

# Social Effects of Hearing Loss on Patients in Jos, North Central Nigeria

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## Abstract

Hearing loss has caused serious social effects among people living with it. Those who relate to patients with hearing loss (PHL) also share some part of the negative effects. Some specifics are communication disability, which impacts speech and language development, academic performance, and social or work life. In previous years, the problem was predicted to be aggravated as the expected life span of the population increased. The study was conducted among PHL and their family members in JUTH and Kazahyet Audiology Service in Jos. 150 PHL were purposively sampled. The study was guided by a Cross-sectional Survey Research Design, and the specific objectives were to (1) identify the social effects of hearing loss on the PHL, (2) determine the implication of social effects on PHL, and (3) determine the extent at which these social effects affect PHL. The outcome of the study shows that the social effects faced by PHL are poor relationships, no secrets, dependence on sign language, frustration, depression, and dependence on lip reading. Some stop schooling, and others feel laughed at and therefore choose the path of isolation. The implication is that hearing loss is expensive to manage. PHL always feel they are not contributing their quarter in life as usual; they feel stigmatized and are not easy to relate with. The study recommends that the government should come up with policies that will check man-made behaviors that exert negative social effects on PHL in our society, subsidize the cost of hearing aids and cochlear implants to be affordable for PHL, formulate a policy on mandatory newborn hearing screening before the infant is discharged from the hospital to help in the early identification of hearing loss. Finally, the early creation of awareness of the dangers or consequences of hearing loss will go a long way in preventing our society from involvement in high-risk behaviors that will cause hearing loss.

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## Keywords

Social Effects (Challenges), Hearing Loss, Patients with Hearing Loss, Family, Community

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## 1. Introduction

Hearing loss is determined when a patient's hearing threshold is beyond the normal range. It is a "deviation or a change for the worse of the threshold of hearing from normal" [1] and is one of the most common health conditions in the world yet one of the most neglected. Hearing loss is the most prevalent sensory deviation globally, a condition that is invisible and reticent [2]. It is not obvious like other physical disabilities unless the affected patient makes it known. It has many pathological causes, which extent can be mild, moderate, moderately severe, severe, and profound. "Major causes of hearing loss include congenital or early onset childhood hearing loss, chronic middle ear infections, noise-induced hearing loss, age-related hearing loss, and ototoxic drugs that damage the inner ear" [3]. In other words, the causes of hearing loss can be biological, congenital, genetic, drugs, and infectious diseases. This can result in patients having any of the three types of hearing loss, which are conductive, sensorineural, and mixed hearing loss.

The prevalence of hearing loss is very high in developing countries, especially in Sub-Saharan Africa, South and Southeast Asia [4], and Nigeria. In estimation, 1.5 billion individuals worldwide live with bilateral or unilateral hearing loss. About 430 million have disabling hearing loss that requires rehabilitation [5]. The World Health Organization (WHO) estimates that there are 466 million patients in the world with disabling hearing loss (6.1% of the world's population). 432 million (93%) are adults (242 million males, 190 million females). 34 million (7%) of these are children. Approximately one-third of patients over 65 years are affected by disabling hearing loss. Unless action is taken, the number of people with disabling hearing loss will likely grow over the coming years. Projections show that the number could rise to 630 million by 2030 and over 900 million by 2050. An estimation has it that 217 million individuals (21.52% of the population) have hearing loss in the Americas [4]. Disabling hearing loss is more prevalent in South Asia and Sub-Saharan Africa. It is more common in the developing world than in the developed parts of the world. Around 8.5 million Nigerians are affected with hearing loss [5].

Hearing loss can cause grave effects on the quality of life of those affected by it when serious habilitation/rehabilitation measures are not put in place early. Children's speech and language development can take a negative course, thereby setting them on a trajectory of limited social attainments. The presence of disabling hearing loss can make children socially violent [6], and effective socialization may not be attainable. When care is not taken, children with hearing loss may resort to "one-man gangs" or isolation. Delayed language development for children, loss

of ability to communicate, difficulty in family relationships, poor academic performance, social isolation, unemployment, loneliness, and frustration for the aged characterize the social effects of hearing loss [3]. A study [7] affirms that hearing loss is a chronic condition that is most prevalent among adults, although it affects all age groups. Consequently, adults with hearing loss are experiencing serious social challenges that are truncating their quality of life. All aspects of human existence involve socialization, and communication plays a major role. Hearing loss can pose a serious barrier to meaningful socialization. Communication, which is at the heart of human socialization, can experience serious deterrents. It can affect speech and language development for children when not identified early.

