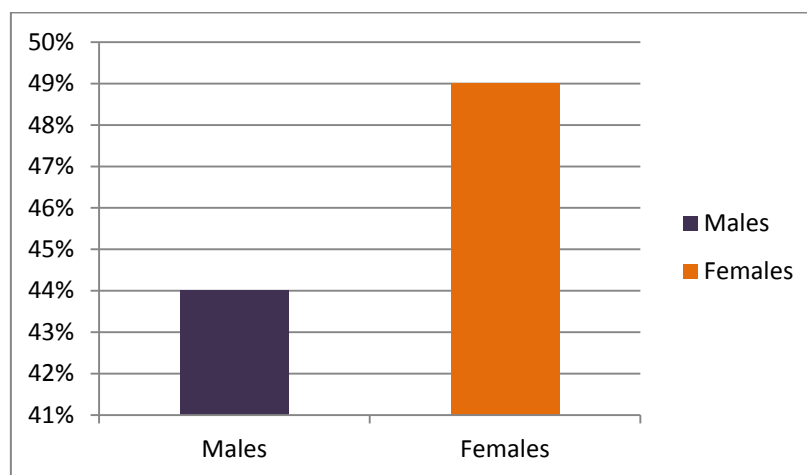


Figure 4.1 Percentage of correct responses given by males and females

4.2.2.2 School set-up

The third objective of the study is to find the differences among Government, Private and Aided school teachers' knowledge about hearing impairment. In order to find out the knowledge of teachers' working in three different school setups, percentage was calculated based on the correct answers given by the teachers of Government, Private and Aided schools as shown in the table 4.4

Table 4.4

Response of Government, Private and Aided school teachers' regarding knowledge domain

Question No.	Government	Private	Aided
4	17	11	22
5	7	15	21
6	19	29	13
7	13	10	19
8	14	27	10
9	1	18	13
10	1	18	12

It shows that private school teachers' (47%) have better knowledge about hearing impairment than the government (40%) and Aided (45%) school teachers' as shown in the figure 4.2. This finding is similar to the findings of Bansal (2013) who investigated the attitudes of teachers' towards inclusive education and found that Private school teachers' are more positive towards Inclusive education than Government school teachers'. However, Prakash (2012) finding contradicts the findings of present study.

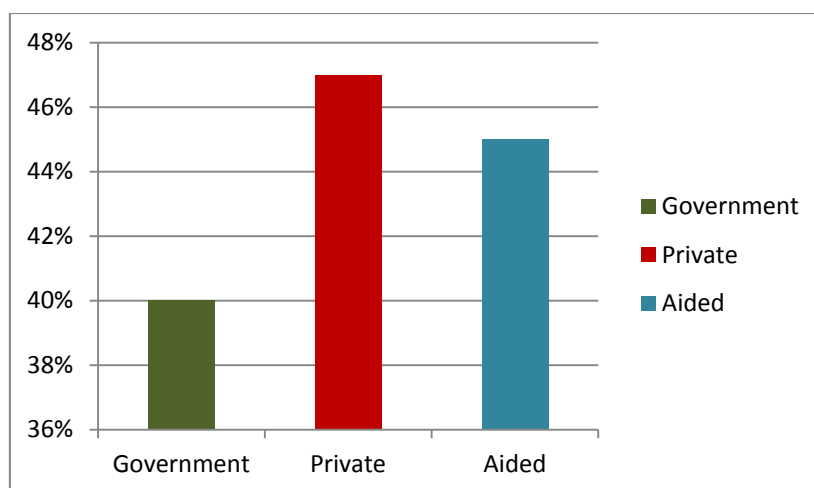


Figure 4.2 Percentage of correct responses given by Government, Private and Aided school teachers’

4.2.2.3 Educational Qualification

The fourth objective was to find the differences between undergraduate and postgraduate teachers’ knowledge about hearing impairment. The number of teachers’ who qualified Diploma was only one teacher. Therefore, for the analysis only undergraduate and postgraduate qualified teachers was considered for the knowledge domain as shown in the table 4.5.

