UNIVERSITY OF EDUCATION, WINNEBA

# KNOWLEDGE AND PREPAREDNESS OF STUDENT NURSES TO PROVIDE HEALTHCARE TO PATIENTS WITH DEAFNESS

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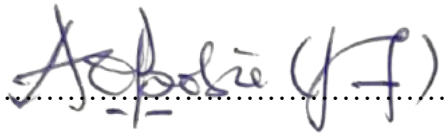
**A thesis in the Department of Special Education, Faculty of Educational Studies, submitted to the School of Graduate Studies in partial fulfilment of the requirement for the award of the degree of Master of Philosophy (Special Education) in the University of Education, Winneba**

**JANUARY, 2023**

# DECLARATION

**Student's Declaration**

I, Alfred Jnr Owusu-Bobie, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

**Signature**: 

**Date**: ……..…….…….....

**Supervisor's Declaration**

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

Prof. Samuel K. Hayford (PhD) (Supervisor)

Signature: …….……

Date: ……..…….…….

# DEDICATION

I dedicate this work to my father, Mr Sampson Owusu-Bobie (Retired Educationist) and all persons with Deafness.

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God has indeed been my fortress throughout my post graduate journey. First, I want to thank God for life, health, and strength throughout my academic programme. I am incredibly grateful to Prof. Samuel K. Hayford, my supervisor for his inspiration, commitment, and professional guidance as a Professor of Special Education, which has deeply inspired me. Similarly, I wish also to acknowledge the immeasurable support of all the lecturers at the Department of Special Education, University of Education, Winneba, especially, Mrs. Florence Akua Mensah (HOD), Dr. Amoako-Gyimah, Dr. Alexander Oppong, and Dr. Daniel Fobi. Thank you all for your contributions in my life.

I want to thank my family for praying with me. Thank you for your sacrifices and support. Especially, to my father Mr. Owusu-Bobie Sampson, my mother Ms. Janet Kyeiwaa, my twin brother Owusu-Bobie Alfred Snr, MEd, Gloria Owusu-Bobie, Mark Owusu-Bobie, Anthony Owusu-Bobie, Williams Yamoah, and Mr. James Addai. May I also thank the staff and students of Bechem School for the Deaf, especially, Ms. Alice Oppong Adubia (Former Principal), Mr. Armstrong Adu-Boakye, MSc, MEd. (Principal), Mr. Emmanuel Asare and Mr. Edmond Osei-Asibey, MEd, (HOD JHS) for their assistance in different ways throughout my post graduate studies.

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# ABSTRACT

Investigating student nurses' knowledge and preparedness to provide healthcare to the Deaf is an important step in improving access to quality health for individuals who are Deaf. Specifically, this study brings to light the level of knowledge student nurses have about; Deaf culture, health needs of the Deaf, communicating in sign language, as well as preparedness to provide healthcare to patients with deafness. The study utilised the Critical Disability Theory. The study adopted the descriptive survey design and used questionnaire for data collection. A purposive sample of 110 final year student nurses in Tepa Nursing and Midwifery Training College participated in the study. Data from the questionnaire were entered into Statistical Package for Social Sciences version 29.0 (IBM SPSS, 29.0) and analysed using descriptive statistics such as frequency, means, and standard deviation. The findings were that majority of student nurses have limited knowledge about Deaf culture ($M$ = 1.90; $SD$ = 0.22). The study further revealed that majority student nurses have poor knowledge about the health needs of the Deaf ($M$ = 1.59; $SD$ = 0.57). Furthermore, the study reported a high proportion of student nurses having poor knowledge to communicate with the Deaf even though student nurses reported to have studied Ghanaian Sign Language for a semester ($M$ = 1.74; $SD$ = 0.12). Finally, the study revealed that majority of student nurses in Tepa Nursing and Midwifery Training College were not adequately prepared to provide healthcare to Deaf patients ($M$ = 1.63; $SD$ = 0.35). In view of these, the study recommends an inclusion of Deaf culture and Deaf awareness education, as well as sign language into the coursework for student nurses in all levels by the management of Tepa Nursing and Midwifery Training College. Again, the management of the College should integrate educational programmes, such as visiting some Schools for the Deaf. This could contribute to the improvement of student nurses' knowledge and behaviour toward the Deaf.

# CHAPTER ONE

# INTRODUCTION

## 1.0 Background to the Study

Health is one of the most fundamental needs of life. The World Health Organization [WHO] (1948) cited in WHO (2011) defined health as not only the absence of disease but also the presence of sound physical, mental, and social well-being of a person. Every person has the right to quality healthcare (Abrokwah, Aggire-Tettey, & Naami, 2020; Inclusion Ghana, 2013) regardless of age, status, educational background, race, disability, gender among other factors (Moodley & Ross, 2015; WHO, 2011). The right of individuals to quality healthcare is backed by both international and national human rights accords. Article 25 of the Convention on the Rights of Persons with Disabilities (CRPD) underscores the rights of persons with disabilities to access the highest attainable standard of healthcare without discrimination based on their conditions (WHO, 2021). In Ghana, the 1992 Constitution enjoin citizens the right to be provided with quality healthcare (Inclusion Ghana, 2013).

Oldland, Botti, Hutchinsona, & Redley (2020) citing the Institute of Medicine (2003) and WHO Core Team (2011) mentioned that health professional education is expected to prepare graduates for practice, equip them with both core discipline knowledge and skills, as well as the competencies central to safe and high-quality care standards for all. For example, nursing education provides an opportunity for nurses to extend and accelerate acquisition of essential knowledge, skills, and behaviours and in particular, the understanding of their roles and responsibilities related to healthcare quality in general (Oldland et al., 2020). Therefore, nurses play an important role in

the provision and coordination of care, such as the prevention of adverse events, optimisation of health service productivity and patient outcomes, and understanding patient needs and dignity at the various healthcare facilities (Oldland et al., 2020).

Regrettably, literature have shown that people who are Deaf experience unique challenges when accessing healthcare (Alselai & Alrashed, 2015; Mprah, 2013; Senayah, Mprah, Opoku, Edusei, & Torgbenu, 2018; Simasiku & Nghitanwa, 2017; United Nations, 2018). These challenges mostly relate to: healthcare professionals limited knowledge about Deaf culture (Diaz and Goyal, 2021; Dos Santos Santos, Faria, Brandao, Thiengo, & Alves, 2021; Gilmore, Sturgeon Thomson, Bell, Ryan, Bailey, McGlade, & Woodside, 2019; Kruse, Zimmermann, Fuchs, & Rottzoll, 2021); inadequate training and knowledge about the healthcare needs of Deaf individuals (Greene & Scott, 2021; Pendergrass, Nemeth, Newman, Jenkins, & Jones, 2017) and the existence of poor communication among the Deaf and the healthcare professionals (Kruse et al., 2021; Ljubicic, Zubcic, & Sare, 2017; Senayah et al., 2018).

It is instructive to acknowledge that, healthcare professionals understanding of Deaf culture reduces their fear and anxiety in communicating with Deaf patients (Andrews & Boyle, 2019); also show respect, ask proper questions, and provide necessary accommodations (Elsevier, 2015). Unfortunately, Badu, Opoku, & Appiah (2016) suggested that healthcare professionals providing services for persons with disabilities have limited knowledge about disability issues and they hardly understand disability culture. For example, Velonaki, Kampouroglou, Velonaki, Dimakopoulou, Sourtzi, & Kalokerinou (2015) reported that nurses have an overall poor knowledge and education about issues concerning the Deaf. Similarly, Diaz & Goyal (2021) opined

that nurses are not adequately taught on issues concerning the Deaf, hence, lack the understanding of the Deaf culture and do not accommodate cultural and linguistic requirements since they are not adequately taught in the nursing training schools. Kruse et al. (2021) argued that the lack of knowledge about Deaf culture among healthcare professionals may interfere with building a trusting relationship and cause fear, mistrust, and frustration in the healthcare facility.