Hearing loss is preventable with early detection, avoiding the pre-disposing factors from pregnancy to the lifetime of a child. Any newborn who comes from a family that has a history of hearing loss is at risk. Such a child needs to pass through newborn hearing screening to ascertain his/her hearing status before being discharged from the hospital. Other risk factors are the infant being on admission in the intensive care unit for more than 48 hours, a case of Perinatal hypoxia, infections such as Toxoplasmosis, Cytomegalovirus, Rubella, Syphilis, Herpes, HIV, presence of jaundice at birth, the newborn requiring a blood transfusion, weighing less than 1500 grams at birth, requiring orotracheal intubation, any post-natal infection, presence of head trauma, a case of alcohol abuse during pregnancy by the mother and a case of Ototoxic medication. A child who presents any of these risk factors needs to be screened for hearing loss for early intervention.

Hearing loss can cause so many challenges relating to economic, social, educational, employment, and the like. This can affect the patient, the patient relations, and the society at large. This study focuses on the Social Effects of Hearing Loss and how it affects the individual, relatives, and society.

### **1.1. Statement of the Problem**

The sense of hearing is one of the important senses in the human body. Without it, effective communication cannot take place. Effective socialization cannot be achieved without communication. Hearing loss, whether difficulty in hearing or total inability to hear, can cause serious social challenges for patients who are affected by it. PHLs are facing several social challenges. They are affected psychologically, sociologically, economically, and academically. These challenges also affect their family members and society. They cannot communicate or relate well with each other, and therefore, serious social effects are inevitable for both parties.

All the challenges mentioned above have one level of socialization to the other. They can be identified in almost every aspect of patients' lives. Consequently, hearing loss separates patients not only from people around them but also from their environment. This can make or mar their quality of life. Seeing that hearing loss can cause serious handicaps to socialization like other diseases, it calls for more attention to avoid the negative effects on society. Health workers and the community need more awareness of hearing loss and the impacts it brings on the

individual, family, and society.

Looking at the increasing tendencies of hearing loss in developing countries like Nigeria and the study area, the researchers are prompted to embark on studying its social effects in JUTH's ENT Clinics and Kazahyet Audiology Services Centre in Jos.

### **1.2. Research Questions**

- 1) What are the social effects of hearing loss faced by PHL?
- 2) What is the extent of the social effects of hearing loss on family members of PHL?
- 3) What are the implications of the social effects of hearing loss on PHL?
- 4) What are the treatments needed by the PHL?

### **1.3. Aim and Objectives of The Study**

This study aims to determine the social effects of hearing loss on PHL and to specifically:

- 1) Identify the social effects of hearing loss on PHL.
- 2) Determine the extent of the social effects of hearing loss on the family members of PHL.
- 3) Examine the implication of social effects of hearing loss on PHL
- 4) identify the treatments PHLs need.

## **2. Methodology**

This part presents the method used in the study to derive information. The issues discussed include the research design, the study area, the population of the Area, sample size and sampling technique, the instrument of study, the validity and reliability of the instrument, the methods of data collection, and methods for data analysis.

### **2.1. Design**

This study used a cross-sectional survey design to determine the social effects of hearing loss faced by PHL who were seen in JUTH and Kazahyet Audiology Service Center between the second half of 2023 and the first half of 2024.

### **2.2. Population and Sample**

The population for this study is PHL in Jos, Plateau state. While the population has to do with the group of people, things, or animals to be studied or under study, the sample has to do with a selected few as a representation of the entire group under study for optimal, realistic, and effective investigation.

The population for this study was Patients with Hearing Loss (PHL) and their family members who came to the Ear Nose and Throat (ENT) department of the Jos University Teaching Hospital (JUTH), Lamingo, Jos and Kazahyet Audiology Center Jos in 2023 and 2024 as stated above.

### **2.3. Sampling Techniques and Sample Size**

A purposive sampling technique was employed for this study. The justification for this sampling technique is that it is a non-probability sampling technique that allows the researcher to select a sample that fits best into the study. It is a technique in which researchers rely on their judgment when choosing members of the population to participate in their survey.