Table 4.5

Responses of undergraduate and postgraduate qualified teachers’ regarding knowledge domain

Question No	Under graduation	Post graduation
4	11	31
5	13	31
6	21	52
7	9	31
8	21	43
9	11	20
10	12	18

Results show that percentage of correct responses given by the teachers' who qualified under graduation was more i.e, 57% than the teachers' qualified postgraduation i.e, 46% as depicted in the Figure 4.3. It implies undergraduate teachers' had more knowledge as compared to postgraduate teachers. Similar results were obtained by Avramidis et al, (2000); Stoler, (1992) that individuals with higher educational qualification were less positive towards inclusion. However, a study by Prakash (2012) on teachers' attitudes towards inclusive education found that teachers' with higher qualifications were more favorably inclined towards inclusive education as compared to teachers' with lower educational qualifications

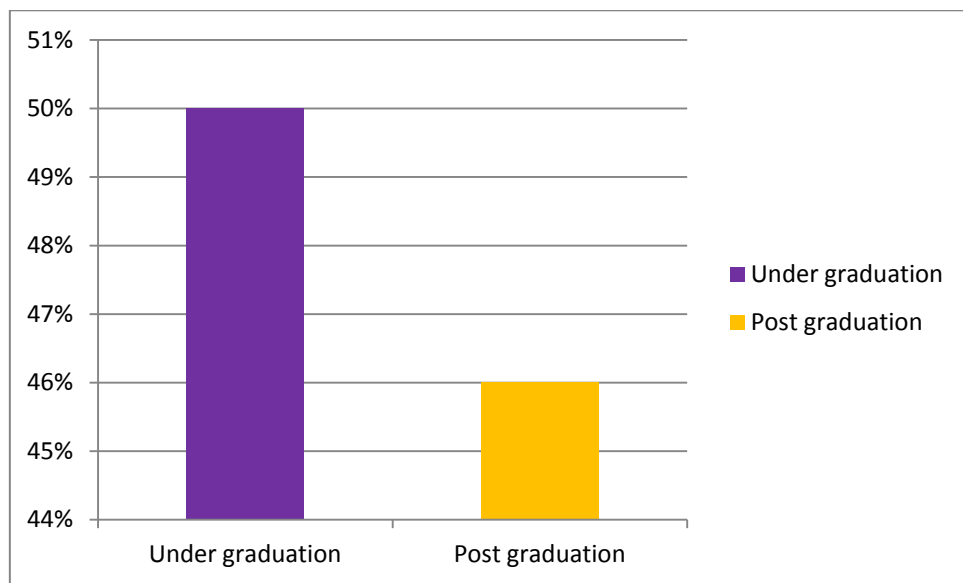


Figure 4.3 Percentage of correct responses given by under graduation and post graduation qualified teachers'.

4.2.2.4 Years of work experience

The fifth objective was find the differences between teachers' knowledge about hearing impairment based on their years of work experience. Teachers' were divided into four groups based on their years of work experience i.e. 0-5

years, 6-10 years, 11-15 years and more than 15 years. The numbers of correct responses given by the teachers' are shown in the table 4.6

Table 4.6

Responses of teachers' regarding knowledge domain based on their years of work experience

Question No	0-5 years	6-10 years	11-15 years	More than 15 years
4	17	9	5	16
5	18	6	3	16
6	31	21	8	13
7	14	12	4	12
8	30	8	7	10
9	15	8	4	5
10	15	9	4	4

Teachers' having 11-15years of work experience have better knowledge about hearing impairment (50%) as compared to their counterparts. This finding is similar to the finding of Prakash (2012) i.e., teachers' having increased number of years of work experience are found to be more positive towards inclusion as compared to the teachers' having less years of work experience as shown in the figure 4.4.