According to the Sustainable Development Goal 3 (SDG), healthcare professionals may not consider the impact of impairments when providing healthcare to persons with disabilities (UN, 2018). Therefore, healthcare professionals may not make appropriate health educational advice during medical encounters with patients who are Deaf. For instance, David, Searls, & Peterson (n.d.) reported that nurses were often unaware of the healthcare wants and needs of Deaf patients during clinical encounters. The researchers attributed this challenge to the lack of meaningful training in Deaf cultural awareness and nursing care provided to Deaf in most nursing education programmes. Similarly, Sanju, Aggarwal, Choudhary, & Yadav (2018) citing Chapmann and Burchfield (2008) reported that majority of nurses have inadequate training and knowledge regarding the healthcare needs of Deaf individuals.

In the opinion of Sriyanti and Musharyanti (2022), communication is considered as the base of the nurse-patient relation and is an essential aspect in building trust and convenience in nursing care. Therefore, effective communication is a basic but complex concept in nursing practice (Afriyie, 2020). Though, it is evident that communication is a fundamental skill nurses learn in nursing school, nevertheless

course content in nursing education rarely touches on how to communicate effectively with Deaf patients (Dickson & Magovan, 2014; Leftridge, 2022; Ljubicic et al., 2017; Machado, Machado, Figueiredo, Tonini, Miranda, & Oliveira, 2013). A study by Adib-Hajbaghery and Rezaei-Shahsavarloo (2015) to investigate student nurses' knowledge and performance in communicating with Deaf patients in Iran reported that student nurses have very poor performance in communicating with Deaf patients. Findings from the study showed only 2.9% of student nurses were trained in communicating with Deaf patients. The researchers recommended the need for nurses to acquire knowledge of sign language in their training institutions.

Almost all persons with disabilities including the Deaf are recipients of medical attention, support, and treatment. As such, they are often subject to the opinions and judgements of healthcare professionals to gain access to needed services (Khan, Umar, Naeem, & Marryam, 2016). A study by Dos Santos, Santos, Faria, Brandao, Thiengo, & Alves (2021) revealed that with respect to nurses' self-assessment on the care they provide to persons with deafness, 27% of the nurses reported that they were totally unprepared for this type of care, despite being in the process of finishing their residency programme. Also, Machado et al. (2013) in a study on how nurses interact with Deaf patients in Brazil established that, nurses were uncertain in providing healthcare to Deaf patients. This according to the researchers was to the fact that nurses lacked the skills in conveying information about the patient's health, inadequate training during the academic career, and even the lacked experience in caring for Deaf patients.

WHO (2011) emphasised the importance for member countries to integrate disability education into undergraduate and continuing education for all healthcare professionals. In the context of Ghana, Section 32 of the Persons with Disability Act, Act 715 mandates the Ministry of Health to include the study of disability and disability related issues in the curricula of health training institutions for health professionals to develop human resources to provide safe healthcare services to Persons with Disability (Republic of Ghana, 2006). In implementing Section 32 of the Persons with Disability Act, the Nursing and Midwifery Council of Ghana in 2016 reviewed the curricula for the training of nurses and midwives to meet current trends in the healthcare sector. The new curricula which included the study of sign language was to enable nurses to communicate effectively with individuals with deafness (Appiah, 2016).

Tepa Nursing and Midwifery Training College is one of the nursing training colleges established to train and prepare student nurses to become nurses to provide quality and safe healthcare for all individuals after their graduation. A search at the office of the principal at the Tepa Nursing and Midwifery Training College by the researcher in March 2018, found that the College has been teaching sign language as a course to the final year student nurses since September 2017. For nurses to develop the required human resources to be able to provide healthcare to the Deaf patients, the study of sign language and the awareness of Deaf culture by student nurses in the nursing training colleges is very critical. It is against this background that this study sought to investigate the knowledge and preparedness of student nurses of Tepa Nursing and Midwifery Training College in Ghana, to provide healthcare to Deaf patients.

## 1.1 Statement of the Problem

As stated in the background, the proposition of the Persons with Disability Act was to provide Persons with Disabilities access to various services such as healthcare (Republic of Ghana, 2006). Despite the reviewed of the curricula for the training of nurses and midwives to include Sign Language by the Nursing and Midwifery Council of Ghana in 2016, Zutah (2017) argued that the new curricula failed to initially consider the availability of tutors to teach sign language throughout the nursing training colleges in Ghana. It is important to acknowledge that research have showed that nurses are the largest group of healthcare professionals (Anaman-Torgbor, Nyande, Amenuke, Gyapong, Dodunoo, & Tarkang, 2022; Poortaghi, Ebadi, Salsali, Raiesifar, Davoudi, & Pourgholamamiji, 2020). Hence, patients expect nurses to be culturally competent, communicate effectively, and provide safe, and quality healthcare to them (Leftridge, 2022).

Unfortunately, some studies in Ghana which focused on the capability of healthcare professionals to provide healthcare for patients with deafness revealed that health professionals are ignorance about the socio-cultural conditions of deafness and therefore hinders effective interaction and creates barriers for the Deaf in their quest to seek healthcare (Appiah, Fenu, Asalu, Dzata, Bonchel, Abdul-Rahman, & Dongdem, 2018; Mprah, 2013; Senayah et al., 2018). These researchers raised concerns regarding healthcare professionals lack of understanding on Deaf cultural values and sign language as the main form of communication with the Deaf.

To address the above problem raised by (Appiah, et al., 2018; Mprah, 2013; Senayah et al., 2018), nursing educators should be interested in the type of education and

training given to student nurses to prepare them to be able to provide quality and safe healthcare for all individuals including the Deaf as enshrined in Section 32 of the Disability Act. Even though, the training of nurses is a continuous process that starts from the nursing training colleges, however, in Ghana there is limited research on the impart of education and training provided to student nurses in the nursing training colleges regarding their ability to provide healthcare for the Deaf. Since, student nurses are the future generation of nurses, there is the need to investigate the knowledge and preparedness of student nurses in the Tepa Nursing and Midwifery Training College to provide healthcare to Deaf patients.

### 1.2 Purpose of the Study

The purpose of this study was to investigate the knowledge and preparedness of student nurses of Tepa Nursing and Midwifery Training College in Ghana, to provide healthcare to Deaf patients.

### 1.3 Objectives of the Study

The objectives of the study were to:

1. Investigate the level of knowledge student nurses of Tepa Nursing and Midwifery Training College have about the Deaf culture.
2. Examine the level of knowledge student nurses have about the health needs of Deaf patients.
3. Investigate the competence of student nurses in communicating with Deaf patients using Sign Language.
4. Investigate the level of preparedness of student nurses to provide healthcare to Deaf patients.

### 1.4 Research Questions

This study sought to answer the following questions:

1. What level of knowledge do student nurses of Tepa Nursing and Midwifery Training College have about Deaf culture?
2. What level of knowledge do student nurses have about the health needs of Deaf patients?
3. How knowledgeable are student nurses in communicating with the Deaf using sign language?
4. What level of preparedness do student nurses have to provide healthcare to Deaf patients?

### 1.5 Significance of the Study

The results of the study on the knowledge and preparedness of student nurses in Tepa Nursing Training College to provide healthcare to Deaf patients would reveal their level of knowledge about Deaf culture. The study will bring to light whether the student nurses appreciate the existence of Deaf culture, which consequently could inform their decisions when providing healthcare to Deaf patients.

Again, the results of this study would help in finding out the knowledge student nurses in Tepa Nursing Training College have about the health needs of Deaf patients. This will enable the authorities in the College to provide student nurses with the requisite programmes and courses to develop their knowledge on the health needs of Deaf patients through both theoretical and practical experiences. Also, the result of this study will reveal the capabilities of student nurses on the use of sign language to communicate with the Deaf. This will inform the College authorities whether to

increase the number of semesters used to teach sign language or maintain it as such. It will also enable the College authorities to review the content of the sign language taught based on whether it meets the standard set out by the Ministry of Health.