Out of several PHL who came to the above centers for hearing assessment and management, 150 were purposively sampled because they were those who, based on the researcher's judgment, fit the study, and they came for hearing aid trial and follow-up at the time of this study. The sample for this study was 150 patients with hearing loss and their family members.

### **2.4. Selection Criteria**

PHL who are purposively selected as a representation of the population are those who came to the Health Centers stated above during the period of the study with their relatives. They are PHL whose Pure Tone Audiometry (PTA) results show they have Sensorineural or Mixed Hearing Loss bilaterally or unilaterally. Their degree of hearing loss is between mild to profound sensorineural or mixed hearing loss. Those whose PTA results show conductive hearing loss with different severity bilaterally or unilaterally were excluded from this study.

### **2.5. Instrument**

A Questionnaire was used to collect data from both PHL and their family member as they visit the Ear Nose and Throat (ENT) Clinic in JUTH and Kazahyet Audiology Services Center Jos. The questionnaire is divided into two (2), which comprise Section A, the demographic data of PHL, and Section B, the part that elicits the opinions of the respondents on the social effects of hearing loss. The questionnaire has items that can be selected by the respondents. The section also had items that elicited data from the relatives of PHL. The questionnaire is made up of 18 questions.

### **2.6. Validity and Reliability of The Instrument**

This instrument was prepared by the researchers and checked by experts in hearing loss, social work, and research. Appropriate corrections were made. This process ensures the validity and reliability of the instrument before it is administered to the respondents (the sampled population).

#### **2.6.1. Validity**

Validity refers to the extent to which an instrument measures what it intends to measure. In other words, this quality is concerned with the extent or degree to which an instrument measures up to its purpose. To ensure this, the face and content validity of the instrument was done and subjected to experts' judgment. Those who championed this task were experts in social work, hearing loss,

measurement and evaluation, and research methodology from the University of Jos.

### **2.6.2. Reliability**

Reliability is the extent to which an instrument measures what it is supposed to measure consistently. Reliability is the consistency of measurement, which is expressed as the correlation coefficient. The Cronbach alpha method was used to ascertain the reliability of the instrument. A pilot study of the instrument was carried out by administering the questionnaire to a sample of 10 PHL from Bingham University Teaching Hospital (BUTH) to test the instrument's reliability.

### **2.7. Problems Encountered During Data Collection**

At the point of data collection, the researchers encountered problems such as language barriers, especially for those who could not read or write in English. The researchers have to seek the assistance of family members to communicate with them. Some of the PHL can only communicate in sign language. So, the researchers used the services of a sign language interpreter. The sign language interpreter tells the researchers the responses of the PHLs, which may not be accurate. Other PHLs were reluctant, and therefore, more time was used to elicit their responses.

### **2.8. Method of Data Analysis**

The systematic application of statistical and logical techniques to describe the data scope, modularize the data structure, condense the data representation, illustrate via images, tables, and graphs, and evaluate statistical inclinations to derive meaningful conclusions is known as data analysis [8]. The data collected for the study was analyzed using descriptive statistics, which determine the frequencies and percentages of the data. A simple percentage was used to analyze the data. The formula for simple percentage is as follows:

$$\% = \frac{fx}{N} \times \frac{100}{1}$$

## **3. Results**

In this section, the researchers presented the results of the data collected and analyzed in tables. 150 questionnaires were administered in the Audiology Unit of the ENT Department at Jos University Teaching Hospital (JUTH) and Kazahyet Audiology Services in Jos North Local Government Area of the State Capital, Plateau. The questionnaire items have the chance of being selected by every respondent.

### **The Demographic Data of the Respondents**

The distribution of patients based on gender shows that 53% of the respondents are Male, while 47% are female. The majority of the PHLs were between the ages of 0 to 20 years 48 (32%), followed by 21 - 40 years 47 (31.3%) persons, while

respondents between the ages of 41 - 60 years were 39 (26%), then those between the ages of 61 - 80 years were 13 (8.7%) persons, and the least age range represented were 81 and above 3 (2%). The most represented in terms of level of education among the respondents were those with a tertiary level of education, 58 (38.7%), followed by those with a Primary School level of education 38 (25.3%). Then, those with a Secondary school level of education 33 (22%). The least represented had no formal educational qualification 21 (14%).