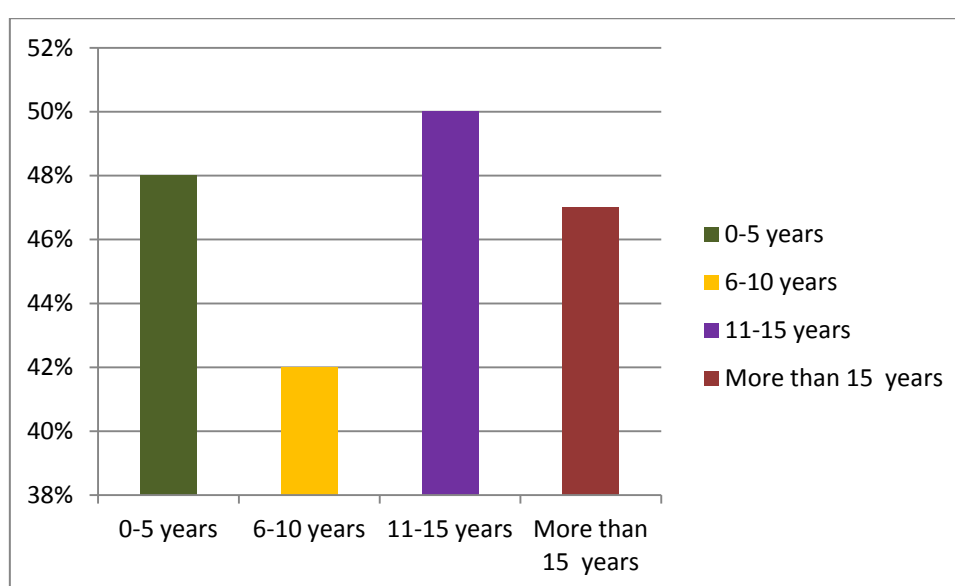


Figure 4.4 Percentage of correct responses as given by the teachers' based on years of work experience.

4.2.3 Referrals (Q11 to Q15)

The sixth objective of the study is to find out teachers' knowledge about referral services for children with hearing impairment. Seventy five teachers' responded that none of them have a child with hearing loss studying in their schools and the remaining 25 teachers' informed that they have children with hearing loss studying in their schools. It was found that these 25 teachers were from two schools. It is also observed that among these 25 teachers', nine teachers' were from Government school and the remaining 16 teachers' were from an Aided school which means children with hearing loss were admitted in one Government school and one Aided schools but not from any of the five private schools, out of 10 selected schools under study. It is apparent that children with hearing impairment are being enrolled in Government and Aided schools may be because of the Government zero rejection policy whereas Private schools are not bound by the Government policy.

When teachers' were asked whether they would give admission to children with hearing loss in their schools, 43 teachers' did not answer, 39 teachers' responded that they would give admission and the remaining 18 teachers' said that they will refer children with hearing loss to a special school. Majority of the teachers' i.e., 74 teachers' felt it was their responsibility to refer a child with hearing loss to an appropriate service which shows the concern of teachers' for children with hearing loss. This was supported by Everling (2013) who conducted a study on 20 teachers' to find out the attitudes and concerns of teachers' towards inclusive education. The results revealed that teachers' have positive attitude and

concern about inclusive education. However, this finding was not supported by Loreman et.al (2005); Subban & Sharm (2006) who conducted similar study and found that teachers reported lower levels of concern about implementation of inclusive education.

Forty five percent of teachers' responded that the nearest referral service centers for children with hearing impairment to their school was within 10kms, 41 teachers' felt it is less than 20kms and the remaining 14 teachers' responded it is more than 20kms. This shows that majority of them were aware about the referral service center for children with hearing impairment. When teachers' were asked whether any child with hearing loss was referred during last five years, 91 teachers' informed that they did not refer and only nine teachers' informed that they referred children with hearing loss which was a very small number. This could be because of many reasons: one reason could be parent of child with hearing loss might not be aware that these children can be educated in regular schools; children with hearing loss might not have been trained to get admission directly into regular schools; teachers' are not aware that these children as per government policy have to be given admission in regular schools. From the above results, it is evident that for whatever may be the reason majority of children with hearing loss are not studying in regular schools in Ooty and they ultimately end up studying in special schools instead of regular schools. It is apparent that teachers have knowledge about referral service centers for children with hearing impairment and also feel referring children with hearing impairment as their responsibility.