Furthermore, the results of this study will reveal whether student nurses are adequately prepared to provide healthcare to patients with deafness. This will provide the College authorities with a fair idea about the nursing programme whether they meet the provisions established by the Disability Act, Act 715 or not. This will guide the authorities to institute programmes and activities that will help train student nurses capable of providing healthcare to deaf patients. Finally, the results of the study will add up to the existing literature for those who, in future, may be interested in similar studies.

### 1.6 Delimitation

Even though there are over 50 Nursing Schools in Ghana, this study only focused on student nurses in the Tepa Nursing and Midwifery Training College. The school is one of the nursing schools that has included the teaching of Ghanaian Sign Language as a course in their curriculum. Also, the study was delimited to variables relating to student nurses' knowledge about Deaf culture, knowledge about the health needs of the Deaf, competency to communicate with sign language, and their preparedness to provide healthcare to Deaf patients. Furthermore, the scope of the study covered only final year student nurses. The researcher was of the view that final year student nurses have gained both theoretical and clinical experiences that will be vital for the study.

## 1.7 Limitations

Limitations existed in this study. One limitation was the use of a purposive sample of only final year student nurses for the study. This limited the generalizability of findings to the larger population of all student nurses in the Tepa Nursing and Midwifery Training College. Again, the use of closed-ended questionnaires limited participants responses about the topic.

## 1.8 Operational Definition of Terms

**Student nurses**: Students that have been enrolled in Tepa Nursing Training College to pursue an educational programme that leads to certification and licensing to practice as registered diploma nurses.

**Healthcare**: Services provided to individuals by health professionals for the purpose of improving, sustaining, and monitoring a person's physical, mental, or emotional wellbeing.

**Healthcare professionals**: Individuals who provide preventive, curative, promotional or rehabilitative healthcare services in a systematic way to people, families, or communities.

**Deaf**: In the context of the study, Deaf refers to persons who are unable to hear or use spoken language but understand and use the Sign Language as their main mode of communication.

**Deaf culture**: Describes the unique characteristics found among the population of Deaf. This includes language, views, values, beliefs, and traditions.

**Deaf Patients**: Refers to people who are Deaf that visit health facilities to seek for healthcare services.

### 1.9 Organization of the Study

This thesis was organized into six broad chapters. Chapter one comprises of the background to the study, statement of the problem, purpose and objectives of the study, research questions, significance of the study, delimitations of the study, operational definition of terms and general layout of the study. Chapter two focuses on relevant theoretical and empirical literature on nursing students' knowledge and awareness of Deaf culture, knowledge about the health needs of Deaf patients, knowledge on how to communicate with the Deaf, and preparedness to provide healthcare to patients with deafness. Here, Critical Disability Theory (CDT) was explained. Chapter three deals with the methodology including sample and sampling techniques, research design, population, instruments used in data collection and analysis. Chapter four covers the presentation and analysis of data collected and Chapter five focuses on interpretation and discussion of results. Finally, the summary of findings, conclusions, recommendations, and suggestions for further research formed the concluding chapter of the study.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter presents the review of literature related to the study. The literature was reviewed under the following subheadings:

1. Theoretical Framework
2. Conceptual Framework
3. Conceptual Review
    - Global prevalence of deafness
    - Deaf culture
    - Legal provisions for Persons with Disabilities and healthcare
4. Empirical Review
    - Knowledge about Deaf culture
    - Knowledge about the health needs of Deaf patients
    - Knowledge in communicating with the Deaf
    - Preparedness to provide healthcare to Deaf patients
5. Summary of Literature Review

## 2.1 Theoretical Framework

For the past 40 years, theories of disability have featured prominently in shaping disability politics, disability studies and human rights for persons with disabilities (Lawson & Beckett, 2021). Among these theories, the Critical Disability Theory was adopted to better understand the key variables underpinning this study. The theory presents an explanation of the provision of healthcare to persons with disabilities as a

human right issue as enshrined in the United Nations Convention on the Rights of Persons with Disabilities (UN, 2006).

### 2.1.1 The Critical Disability Theory

Critical disability theory refers to a diverse, interdisciplinary set of theoretical approaches to disability. The task of critical disability theory is to analyse disability as a cultural, historical, relative, social, and political phenomenon. This can also be called the "critical disability studies" (Vehmas & Watson, 2014). Critical disability theory serves as the framework for studying and analysing disability issues (Hosking, 2008). Devlin and Pothier (2006) asserted that critical disability theory is built upon the argument that "disability is not fundamentally a question of medicine or health, nor is it just an issue of sensitivity and compassion; rather, it is a question of politics and power (lessness), power over, and power to" (p. 6).

Hosking (2008) opined that critical disability theory is rooted in a critique of traditional discourses and assumptions of disability which aimed to oppress persons with disabilities and infringe on their human rights. Hosking further proposed seven (7) assumptions on which critical disability theory is built. These include social model of disability; multidimensionality of disability phenomenon; diversity as value; approach based on the rights; giving voice to persons with disabilities; influence of language on understanding disability; and transformative policies.

Also, Oliver and Barnes (1993) cited in Gillies (2014) argued that critical disability theory is not based on the biomedical model, or the social model of disability, but rather it is about a human rights approach to disability that seeks for equal access to all aspects of social life including health, transportation, housing, education, and

employment for persons with disabilities. Similarly, United Nations (2014) maintained that human rights approach to disability builds on the social approach by acknowledging persons with disabilities as subjects of rights that must be respected in the society. Under the Rights-based model, persons with disabilities are recognised as having the right to equal opportunities and participation in society.

Lawson and Beckett (2021) opined the nature of the human rights approach to disability is prescriptive, rather than descriptive, in that it answers the question 'what should we do?' to advance social justice for persons with disabilities. Its answer is that we need to progress disability policy and law reform in line with human rights principles and obligations, as set out in the United Nations Convention on the Rights of Persons with Disabilities. A rights-based approach to disability is not driven by compassion, but by dignity and freedom. For example, the Department of Health, State of Western Australia (2016) opined that "people with disability are not 'objects' of charity, medical treatment, and social protection but 'subjects' with rights, capable of claiming those rights, able to make decisions for their own lives based on their free and informed consent and to be active members of society" (p. 2).

In 2006, on the adoption of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), the then United Nations Secretary-General, Kofi Annan stated, "too often, those living with disabilities have been seen as objects of embarrassment, and at best, of condescending pity and charity. On paper, they have enjoyed the same rights as others; in real life, they have often been relegated to the margins and denied the opportunities that others take for granted" (UN, 2014, p. 87). The application and understanding of disability issues directly relates to the quality of

life of persons with disabilities. Therefore, how disability is conceived ultimately affects the rights of persons with disabilities and the way they are treated in the society (Rioux, 2003 cited in Gillies, 2014).

Accordingly, everyone has a responsibility to promote, protect and ensure that this right is actualised. For this reason, Williams (2001, p. 134), cited in Gillies (2014) reported that "if disability is seen as a personal tragedy, disabled people are treated as the victims of circumstance. If disability is defined as social oppression, people with disabilities can be seen as the collective victims of an uncaring discriminatory society". Critical disability theory advocates for both accommodation and equality in all aspects of life for people with disabilities; and seeks to change conventional notions of describing people with disabilities as pitiable, and that they should adjust themselves to the environment they lived (Reaume, 2014). As rightly suggested by Hosking, critical disability theory is "intentionally political in that its objective is to support the transformation of society so that persons with disabilities in all their diversity are equal participants and fully integrated into their communities. Critical disability theory provides a conceptual framework to understand the relationship between impairment, disability, society and to inject disability interests into all policy arenas (Hosking, 2008, p. 7).