Civil servants were the largest group of respondents, 43 (28.7%), followed by students 33 (22%), those who are self-employed patients 30 (20%), farmers, 16 (11%), housewives with 9 (6%), children 8 (5%) persons, applicants 6 (4%) and lastly retired civil servants are 5 (3.3%). Regarding faith, Christians were 110 (73.3%), while Muslims were 40 (26.7%) and none (0%) from other religions. Concerning family case history of hearing loss, 141 (94%) of the respondents said they do not have, while 9 (6%) acknowledged cases of hearing loss in their family history.

The major cause of hearing loss among the PHLs were diseases 68 (45.3%), followed by Otitis media 22 (14.7%), then ototoxic drugs 20 persons (13.3%), followed by congenital causes 9 (6%), head Injury 16 (10.7%), noise 8 (5.3%), and lastly presbycusis 7 (4.7%). Most of the PHLs in this study were suffering from SNHL 119 (97.3%), while 31 (20.7) of them had mixed HL, and those with conductive HL were not sampled for this study. Concerning how the HL developed, 88 (58.7%) said it was sudden, while 62 (41.3%) of the PHLs said it was gradual and progressive.

The number of PHLs with profound SNHL was 49 (33%), followed by PHLs with severe to profound SNHL, 29 (19%), PHLs with mild to moderate SNHL 21 (14%), PHLs with moderate to severe SNHL, 20 (13%), PHLs with mild to moderate mixed HL are 13 (9%), PHLs with moderate to severe mixed HL 10 (7%), PHLs with mild to profound mixed HL 5 (3%) and finally, PHLs with Severe to profound mixed HL 3 (2%).

The majority of PHLs 125 (83.3%), had bilateral HL, and other PHLs had unilateral HL in either the right ear 14 (9.3%) or left ear 11 (7.3%). The majority of the respondents were those whose HL was from 0 - 10 years 112 (74.63%), followed by those who had HL from 11 - 20 years 27 (18%), then PHLs whose duration is from 21 - 30 years 8 (5.4%) and PHLs who duration of HL was from 31 - 40 were 3 (2%).

Most of the PHLs, who were not using hearing aids were 135 (90%), while only 15 (10%) of PHLs were using hearing aids. Lack of funds or cost of hearing aids, hearing aids not recommended, and inability to benefit from hearing aids were the reasons most of the PHLs were not using hearing aids.

The PHLs who developed HL before developing speech (pre-lingual HL) were 18 (12%), while those who developed HL after developing speech (post-lingual HL) were 125 (83.3%), and 7 (4.7%) of the PHLs did not develop speech. The majority of the PHLs had speech before developing HL. The demographic data of the respondents are summarized in **Table 1**.

**Table 1.** Summary of the statistical representation of the demographic data of the PHLs.

Item	Category	Frequency	Percentage	Ranking
<b>Gender</b>	Male	80	53	1
	Female	70	47	2
<b>Age</b>	0 - 20 yrs	48	32	1
	21 - 40 yrs	47	31.3	2
	41 - 60 yrs	39	26	3
	61 - 80 yrs	13	8.7	4
	81 yrs - above	3	2	5
<b>Educational level</b>	Tatary	58	38.7	1
	Primary	38	25.3	2
	Secondary	33	22	3
	None	21	14	4
<b>Occupation</b>	Civil servant	43	28.7	1
	Student	33	22	2
	Self-employed	30	20	3
	Farming	16	11	4
	Housewife	9	6	5
	Children	8	5	6
	Applicant	6	4	7
	Retiree	5	3.3	8
<b>Religion</b>	Christianity	110	73.3	1
	Islam	40	26.7	2
	Others	0	0	3
<b>Family history of HL</b>	No	141	94	1
	Yes	9	6	2
<b>Cause of HL</b>	Diseases	68	45.3	1
	Otitis media	22	14.7	2
	Drugs	20	13.3	3
	Head injury	16	10.7	4
	Congenital	9	6	5
	Noise induced	8	5.3	6
	Presbycusis	7	4.7	7
<b>Type of HL</b>	Sensorineural	119	79.3	1
	Mixed	31	20.7	2
<b>Development of HL</b>	Sudden	88	58.7	1
	Gradual/ progressive	62	41.3	2
<b>Degree of HL</b>	Mild to moderate SNHL	21	14	1
	Moderate to severe SNHL	20	13	2
	Severe to profound SNHL	29	19	3
	Profound SNHL	49	33	4
	Mild to moderate mixed HL	13	9	5
	Moderate to severe mixed HL	10	7	6