4.2.4 Training (Q16 to Q20)

Seventy four teachers' did not study about children with hearing impairment during teacher training program and 92 teachers' did not attend any training program related to children with hearing loss from past five years as a part of their in service program. Eighty two teachers' did not receive adequate fundamental training about children with hearing loss. Therefore, it is evident from the results that more than half of the teachers' did not get any training about to hearing impairment. This finding consisted with the finding of Dapudong (2014) was highlighted that there is a need for schools authority to provide training for the teachers' to handle children with special needs. Deluca, Tramontano and Kett (2014) reported that teachers' were positive but there is lack of training in handling children with special needs, and there is a need for training. Keith and Ross (1997) also highlighted the need for adequate training and support for teachers' implementation of inclusive education. Jhonson (1996) also emphasized that teachers' are enthusiastic about their in participation in inclusion process but lack of training not allow them to participate in inclusion. Nayak(2008) findings revealed that teachers are ready to face challenges in inclusive set ups.

When the question on how the training about children with hearing loss should be offered was raised, 24 teachers' preferred training to be given as a part of their teacher training course, 27 teachers' felt training should be provided by the rehabilitation institutions through workshops, 11 teachers' preferred training as a part of their in service programs for a duration of one year or six months and the remaining 33 teachers' wanted the training by the experts in the field of hearing impairment during vacation in their own schools. Therefore, majority of teachers' felt training by experts during vacation is a most comfortable option.

When the teachers were asked the areas or the topics of training related to teaching of children with hearing loss were asked, among 100 teachers', 66 of teachers' did not answer, 22 of teachers' expressed their disinterest, five teachers' gave irrelevant answers and only seven teachers' expressed their interest in learning about hearing impairment and skills to teach children with hearing impairment. This is in accordance with the opinion expressed by Loreman , Sharma, Forlin & Earle (2005) that teachers' have more positive attitudes towards inclusive education and were more confident in implementing inclusive practices but on the other hand they were less concerned about inclusion. which might be due to lack of pre service training and in-service training, misconceptions of teachers' about the placement of education of children with hearing impairment, lack of confidence of teachers' to handle the children, no extra incentives, Severity of the problem, increase in workload etc

4.3 Discussion

The concept of education for children with hearing impairment has changed over time and currently inclusive education is existing. It has many positive benefits for children with hearing impairment. According to Mitchell & Brown (1991) highlighted that there are obvious benefits for children with special needs in mainstream classrooms. In regular schools they develop their social skill and also the language skills on par with the typically developing children. Another finding of Ali, Mustapha & Jelas (2006) reveals inclusive education set up is the place for developing the positive social behavior and for reducing the negative stereotype behavior in children.

From the findings, it is apparent that teachers' lack technical knowledge about hearing impairment but in general were aware about the problems arising

due to hearing loss. In addition, they were positive about educating children with hearing loss and felt referring these children to an appropriate service as their responsibility and even knew the nearby referral service centers. None of the private schools have children with hearing loss studying in their school and majority of children with hearing loss study in special schools and not in regular schools. It is also noted that the majority of teachers' have never referred a children with hearing impairment to a referral service center. Furthermore, it is evident that more than 75% of the teachers' did not receive any training in teaching children with hearing loss and only few teachers' expressed their interest to learn about children with hearing loss. This leads us to one question as to how teachers' can be expected to teach children with hearing impairment in regular classrooms without adequate training. Which is supported by Khan (2005) who conducted a study on regular school teachers' the results revealed that teachers' due to the heavy work load in the mainstream classrooms, not able to meet the needs of children with special needs. It was also expressed that teachers' need additional training and resources from the school management to meet the needs of children with special needs.

Overall, the findings of the present study suggest that it would be helpful to update and train teachers' about hearing loss and equip them with skill to teach children with hearing impairment in inclusive classrooms for successful implementation of inclusive education. Until and unless knowledge and skills about hearing loss is developed among teachers', it is hardly possible to promote inclusive education in true sense for children with hearing loss in regular schools.

CHAPTER V

SUMMARY & CONCLUS

CHAPTER 5

SUMMARY & CONCLUSIONS

5.1 Introduction

The present study on **‘Teachers’ knowledge about hearing impairment and referral services’** aimed to find out the teachers knowledge about hearing impairment and the referral services for children with hearing impairment. Hundred teachers of 10 regular schools in Ooty, Tamil Nadu participated in the study. Teachers were evaluated in terms of knowledge, referral and training domains.