### 2.1.2 Usefulness of the Critical Disability Theory to the Study

The theory facilitated the researcher's understanding of the problem under study. It influenced the respondents to view disability (deafness) as human rights issues instead of being a medical issue. Therefore, the provision of healthcare to people who are deaf should not be seen as a privilege but as a matter of human rights. Hence, the

theory formed the basis for the selection of some of individual items on the research instruments that were used to collect information from respondents in the Tapa Nursing Training College. Furthermore, the theory was incorporated in the discussion, and helped in making appropriate recommendations for policy and practice decisions in the Tepa Nursing and Midwifery Training Colleges in terms of providing student nurses with the appropriate education and training needed to provide quality healthcare for all persons including deaf patients after their graduation.

## 2.2 Conceptual Framework

The conceptual framework for the study was based on the concepts and variables that were derived from the literature reviewed. The reason for designing the conceptual framework was to clarify the relationship between the independent and dependent variables that explain the knowledge and preparedness of student nurses to provide healthcare to Deaf patients. These are: knowledge about Deaf culture; knowledge about the health needs of Deaf patients; proficiency in communicating with the Deaf; and preparedness to provide healthcare to Deaf patients. The conceptualization of the study represents the idea that student nurses' will be able to provide quality and save healthcare for Deaf patients after their graduation if all the variables are met.

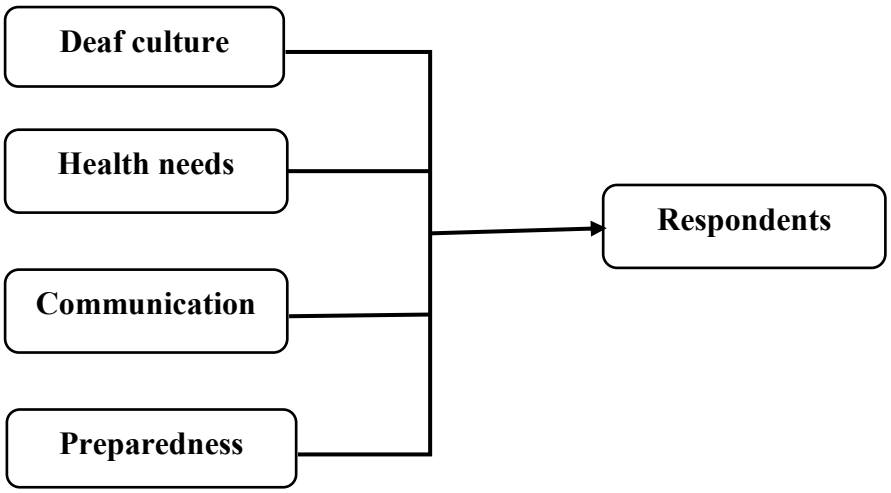


**Figure 2.1: Conceptual framework (Researcher's Construct, 2022)**

## 2.3 Conceptual Review

This section reviewed literature on the concepts that guided the study. These included global prevalence of deafness, Deaf culture, and legal provisions for Persons with Disabilities and healthcare.

### 2.3.1 Global prevalence of Deafness

Deafness is seen as a growing disability in the world that comes with its own set of challenges and changes (Kung, Lozano, Covas, Rivera-Gonzalez, Hernández-Blanco, Diaz-Algorri, Chinapen, 2021). According to Netcare Hospitals (2016) and Abdelaziz (2012), deafness can be explained as the state of having little or no residual hearing. Deafness is a term usually refers to the level or degree of hearing loss in an individual. Deafness is a hidden disability, and a significant risk factor for health disparities and gaps in care (Pauley, 2022). An individual is said to have hearing loss if the person has a hearing threshold above 25 dB. Hearing loss are classified as mild, moderate, severe, or profound according to the degree of the impairment (Castro et al., 2012; Gadagbui, 2013; WHO, 2021b). Lurie and Dubowitz (2007) cited in

Barnett, Kuol, & Coppola (2014) stated that “hearing loss is the third most common chronic health condition among the older population, after high blood pressure and arthritis” (p. 39). Also, Delaney (2020) described hearing loss as the most common congenital anomaly that exists in approximately 2 - 4 infants per 1000 infants. A study by Appiah-Thompson, Meier, Baiden, Acheampong, Akotey, Honu-Mensah, Amoo-Quaye, & Adanusa (2020) which aimed to investigate the prevalence and determinants of hearing loss among primary school children in selected schools in the Central region of Ghana, reported a relatively low incidence of hearing loss.

Deaf individuals typically have profound hearing loss (Academy Hearing Centres, n.d.; Gadagbui, 2013; Richardson, 2014; WHO, 2021b), and use sign language as a means of communication (Amoako, 2019; Campos, 2016; De Meulder, 2015). Stevens, Flaxman, Brunskill, Mascarenhas, Mathers, & Finucane (2011) and WHO (2021b) stated that hearing loss is one of the most prevalent sensory disabilities globally. Similarly, WHO (2018) citing WHO (2015) and Cunningham and Tucci (2017) noted that hearing loss affects millions of people globally and is estimated to be the fourth leading cause of disability. It is estimated that about 430 million of the affected population have moderate or higher levels of hearing loss and are likely to be adversely affected unless the condition is addressed in a timely manner. Hearing loss currently affects more than 1.5 billion people (WHO, 2021c).

Again, WHO (2021c) projections showed that by 2050, nearly 2.5 billion people will live with some degree of hearing loss, and at least 700 million people will require hearing rehabilitation. In addition to the above, over 5% (466 million) of the world’s population (432 million adults and 34 million children) have disabling hearing loss

with a projected number of people to have disabling hearing loss by 2050 to be over 700 million (WHO, 2021b). In the United States, an estimated 37 million adults aged 18 and older suffer some degree of hearing loss, of whom 1 in 100 are recognized as Deaf, making it the third most common physical disorder (Agaronnik, Campbell, Ressalam, & Iezzoni, 2019; Ruesch, 2018). Also, Grady, Younce, Farmer, Rudd, & Buckner, (2018a) pointed out that approximately 28 million people living in the United States have some type of hearing impairment. Blackwell, Lucas, & Clarke (2014) noted that nearly 15% of American adults (37.5 million) aged 18 years and over have reported some degree of hearing loss.

In the UK, Rashbrook and Perkins (2019) estimated that about 11 million people in the UK are deaf or hard of hearing which makes it the second most common disability in the UK. According to the General Authority for Statistics in Saudi Arabia, Deaf persons accounted for around 1.4% (448,000) of the total population in Saudi Arabia in 2017. This number is just for Deaf persons and does not include deaf people who develop hearing problems later in life (Akeely, Alenezi, Albishr, Almutairi, Alotaibi, Almansour, & Sabi, 2022). In New Zealand, Exeter, Wu, Lee, & Searchfield (2015) projected in their study that changes in hearing loss rates over fifty years will be 1.5-fold increase among people older than 14 years of age by 2061. In Puerto Rico, Erickson et al. (2016) cited in Kung et al. (2021) noted that 4.3% of the country's total population suffered from hearing disability and faced challenges when accessing healthcare services. The China Global Television Network reported on its website on 3rd October 2018 that there are over 20 million deaf people in China, and that the deaf community is the largest disability group at around 1.67% of China's population.

Netcare LTD (2016) revealed that about two million (4.5%) of the South African population are deaf. Asony, Emma-Asonye, & Edward (2018) citing Treat (2016) reported that 23.7% of Nigerians have hearing problems that include total deafness, hearing loss, or other hearing-related impairments in a country of more than 155 million people.

In Ghana, the 2021 Population and Housing Census General Report estimates that 470,737 representing 1.5% of the country's total population of 30,832,019 have some degree of hearing loss. It further explains that out of the number, 385, 794 have some difficulties in hearing, 65,495 have lot of difficulties in hearing whiles 19,448 cannot hear at all (Ghana Statistical Service, 2021).