## Continued

	Severe to profound mixed HL	3	2	7
	Mild to profound mixed HL	5	3	8
<b>Ear affected</b>	Both ears	125	83.4	1
	Rt ear	14	9.3	2
	Lt ear	11	7.3	3
<b>Duration of HL</b>	0 - 10yrs	112	74.6	1
	11 - 20yrs	27	18	2
	21 - 30yrs	8	5.4	3
	31 - 40yrs above	3	2	4
<b>Hearing aids use</b>	No	135	90	1
	Yes	15	10	2
<b>Patient's speech</b>	Post-lingual	125	83.3	1
	Pre-lingual	18	12	2
	No speech	7	4.7	3

Source: Researcher's field data, 2024.

**Research question 1:** What are the social effects of hearing loss faced by PHL?

The result shows the societal effects faced by PHL (See **Table 2**). 91 (60.7%) of PHLs experience poor relationships after they lose their hearing. Those that were Stigmatized were 86 (57.3%). This is the second-highest social effect of hearing loss on the PHLs. Then 85 (56.7%) of the PHLs indicated that they suffer discrimination, while 56 (37.3%) of the PHLs said their contributions to society have reduced because of hearing loss. Hearing loss has caused 53 (35.7%) of the PHLs to avoid social gatherings. The hearing condition of the PHL is not visible unless a person is informed and is seen to be pretending. 23 (15.3%) of PHL were assumed to be pretending, while 16 (10.7%) of PHL were faced with the cost of managing the hearing loss, including the price of the Cochlear Implant, hearing aids, batteries, and the accessories of the Cochlear Implant. The result also shows that 13 (8.7%) PHLs get angry easily. Below is a graphical representation of the result.

**Table 2.** The societal effects of hearing loss.

Item	Frequency	Percentage	Ranking
Affect relationship	88	58.7	1
Stressful	87	58	2
Have to shout	84	56	3
Repeating over and over	82	54.7	4
No secret	82	54.7	5
Sign for the patient	79	52.7	6
Do not hear calls from a distance	63	42	7
Write	47	31.3	8
Speech has changed	24	16	9

**Continued**

Easily gets angry	18	12	10
Cost of management	17	11.3	11
Not sympathetic	4	2.7	12
Feels people are gossiping	2	1.3	13
Wish child calls daddy/mummy	2	1.3	14

Source: Researcher's field data, 2024.

**Research Question 2:** What is the extent of the social effects of hearing loss on family members of PHL?

The result revealed the extent of the social effects of hearing loss on family members of PHL (See **Table 3** for issues raised and the statistics). The family members who indicated that their relationships were affected negatively were 88 (58.7%). Those who attest that their effort to communicate with PHL is very stressful are 87 (58%). 84 (56%) of the family members said they have to shout to communicate with PHL. Relations who have to repeat themselves over and over when communicating are 82 (54.7). Those who think they no longer have any secret are 82 (54.7%). The family members who use sign language to communicate with PHL, are not very good at 79 (52.7%), while 63 (42%) of the family members mention that PHL do not hear calls from a distance. 47 (31.3%) of the family members said they have to write, which mostly breaks the flow of communication as some of the PHLs find it difficult to read and write. Changes in speech have also posed a challenge to 24 (16%) of the relation of PHL. Some have no speech, while others' speech has changed entirely, and relations find it difficult to understand them. The social effects of hearing loss have reached the extent of PHL, and their relatives get angry easily. 18 (12%) of the relations attested to that. The family member, 4 (2.7%) said their relations and the society have no sympathy towards them. Few, that is 2 (1.3%), assume people are gossiping. Finally, two (2) 1.3% of the family members who are parents wish they could hear their children call them daddy/mummy.

**Table 3.** Social effects of HL on family members.

Item	Frequency	Percentage	Ranking
Affect relationship	88	58.7	1
Stressful	87	58	2
Have to shout	84	56	3
Repeating over and over	82	54.7	4
No secret	82	54.7	5
Sign for the patient	79	52.7	6
Do not hear calls from a distance	63	42	7
Write	47	31.3	8
Speech has changed	24	16	9
Easily gets angry	18	12	10
Cost of management	17	11.3	11
Not sympathetic	4	2.7	12
Feels people are gossiping	2	1.3	13

**Continued**

Wish the child calls daddy/mummy	2	1.3	14
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Source: Researcher's field data, 2024.