The main purpose of the present study is to find how previous experience related to the children with hearing impairment, exposure during teacher training to handle children with hearing impairment and the belief that even children with hearing impairment can be educated. Keeping this in view, it is interesting to know as to how many of the teachers are aware about the factors mentioned above and have knowledge regarding rehabilitation centers involved in interventional services to children with hearing impairment in their surroundings. Current research on teachers’ knowledge has focused on teachers’ responses to the inclusion of children with hearing impairment in regular schools. However there has been little available research examining teachers’ fundamental knowledge about referrals to be made. Therefore, the present study is taken up to explore teachers’ knowledge about hearing impairment and referrals.

5.2 Objectives of the present study

1. To explore teachers’ knowledge about hearing impairment.

2. To find the differences between male and female teachers' knowledge about hearing impairment.
3. To find the differences among Government, Private and Aided school teachers' knowledge about hearing impairment.
4. To find the differences between undergraduate and postgraduate teachers' knowledge about hearing impairment.
5. To find the differences between teachers' knowledge about hearing impairment based on their years of work experience.
6. To find out teachers' knowledge about referral services for children with hearing impairment.
7. To explore the details of training received in hearing impairment by teachers

5.3 Method

The study was conducted in two phases. First phase included preparing the questionnaire. Under this phase, domains of the study and the questions under each domain were prepared based on the literature review. The developed questionnaire was given to the panel of experts for the face and the content validity. Based on the suggestions given by the experts the necessary modifications were done and the final questionnaire was prepared. The second phase of the study included administering the questionnaire on teachers. The developed questionnaire was administered on 100 teachers of 10 regular schools in Ooty, Tamil Nadu which were selected using convenience sampling method.

5.3.1 Sample

As per 2014 statistics and information available at the Department of Education, Nilgiris district, Tamil Nadu, there are totally 124 schools and in

Ooty block there are 51 schools. This information was collected by the researcher personally. Among these 51 schools, 10 schools were selected based on convenience sampling. All the teachers in ten schools were included as sample for the study. In total, 100 teachers who were working in 10 schools in Ooty Block, Nilgiris district participated in the study.

5.3.2 Analysis

Responses of each question in the questionnaire were qualitatively analyzed and also percentages of responses for each question were cumulated and are discussed with appropriate literature.

5.4 Findings of the study

1. Only less than half of the teachers' (47%) have knowledge about hearing impairment.
2. Teachers' were positive about educating children with hearing impairment.
3. Female teachers have better knowledge hearing impairment as compared to the male teachers'.
4. Private school teachers' have better knowledge about hearing impairment as compared to the Government and Aided school teachers
5. Teachers' qualified under graduation have better knowledge about hearing impairment as compared to the teachers who qualified post graduations.
6. Teachers' having 11-15 years of work experience has better knowledge about hearing impairment.

7. It revealed none of the children with hearing impairment are admitted in private schools.
8. Majority of the teachers' felt referring children with hearing impairment to an appropriate referral service center as their responsibility.
9. Majority of the teachers' in the present study were aware about nearby referral service centers for children with hearing impairment.
10. It also revealed that that 91% of teachers never referred any children with hearing impairment which implied children with hearing impairment not approaching them
11. It also revealed children with hearing impairment studying in regular school was very few in number i.e, only two children.
12. Majority of the teachers' i.e, more than 75% of teachers did not receive any fundamental training about hearing impairment.
13. It revealed that 95% of teachers expressed their need for training
14. It also revealed that among 100 teachers' only seven teachers expressed their interest in learning and gave topics of training with respect to children with hearing impairment

5.5 Educational implications

1. The results emphasize the positive attitudes of regular teachers in believing that children with hearing impairment can be educated.
2. The questionnaire in the present study was able to find teachers' knowledge regarding referral services for children with hearing impairment.

3. The study reveals that there is a need to facilitate knowledge and skills to regular teachers to handle children with hearing impairment to promote inclusive education.

5.6 Conclusion

The findings of the study suggest that teachers' are in support of educating children with hearing impairment and also are aware of the problems of children with hearing impairment and can make appropriate referrals. However, due to lack of training and skills not all teachers' are confident in teaching children with hearing impairment.