### 2.3.2 Deaf Culture

According to Massachusetts Commission for the Deaf and Hard of Hearing [MCDHH] (2021), the term deafness and deaf individuals are based on the medical/pathological model, and the cultural model points of view. The medical model viewed deafness as a disability or handicap and views deaf people as needing improvement. This viewpoint focused on the negative aspects of deafness (MCDHH, 2021), and therefore supports an idea that deaf individuals need assistance, and that deafness should be fixed (Thumann & Simms, 2009). Many healthcare professionals are trained in the traditional model, where they view deafness as a disability needing correction (Greene & Scott, 2021). The medical model, therefore, maintains a sense of disability and inferiority. McKee, Schlehofer, & Thew (2013) posited that healthcare providers often view deafness as a deficit to remedy, which frequently conflicts with Deaf patients' stance that their hearing loss is a cultural identity, not a disability.

On the other hand, the cultural model viewed deafness as entrance to a distinct community with its own values, practices, and, most importantly, language. The cultural model focused on the positive aspects of what is possible for the Deaf community (MCDHH, 2021). The cultural model supports a concept that society should not label the Deaf as disabled (Holcomb, 2013; Padden, Humphries, & Padden 2009). With deference to this study, deafness as a cultural identity will be emphasised. The use of capitalization distinguishes between Deaf as a culture and deaf as a medical condition (Velonaki et al., 2015). Deaf with an uppercase "D", describes individuals who use sign language to communicate and identify with the common cultural values and norms of the Deaf community (Grady, Brungardt, & Doll, 2018b; Velonaki et al., 2015; WebAIM, 2021); whiles deaf with a lowercase "d", refers to an individual with a medical condition of hearing loss (Middleton, 2009; Velonaki et al., 2015; Vernon & Leigh, 2007).

The Deaf have a distinct culture from other groups of people. Richardson (2014) and Shuler, Mistler, Torrey, & Depukat (2013) opined that Deaf culture is unique and differs from other groups of people who can hear and allows individuals to be who they are and live in a way that is unique to them. Their unique culture is usually adopted by the choice of the deaf individual instead of the traditions which are being handed down through a generational lineage (Richardson, 2014). Globally, members of the Deaf community have similar traits because of its uniqueness (Yates, 2017). In the Deaf culture, terms such as "hearing impaired" and "disabled" are not acceptable to be used. This is because, these terms focused on the inability of the person instead of building the cultural empowerment of the person (Barclay, Rider, & Dombo, 2012).

Grady, Brungardt, & Doll (2018b) citing Whiteford and St-Clair (2002) argued that culture is viewed as a broad concept and used as an inclusive term with no single, widely accepted definition in the literature. However, Grady et al. (2018b) further explained culture as a learned and shared patterns which include values, beliefs, customs, perceptions, history, politics, attitudes, lifestyles, emotions, and behaviours. Also, Deaf Culture Centre (2022) citing Padden (1980) maintained that Deaf cultural identity can be seen in all five sociological criteria for defining a culture: namely language, values, traditions, norms, and identity. It can be said that common language and experience draw the Deaf as a cultural group, therefore, language and culture are interrelated and so every linguistic and cultural group such as Deaf, has its own way of expressing how they see and interpret the world and interact in it (Deaf Culture Centre, 2022).

The Deaf community is comprised of culturally Deaf people who used sign language and appreciate their heritage, history, literature, and culture, and other individuals who use the language and have an attitude that makes them an accepted part of the community (Deaf Culture Centre, 2022). Sign language is the main form of communication used by Deaf people (Amoako, 2019; Deaf Culture Centre, 2022; Fobi & Oppong, 2018; Oppong, Adu, Fobi, & Acheampong, 2018). Sign language is based on the visual-motion code with a codified system of characters given by basic positions, hand movements with facial expressions, postures, and movements in addition to all hands to apply various changes especially finger positions (Hornakavia & Hudakova, 2013). Sign Language is the native visual cultural language of the Deaf, having its own syntax (grammar or form), semantics (vocabulary or content) and pragmatics (social rules of use) (Deaf Culture Centre, 2022).

Amoako (2019) researched into an overview of deaf education efforts in Ghana over the past 60 years (1957–2017). The study revealed that Ghana's Deaf community have their own sign language called Ghanaian Sign Language (GhSL). The researcher further noted that Ghanaian Sign Language involves gestures, facial expressions, hand shapes, body movements, and lip patterns (non-oral) as a medium of communication by the Deaf people in Ghana. Individual sign languages can be varied across countries but could be similar terms of the structures. For example, Fobi and Oppong (2018) noted that though, the foundations of Ghanaian Sign Language (GhSL) were based on American Sign Language (ASL), there exist a slight difference between GhSL and ASL signed concepts, however, the structures of both languages are similar. Deaf Culture Centre (2022) noted that every culture possesses their own unique outlook, priorities, and needs; hence, healthcare professionals must first understand a patient's cultural background to be able to provide quality healthcare to that patient (Elsevier, 2015). Gilmore, Sturgeon, Thomson, Bell, Ryan, Bailey, McGlade, & Woodside (2019) underscore the opinion of Elsevier (2015) and argued that to understand Deaf culture, one needs to become deaf. The researchers explained further that without encountering the Deaf, it would be difficult to truly understand the issues facing them in the society.

### 3.3.3 Legal Provisions for Persons with Disabilities on their right to Healthcare

Health has been an object of the human right to the enjoyment of the highest attainable standard of wellbeing by the international community since the adoption of the Constitution of the World Health Organization in 1946 (United Nations [UN], 1948). WHO (2011) stated that the right to health is a fundamental part of human rights and of the understanding of life in dignity. Health is defined as 'state of mental,

and social well-being and not merely the absence of disease or infirmity' (UN, 1948). The right to equal access to healthcare is a fundamental part of human rights to healthcare. The human rights approach sees healthcare to serve the health and well-being of individuals, which is indispensable to exercise other human rights (Office of the High Commissioner for Human Rights [OHCHR], 2000). All human beings are equally entitled to their corresponding inalienable human rights, including the right to healthcare. Reichard, Stolzle, & Fox (2011) noted that persons with disabilities as compared to those without disabilities have distinctive healthcare needs which have resulted in increased demand for healthcare due to the complexity of their health conditions. Consequently, persons with disabilities also have the right to enjoy quality healthcare (Abrokwah et al., 2020; Inclusion Ghana, 2013).

The right to the highest attainable standard of health is a human right recognized in international human rights laws. The International Covenant on Economic, Social and Cultural Rights, which is considered as the central instrument of protection for the right of individuals to health, recognized the right of individuals to enjoy the highest attainable standard of physical and mental health. It is instructive to state that the Covenant gives equal consideration to mental health, which has often been neglected, and physical health (OHCHR & WHO, n.a.). Agenda 2030 for Sustainable Development Goals (SDG), goal 3 called for healthy live and well-being for all, indirectly establishing the goal for persons with disabilities (United Nations, 2018).

Similarly, the Standard Rules on the Equalization of Opportunities for Persons with Disabilities, Rule 2, emphasized the need by member countries to ensure the provision of healthcare services for persons with disabilities (UN, 1994). Also, Article 25 of the

Convention on the Rights of Persons with Disabilities (CRPD) underscores the rights of persons with disabilities to access the highest attainable standard of healthcare without discrimination because of their conditions (United Nations, 2006). According to United Nations (2018), CRPD is a legal binding international treaty with respect to disability and must be read to fully understand the impact of its rights and development approach to persons with disabilities in the domain of healthcare.

Another international laws that seek to protect the rights to health for persons with disabilities is the Draft WHO Global Disability Action Plan 2014-2021. The vision of this action plan was to have a world in which all people with disability and their families will live in dignity, with equal rights and opportunities. The overall goal is to contribute to achieving optimal health, functioning, wellbeing, and human rights for all people with disability (WHO, 2015). This Action Plan has three main objectives. These are: to remove barriers and improve access to health services and programs; to strengthen and extend habilitation, rehabilitation, assistive technology, assistance and support services, and community-based rehabilitation; and to strengthen collection of relevant and internationally comparable data on disability and support research on disability and related.