**Research Question 3:** What are the implications of the social effects on PHL?

The result indicates the implications of the social effects of hearing loss on PHL. Lack of secrecy or privacy appears to be the highest implication of the social effects of hearing loss for PHL since their media of communication has to be visible or loud (see **Table 4** for a summary of the implications and ranking). This idea was stated by 84 (56%) of the PHLs. The inability to use phones effectively was identified as one of the implications of social effects of hearing loss by 83 (55.3%) of the PHLs. Those who depend on lip reading are at 81 (54%). Hearing loss also affects the relationships of the patients with people—loved ones. This perspective is stated by 80 (53.3%) of the PHLs. 79 (52.7%) of the PHLs mention that their school and/or work life is negatively affected. while 75 (50%) of them had the challenge of using sign language to socialize. Another implication of the social effects stated by 12 (8%) of the PHLs is discouragement about life. 11 (7.3%) of the PHLs said they have to stop schooling, which means they have to drop out of school due to hearing loss. Among them, 15 (10%) avowed that they couldn't afford treatment, hearing aids, or cochlear implants due to the high cost, which has negative social effects on their personality, and sometimes they respond negatively to relations. Finally, 8 (5.3%) of the PHLs said they are socially affected because they seem to become laughing stocks, and they feel embraced.

**Table 4.** Implication of the social effects of hearing loss on PHL.

Challenges	Frequency	Percentage	Ranking
No secret	84	56	1
Cannot use phones	83	55.3	2
Have to lip-read	81	54	3
Affected their relation	80	53.3	4
Affected their school/work	79	52.7	5
Depend on sign language	75	50	6
Frustration	54	36	7
Feels lonely	47	31.3	8
Seat in front of the class	45	30	9
Uncomfortable	42	28	10
Cost of treatment	15	10	11
Discouragement	12	8	12
Stop schooling	11	7.3	13
Embracement (laugh at)	8	5.3	14

Source: Researcher's field data, 2024.

**Research Question 4:** What are the treatments needed by the PHLs?

The result in **Table 5** shows the treatments needed by the PHLs based on the

types and degree of hearing loss. The PHLs that need hearing aid/tympanometry are 79 (52.6%), while those that need cochlear implant surgery are 68 (45.3%), and those who need reassurance are 3 (2%) meaning they did not need Hearing Aids or cochlear implant surgery.

**Table 5.** Identified treatment needed by the PHLs.

Treatment needed	Frequency	Percentage
Hearing aid/tymp	79	52.6
Cochlear implant	68	45.3
Reassured	3	2
<b>Total</b>	<b>150</b>	<b>100</b>

Source: Researcher's field data, 2024.

#### 4. Discussion

Based on the analysis and interpretation of the data collected, patients participated 100% in the research work centers. They provided sufficient information on the social challenges hearing loss exerted on them. The findings of this study show that hearing loss affects all age groups regardless of sex, religion, social status, educational qualification, and occupation. This study identified the challenges faced by patients with hearing loss within society. They are Stigmatized, and they suffer discrimination. To support this finding, Kengne [9] describes that often, the marginalization and discrimination faced by patients with hearing loss do come from their family members and society. The contributions of patients with hearing loss to society have been reduced. They are not contributing as usual because their social life is affected since effective communication cannot take place. They avoid social gatherings. Kengne [9] clarifies that patients with hearing loss' social withdrawal from society is due to the larger society's marginalization and discrimination. Hearing loss is a hidden disability unless one is told it remains invisible. So, their associates and the society at large assumed they were pretending not to hear during conversation. Children with hearing loss experience social impacts because of hearing loss, such as social isolation, low performance, substantial stigma, etc. To buttress these authors, [10] avow that "Deafness and hearing loss have long carried with them a social stigma. Consequently, many with hearing loss are still reluctant to acknowledge it, expose it by wearing a hearing aid, or even reach out for help".