5.6 Limitations of the study

1. The study was restricted only to the one particular region (Ooty) in Nilgiris district.
2. The number of teachers' in the study was small. Therefore, it is difficult to draw firm conclusions and the findings cannot be generalized.

5.7 Suggestions for future research

1. A similar study can be extended to all the regions in Nilgiris, District.
2. A survey of other stakeholders' knowledge about hearing impairment such as school administrators, parents, etc can also be taken up.

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APPENDICES

Appendix A

From

Date: _____

Ms. Lakshmi Prabha J.K

M.S.Ed(HI) Student

All India Institute of Speech and Hearing

Manasagangothri

Mysore-06

E-mail: kaviprabha.8888@gmail.com

To

Sub: Request to validate the Questionnaire-reg.

Respected sir/madam,

I am Ms. Lakshmi Prabha J.K., a student of M.S.Ed(HI) course at All India Institute of Speech and Hearing, Mysore. As a part of my program for the academic year 2014-15, I have undertaken a research study titled "**A Survey of Teachers' Knowledge about Hearing Impairment and Referral services**" under the guidance of Ms. Palnaty Vijetha, Lecturer, Department of Special Education, All India Institute of Speech and Hearing, Mysore.

The study has been undertaken with the following objectives:

1. To explore teachers' current knowledge about hearing impairment.
2. To find out whether they can make appropriate referral to referral service centers*.

NOTE:*(Referral service centers: Hospitals, Early Intervention centers, Special schools for children with hearing impairment, Clinics, Government and Non-Government Organizations working in the rehabilitation of children with hearing impairment).

3. To find out the areas in which they require training.

Your expertise in the subject is well known. Therefore I kindly request you to critically analyze the questionnaire keeping in view the objectives of the study and give your valuable suggestions for the following:

1. Whether the questions mentioned are in accordance with the purpose of the study?
2. Do you feel the language, the vocabulary, sentence structure and order of questions used are appropriate?
3. Whether any other relevant information has to be collected from the teacher?

Please mark 'A' for appropriate questions

'IA' for inappropriate questions

Yours Sincerely,

Appendix B

Information to be filled in by the Teachers

1. Name of the teacher: _____

2. Age: _____

3. Gender: _____

4. Name of the school you are employed:

1. What is the school set-up you are working?

a) Government

b) Private

c) Others (please specify) _____

2. What is your qualification?

a) Diploma

b) Under graduation

c) Post graduation

d) Others (please specify) _____

3. How many years have you worked as a teacher?

a) 0-5 years

b) 6-10 years

c) 11-15 years

d) more than 15 years

4. Children with hearing loss can be called either as "*Children with hearing impairment*" or "*Deaf and Dumb*" children

a) Yes

b) No

14. How far is the nearest **referral service center*** for children with hearing impairment to your school?

NOTE:**(Referral service centers: Hospitals, Early intervention centers, Special schools, Local Clinics, Government and Non-Government Organizations working in the rehabilitation of children with hearing impairment)*

- a) 0-10 kms
- b) 10-20 kms
- c) More than 20 kms

15. How many children with hearing impairment have you referred to a referral service center during the last five years?

- a) None
- b) Less than 5
- c) More than 5

16. Did you study about children with hearing impairment during your teaching training program?

- a) Yes
- b) No

17. As a part of in-service training program, did you attend any training program related to children with hearing impairment from past five years?

- a) Yes
- b) No

If Yes,

1) Name of the training program _____

2) Number of days of training _____

18. I have received adequate training on children with hearing impairment

- a) Yes
- b) No

19. How do you think the training on children with hearing impairment should be offered? Please tick the following in your order of preference from 1 to 4.

- a) As a part of teacher training course ()
- b) Training to be provided by the rehabilitation institutes through workshops ()
- c) As a part of in service training program for a duration of about Six to one year ()
- d) Training to be provided by your own school by inviting experts in the field of hearing impairment during vacation. ()

20. If you are interested to teach children with hearing impairment, can you please mention briefly the areas or topics of training you would like to learn.

Thank You for your Valuable time!