In Australia, the Government of Western Australia Department of Health (2016) afforded people with disabilities the right to receive the same level and quality of service from the staff of the Department of Health. For instance, the *Department of Health's Disability Access and Inclusion Plan (DAIP 2016-2020)*, made provisions for disability awareness training for all staff in the Department of Health. Similarly, the Americans with Disabilities Act (ADA) mandates all healthcare facilities provide

adequate, accessible accommodations to guarantee effective communication equivalent to hearing patients (Agaronnik, Campbell, Ressalam, & Iezzoni, 2019; Myers, Annis, Withers, Williamson, & Thomas, 2021). Even though, the law does not specify which accommodations to use, the Americans with Disabilities Act requires healthcare professionals to prioritize Deaf patients' communication preferences (Agaronnik et al., 2019; Myers et al., 2021).

In the context of Africa, the African Commission on Human and Peoples' Rights (ACHPR) in 1986 entered into force the African (Banjul) Charter on Human and Peoples' Rights instrument to confirm and consolidate the provisions as provided for by the United Nations in 1948. The object of this instrument is to promote and protect human rights of people including those with disabilities in the African continent. For example, Article 16 states that "every individual shall have the right to enjoy the best attainable state of physical and mental health, and States parties to the present Charter shall take the necessary measures to protect the health of their people and to ensure that they receive medical attention when they are sick" (ACHPR, 1986, p. 5).

In the case of Namibia, the National Disability Act (2004) cited in Simasiku and Nghitanwa (2017) highlighted the right of people with disability. The Act seeks to promote and strengthen the usage of Namibian Sign Language for communication amongst Deaf people and between Deaf and hearing people. In South African, the right to have access to healthcare services is a basic human right guaranteed by the Constitution. Section 27 (1) of the Constitution provides that everyone has the right to have access to healthcare services, including reproductive healthcare services and no one may be refused emergency medical treatment (Constitution of the Republic of South Africa Act, 1996). The Constitution further provides that the State must respect,

protect, promote, and fulfil the rights enshrined in the Bill of Rights, which includes the right to have access to health care services (Constitution of the Republic of South Africa Act, 1996).

Similary, the 1992 Constitution of Ghana provides great answers to the question of the right to healthcare provision for persons with disabilities. Indeed, Article 17 guarantees equal rights to all persons therefore assuring equality and non-discrimination for all people including persons with disabilities (Tudzi, Bugri, & Danso, 2017). To provide a comprehensive legal document on the rights of persons with disabilities under the 1992 Constitution of Ghana, Parliament of Ghana in 2006 passed the Persons with Disability Act (715). Asante and Sasu (2015) noted that the passage of the Persons with Disability Act (Act 715) is considered a noteworthy milestone in Ghana's human rights discourse because it further gives the hope that it will improve the life of persons with disabilities to enable them be part of mainstream society. These rights include the right to quality healthcare (Inclusion Ghana, 2013).

## 2.4 Empirical Review

This section reviewed literature on the knowledge and preparedness in relation to the research questions that guided the study. The review was categorised in to four thematic areas. These areas included health professionals/student nurses' knowledge about Deaf culture, knowledge about the health needs of Deaf patients, competency to communicate with the Deaf, and preparedness to provide healthcare to Deaf patients.

### 2.4.1 Knowledge about Deaf culture

Studies have reported that majority of health professionals lack confidence in their ability to interact competently with the deaf community which related to a lack of

training about Deaf culture and lack of exposure to members of the deaf community (Hoang, LaHousse, Nakaji, & Sadler 2011; Lapinski, Colonna, Sexton, & Richard, 2015; Nagakura, Schneider, Morris, Lafferty, & Palmer, 2015).

Hoang et al. (2011) published a study assessing the Deaf cultural competency of physicians and medical students through a fellowship program created at the University of San Diego School of Medicine. The Deaf Community Training (DCT) program involved multiple semesters of American Sign Language (ASL) classes, a summer at Gallaudet University's residential ASL/Deaf culture immersion program, completion of research relating to the Deaf community and rotations interacting with Deaf individuals. The study compared the cultural competency of the medical students who participated in DCT and medical students and medical school faculty who did not participate in DCT. The results showed that individuals who participated in DCT were more culturally competent and had better knowledge of Deaf culture. This suggested the need for additional training in Deaf culture and ASL for medical professionals who work with Deaf and hard of hearing individuals.

Adding to the work done by Hoang et al. (2011), Diaz and Goyal (2021) in a study examined Deaf culture knowledge and awareness among undergraduate and graduate nursing students in the United States. The study employed a descriptive, quantitative, cross-sectional design. The researchers used convenience sampling technique to select 131 nursing students a public university in California. Participants' Deaf culture knowledge and awareness were assessed with the 34-item Knowledge of Deaf Cultural Competency Questionnaire designed by Hoang et al. (2011). The study reported that 67% (n=88) of participants were aware of the Deaf culture. However,

few participants had knowledge in the use of sign language. For instance, only 13.7% (n=18) had taken an American Sign Language (ASL) class. Again, the study found out that most of the participants showed interest to learn sign language. For example, 87.8% (n=115) of participants did indicate their willingness to learn ASL. Regarding the use of interpreters, the study found that 45% (n=59) of the participants knew correct positioning of interpreters, 25.2% (n=33) knew clinics had to provide interpreters. Of the 124 students who completed the 28 true/false/I do not know Deaf culture questions, 17% (n=22) correctly answered ≥ 50% of the questions. Based on the findings of Diaz and Goyal, the study reinforced the need for nursing educators to integrate Deaf cultural competency and awareness education into nursing coursework to promote good health outcomes of Deaf patients and the effective use of interpreters.

Similarly, Kung et al. (2021) undertook a descriptive study to evaluate medical students' knowledge about the Deaf culture and community at San Juan Bautista School of Medicine (SJBSM) in Puerto Rico. A sample of 158 medical students in SJBSM participated in the survey from April 19, 2018, through June 22, 2018. Questionnaire-based survey was used to evaluate medical students' knowledge of Deaf and Hard of Hearing patients. The survey consisted of 3 sections testing medical students' awareness, exposure, and knowledge of the Deaf community. The study graded the responses from the Knowledge section using an answer key, and correct answers added to create an overall continuous sum score per participant, with higher scores meaning higher knowledge. The researchers asked participants to write possible problems Deaf patients may face in the health facility, apart from communication problems. Data were recorded and descriptively analysed using

Microsoft Excel 2012. The study revealed that most medical students were aware of the existence of the Deaf culture. For example, 63% of the participants reported exposure to Deaf and Hard of Hearing people, and 24% reported having a Deaf and Hard of Hearing person in their social life.

Again, 80% of the participants reported that they were aware of Deaf culture, with participants in the final year having the highest percentage of awareness. Nevertheless, participants overall knowledge scores were less than 50th percentile. This showed a limited knowledge of the Deaf community and their health needs by the participants. Moreover, findings from the study revealed that majority of the students were willing to learn sign language to be able to communicate with the Deaf. For instance, 86% of the participants expressed interest to take an American Sign Language course. Kung et al. (2021) affirmed that despite having a minimum exposure to Deaf community, medical students have inadequate knowledge about the problems that a Deaf patient might encounter in the healthcare facility. The researchers recommended for the inclusion of deaf awareness training in the curriculum of medical students. This will improve medical students' knowledge and competency related to Deaf culture that is needed to provide adequate healthcare to the Deaf population.

Additionally, Kruse et al. (2021) undertook a study to investigate the effect of deaf awareness training on medical students on their knowledge regarding deafness and their competence in providing adapted communication and healthcare for Deaf and hard of hearing patients. The researchers sampled 95 medical students for the online survey in three consecutive sessions. The workshop was designed out from a program

called “Breaking the Silence”, in 2013 with the aim to teach medical students for a better understanding of Deaf culture and communicative needs Materials provided to participants consisted of newspaper articles, short, signed videos, an interview with a sign language interpreter, an overview of Deaf history and information on cochlear implants. Participants filled the online questionnaire using SoSci-Survey. Questions for the workshop were rated on a 6-point Likert-scale. Data were analysed using SPSS, version 26. A p-value less than 0.05 was statistically significant.