One of the outcomes of this study is the extent of the social effects the family members of patients with hearing loss and the community are facing. The challenges enumerated were: their family relationship is affected, this takes a bigger percentage, followed by stressful experiences when communicating with the individual with hearing loss. They have to repeat themselves over and over for the patients to understand. They have no secrecy; other people have to hear what is communicated to those members of the family who have hearing loss because one has to shout or use media that are visible to others. Another challenge faced by some of the family members is that they have to sign or learn how to sign for the patient with hearing loss, which is stressful and time-consuming. For patients with

hearing loss who attended special schools, sign language remains the foremost medium of communication [11]. Social activity poses a serious challenge since their family members cannot use sign language to communicate. Others face the challenge of family members with hearing loss not hearing calls from a distance, which means communication cannot occur until there is facial interaction and “hearing members could not take their time to talk facing them so they could lip-read them” [12]. Others said they had to write. The change in speech of the PHLs is very challenging to relatives. Some speak in monotone, which is difficult to understand. Others speak as if they are mumbling because the speech production quality is badly articulated, while others seem to have no voice or speech entirely. This is a barrier to social engagements. To buttress this fact, [12] stated that PHLs are challenged regarding social activities to the extent that they fear dealing with others. Still, some are challenged by the fact that their family members who have hearing loss easily get angry, which is robbing them. They are bordered because they always feel people are gossiping about them. Parents of PHL wish they could hear their child call them daddy/mummy. While some are sympathetic, others are perceived as unsympathetic.

Another finding of this study is the implications of social effects. The respondents enumerate about 14 social effects. The worst suffered by the patients is that they do not have secrets. People must speak aloud for them to hear. They cannot use phones effectively; they depend on lip reading. Hearing loss also affects their relationships with others and their school and work lives, and they have to depend on sign language. They suffer frustration and feel lonely and uncomfortable. They are discouraged about life. Another implication is that they stop schooling. Some PHL had to drop out of school due to hearing loss. The cost of treatment and hearing aid/cochlear implant is not cost-effective. They cannot afford hearing aids or cochlear implants. This position is in accord with [10], who states that 67% - 85% of PHL either do not, will not, or cannot afford to wear a hearing aid”. [10] explains further that the “cost of hearing aid is still prohibitive for many and are not always covered by insurance.” PHL also feels embarrassed by other people (laughed at). These challenges are similar to those discovered by Gudyanga [13], who established that besides communication problems facing students with hearing loss, they also experienced feelings of anger, frustration, and isolation depending on the dictates of the environment. [10] adds that impatience or indifference from others can even erode the desire to communicate.

## 5. Conclusion

This study was conducted to determine the social effects of PHL. To this end, the researchers conclude that hearing loss exerts several social effects, such as poor relationships, ineffective communication, lack of secrecy, and avoidance of social gatherings. During socialization, PHL said they easily get angry and frustrated and, therefore, avoid social activity. This conclusion agrees with the theory of mind [14], which means PHLs do assume a mental state for themselves and for

others who relate with them. The theory of mind involves the individuals' ability to infer the cognitive and emotional state of others as well as understanding that those states of mind guide their behaviors [14]. The family and the society also form a mental state for themselves and PHL. This position has relational or social effects. The treatments needed by the patients with hearing loss who responded to this study are a hearing aid, tympanoplasty, cochlear implant, reassurance, and routine check for proper management.

## 6. Limitations of the Study

The study was limited to the Social Effects of Hearing Loss on Patients with Hearing Loss who came to the Audiology unit of Jos University Teaching Hospital and Kazhayet Audiology Service Centre in Jos within the period of the study. There are other health facilities in Jos that the researchers did not involve in the study. The design of the study was a cross-sectional survey. A longitudinal research design or experimental research design can yield a better outcome. The study used a simple percentage. An advanced statistical tool can also be used to analyze the data. The research variables can be studied within other states or the country at large for wider coverage.

## 7. Recommendations

Considering the findings, the researcher made the following recommendations:

- 1) The government should come up with policies that will check man-made behaviors that exert negative social effects on PHL in our society.
- 2) Policymakers should formulate strategies for addressing the influence of hearing loss and the social effects on PHL by incorporating protective laws against negative behaviors towards those with hearing loss.
- 3) Clinical audiologists and Speech-Language Pathologists are highly needed to help improve the quality of life of PHL.
- 4) The government should subsidize the cost of hearing aids and cochlear implants to be affordable to PHL.
- 5) Newborn hearing screening before the child is discharged from the hospital, which will help in the early identification of hearing loss among infants, should be made mandatory.
- 6) Hearing Aids and Cochlear implants need to be included under the National Health Insurance Schemes to reduce the cost in the country.
- 7) The creation of awareness about the psychological and emotional effects of hearing loss is necessary among relatives of PHL and the society at large.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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