Findings from Kruse et al. (2021) revealed that most of the participants (65.3%) had never been in contact with a deaf or hard of hearing person before. The study provided an opportunity for students to familiarize themselves with topics on hearing loss and deafness for the first time. For instance, participants found the topics treated exceedingly helpful from a personal (82.1% rating ≥ 5 points) and a professional point of view (84.2% rating ≥ 5 points). Again, the results highlighted students’ view on the importance of deaf awareness training after the Deaf awareness training. Participants reported having a substantially more confident approach to hearing impaired patients (77.9% rating ≥ 5 points) along with a personal benefit (88.4% rating ≥ 5 points) after taken part in deaf awareness training. Moreover, students’ learning outcomes increased and were able to transfer their knowledge about treating deaf or hard of hearing patients to other disability groups. For example, participants improved significantly in all evaluated items concerning their knowledge and competence. The researchers therefore concluded that the inclusion of deaf awareness training in the undergraduate medical curriculum is therefore crucial and should strongly be considered by all medical schools to prepare medical schools to provide healthcare for Deaf patients.

Hankins (2015) examined the personal experiences of hearing people in their interactions with Deaf persons and their knowledge about Deaf culture. The study was conducted with 582 undergraduates at the University of Mississippi. On the issue of participants knowledge about Deaf Culture and how to interact with the Deaf, findings from the study revealed that majority of participants (79.44%; n=456) had not previously heard of the term "Deaf culture." Also, majority of participants did not consider Deaf people to be members of a distinct culture (n=403; 69.84%). While most participants held the view that a culture possesses folk traditions, language, history, social norms, and values and beliefs, they did not believe that Deaf culture shared most of these things. Most participants believed that Deaf culture shared language and social norms, but not other aspects of a culture. It was evident from the study that majority of participants had never been to a training session about Deaf culture or how to interact with the Deaf (n=525; 90.67%); were not familiar in ASL or another national sign language (n=538; 93.08%); and had never taken an ASL course (n=507; 87.72%).

### 2.4.2 Knowledge about the Health needs of Deaf Patients

Deafness as a prevalent problem around the world, remarkably influences the quality of life in Deaf individuals. For example, deafness has been found to be strongly associated with substance use disorders, especially prescription opioid use disorders among those under 50 (McKee, Meade, Zazove, Stewart, Jannausch, & Ilgen, 2019). Brown, Hughes-Bell & McDuffie (2015) opined that patients who are deaf must be considered vulnerable people who are at risk of being underserved by the medical professionals. This is because Deaf people's limited access to the auditory and

language environment constitutes a major impediment to the development of their lifelong health literacy and outcomes (Hall, Smith, Sutter, DeWindt, & Dye, 2018).

Again, research has shown health disparities and adverse outcomes that exist among Deaf people are related to communication barriers and the lack of knowledge and skill of health care providers to competently address the needs of culturally Deaf clients (Barnett, McKee, Smith, & Pearson, 2011; Lewis & Keele, 2020; Simasiku & Nghitanwa, 2017). Hoang et al. (2011) noted that research findings have shown that the Deaf population experiences barriers to the acquisition of health information and care. For example, Souza, Araujo, Sandes, Freitas, Soares, Vianna, & Sousa (2017) in their review and analysis of literature regarding the difficulties of Deaf patients in accessing healthcare reported a limited knowledge of the health and disease process by the Deaf individuals. The researchers attributed this to the marginalization of Deaf individuals in the campaigns and preventive orientations, and lack of access to health education information. Also, David, Searls, & Peterson (n.d.) stated that nurses are often unaware of the healthcare wants and needs of Deaf patients during clinical encounters and meaningful training in cultural awareness and nursing care provided to Deaf is lacking in most nursing education programmes. This is because, healthcare professionals may not consider the impact of impairments when they provide healthcare to persons with disabilities (United Nations, 2018).

Barbosa et al. (2013) as cited in Sanju et al. (2018) assessed the knowledge regarding hearing loss among paediatric nurses after the provision of educational interventions for the nurses. Results from the study indicated that there was a significant change among the nurses after the educational actions in most of the variables such as the

ideal age to detect and diagnose an infant with hearing loss provided with adequate intervention options. Similarly, Sanju et al. (2018) again cited a study by Chapmann and Burchfield (2008). The study reported that majority of the nurses have inadequate training and knowledge regarding the healthcare needs of Deaf individuals. The study suggested that there is the need to provide additional training with respect to deafness and care regarding hearing aids among nurses.

Inadequate training is associated with inappropriate assessments and clinician bias that may affect mental health outcomes for individuals who are Deaf (Glickman, 2007; Steinberg, 2006, cited in Weiss, 2016). Bat-Chava (2002) investigated rehabilitation counsellors' knowledge about hearing loss, and the use of assistive technology for the Deaf. Findings from the study indicated that many graduate programmes did not prepare rehabilitation counsellors with competent skills needed to work with Deaf and hard of hearing patients. For example, use of speech and oral language, residual hearing, and use assistive technology such as hearing aids (cited in Weiss 2016). Again, a study by Greene and Scott's (2021) found that medical students were significantly less knowledgeable about Deaf individuals' preferred terms, the complexity of American Sign Language, and that a cochlear implant does not enable a Deaf individual to understand like a hearing person.

Similar barriers to incidental and direct learning opportunities also occur in other settings, especially in healthcare settings for Deaf individuals, further impacting their health literacy and health knowledge (McKee, Moreland, Atcherson, & Zazove, 2015). Naseribooriabadi, Sadoughi & Sheikhtaheri (2017) literature on the barriers and facilitators of health literacy among Deaf Individuals and reported that meeting

Deaf individuals' health needs and promoting their health status involve increasing incidental health learning situations, providing sign language interpreter services, developing deaf educational programmes, and training healthcare professionals about deaf individuals' health needs. Also, Naseribooriabadi et al. (2017) further argued that most healthcare professionals are not often aware of inadequate literacy among patients causing them to overestimate the patients' knowledge of medical conditions, disease prevention, and existing therapeutic options. According to the Sustainable Development Goal 3 (SDG), healthcare professionals may not consider the impact of impairments when providing healthcare to persons with disabilities (UN, 2018). Therefore, healthcare professionals may not make appropriate health educational advice during medical encounters with patients who are deaf.

### 2.4.3 Knowledge in Communicating with the Deaf

According to World Federation of the Deaf (2016), Deaf people are often deprived of their rights to access information and communications due to poor accessibility, and lack of information in sign languages, even though they have a right to be acknowledged as a culture with their own language. Therefore, denying Deaf the access to sign language is a violation of their human rights (Eckert & Rowley, 2013). Healthcare professionals who use sign language or sign language interpreters are important for understanding deaf patients' needs (Mauffrey, Berger, & Hartemann, 2016).

Adib-Hajbaghery and Rezaei-Shahsavarloo (2014) conducted a cross-sectional survey of Iranian nursing and midwifery students' competencies in communication with patients with hearing and speech impairment. The study population comprised all

final year nursing and midwifery students from the Kashan University of Medical Sciences, Iran, in 2013. The study utilised a census approach to select participants. The researchers collected data about participants using questionnaire and two checklists. Differences in knowledge and skills scores of the different groups of the participants were determined using t-test. The researchers used Fisher's exact test to compare the levels of knowledge and skills of the different groups of the participants. Out of the 93 participants, 71 (76.3%) were nursing students and 22 (23.7%) were midwifery students.

The study discovered that most participants had low knowledge and skills need to communicate with patients with communication problems. This is because, from the study, only 2.2% of participants had been trained to communicate with the Deaf. Again, more than 90% participants showed a low or very low skill in communication with patients who are Deaf. Findings from the study further revealed that, nursing and midwifery students were not significantly different with respect to communicating with patients who are Deaf. From the study, the mean score of knowledge obtained by nursing students was 4.41 ± 1.42 and that of midwifery students was 4.77 ± 1.77, while the mean score of nursing student's ability to communicate with Deaf patients was 13.23 ± 4.68 and 11.86 ± 5.55 for midwifery students. The study concluded that nursing and midwifery students had poor knowledge and skills to effectively communicate with patients who were Deaf. They associated the problem to the content of the nursing and midwifery curricula. The researchers suggested the inclusion of sign language course in the nursing and midwifery education system to prepare competent nurses for the common issues they would face in practice.

In a similar study, Adib-Hajbaghery and Rezaei-Shahsavarloo (2015) researched into nursing students' knowledge and performance in communicating with Deaf patients in the city of Kashan, Iran. The cross-sectional study was conducted on all senior nursing students in a nursing school in Iran in 2013. The researchers employed convenience sampling method to select all final year nursing students studying in a nursing school at the centre of Iran. Of the 74 students, 3 were excluded from the study due to lack of consent, and finally 71 students were enrolled. The researchers collected data using questionnaire. The study analysed data using SPSS version 11.5 (SPSS, Chicago, IL, USA). Results from the study reported that no student had the ability to use Persian sign language. Only 2.9% of the students were trained in communicating with patients with hearing impairment. None of the students had a very good level of knowledge and performance in communicating with a patient with hearing impairment. For instance, 61.5% of the students had low to very low levels of knowledge and 87.3% had weak to very weak performance in communicating with patients with hearing impairment. A directly significant correlation was observed between the mean score of knowledge and performance of the students in communicating with patients with hearing impairment (P=0.004, r=0.34). The researchers concluded that nursing students have very poor performance in communicating with Deaf patients.

Additionally, Ljubicic et al. (2017) investigated the communication that exit between nurses and Deaf patients in some health institutions in Croatia. From the study 65% of the nurses revealed that the problem of communication is strongly noticeable immediately when the Deaf arrived in the health facility to seek medical care. Regarding the understanding of messages conveyed by the nurses, 40% of nurses

reported that deaf people have difficulties in understanding the messages. The study showed that nurses mostly communicate with Deaf people by showing and writing. For example, the study discovered that 87.5% of nurses communicated with deaf person by writing. It was evident from the study that communication between nurses and deaf people is difficult, so they need more time for the application of nursing intervention. For instance, 47.5% of participants requested additional time to understand what the Deaf communicated.

The study further indicated that 30% of the participants had no interest for the issues that concern the deaf while 17.5% lacked patience in communicating with the deaf. Nevertheless, 67.5% of the participants expressed interest to attend a course in sign language with 95% of participants expressing the need to have an interpreter in a health institution. The study showed no significant difference in age (p=0.103), sex (p=0.473), education (p=0.901) and the length of service (p=0.062). Ljubicic et al. (2017) concluded that nurses communicate with Deaf patients by mostly showing and writing but cannot clearly assess if the deaf people have understood their message. This clearly shows the existence of difficulties in the communication between the nurses and the Deaf. The researchers recommended the need for nurses to acquire knowledge of sign language in their training institutions. Also, there should be an interpreter in a health institution to aid in effective communication.

Furthermore, Simasiku and Nghitanwa (2017) conducted a study to explore the experience of registered nurses on communication with Deaf patients at Katutura State Hospital, Namibia. The researchers adopted qualitative study design using face to face interview to collect data about participants. Sample comprised of ten

registered nurses of which two males and eight females were selected purposively. The researchers employed interview guide to collect data about participants. Data were analysed using thematic analysis. The study established a gap in communication between nurses and Deaf patients. For instance, participants expressed difficulties in communication with Deaf patients and mostly worried of poor communication which could lead to misdiagnosis, delayed treatment, or poor healthcare delivery. Again, participants reported that due to lack of sign language skills they are not able to communicate with Deaf patients. Some of the participants revealed difficulty in communicating with the Deaf as they did not receive any sign language training during their basic nursing training or through in-service education. The study concluded that registered nurses lack sign language skills hence their communication with Deaf patients at the health facility is a challenged.

Orrie and Motsohi (2018) undertook a descriptive case study in Cape Town, South Africa where the challenges experienced by healthcare workers in managing patients with deafness a healthcare setting was investigated. Data were collected using semi-structured interviews and focus-group discussions. The researchers used convenience sampling technique to select participants for the study. Orrie and Motsohi (2018) reported the existence of communication gap among Deaf patients and healthcare professionals. However, the researchers maintained that communication barriers were not a challenge in the provision of healthcare.

### 2.4.4 Preparedness to provide healthcare to Deaf Patients

Velonaki et al. (2015) investigated Greek nurses' knowledge, attitudes, and practices toward the Deaf as well as the factors that influence these parameters in Attica,

Greece. The study reported that 79.4% of the participants cared for Deaf patients, answered the questions practices and feelings related to caring for Deaf patients. Five participants (2.9%) stated they avoided caring for Deaf patients. However, participants' feelings concerning their previous experience of caring for Deaf patients were generally positive, with a median value of 17 (range: 10-20). With respect to the attitudes-interest questionnaire, Velonaki et al. found that, almost half of the participants (49.2%) would like to care for some Deaf patients' whiles only 5.3% prefer Deaf patients to be in separate rooms from hearing patients. Also, the study revealed that majority of the participants expressed willingness to attend an educational programme on caring for Deaf people. Though, 26.6% of participants expressed interest in attending educational programs on Deaf culture, and 38.2% willing to attend if the programme fitted their schedule, 28.9% of the participants did not have enough free time, whiles 6.4% was not interested to attend any educational programmes on Deaf culture. However, 87.7% of participants believed that educating more healthcare professionals on caring for Deaf patients is not a waste of time.

With respect to the self-efficacy questionnaire, the study reported that about half of the 172 participants (50.6%), answered the relevant question, and felt ‘‘very’’ able or able ‘‘enough’’ to care for a Deaf patient. Hence, self-efficacy for caring for Deaf patients was found to be statistically significantly positively correlated with previous contact with Deaf people and positivity of feelings from caring for Deaf patients. In addition, Velonaki et al. found that majority (55.8%) of the participants believed that they were not at all or only partially able to understand Deaf patients or to be understood by them (61.6%). This shows that participants who rarely avoided caring for Deaf patients had a statistically significantly lower mean score of self-efficacies

for caring for Deaf patients (7.2 60.45) than those who had never avoided caring for a Deaf patient (9.4 62.01). However, no correlation was found between the Knowledge score and the self-efficacy score. The study further revealed that no significant correlation was found between the Attitude score and the participants' self-efficacy for caring for Deaf patients, the Knowledge score, previous education on deafness or previous contact with Deaf people. Velonaki et al. recommended for the inclusion of appropriate educational programmes, such as contact with Deaf people, which could contribute to the improvement of nurses' knowledge and behaviour toward Deaf people.

Moreover, Dos Santos et al. (2021) focused their study on the aspects of healthcare for hearing-impaired individuals based on the assessment of nurses working in family healthcare units in the state of Rio de Janeiro, Brazil. The study population was composed of 53 individuals. A convenience sample technique was used to select 37 nurses, of which 21 were student nurses enrolled in the Specialization Course in Nursing in Family Health, in the Residence Modality and 16 were nurses that had graduated from the programme participated in the study. An online questionnaire prepared with open and closed questions was used to collect data for the study. It was observed from the study that 62.16% of the participants have worked with a patient with hearing loss. Regarding the care provided by nurses to patients with deafness, only 4.35% of the nurses stated they had no difficulties in providing healthcare activities.

Concerning the nurses' self-assessment on the care provided to persons with hearing loss, it was observed that 27% of the participants reported that they were totally

unprepared for this type of care, despite being in the process of finishing the residency. The remaining 73% of the participants stated they were partially prepared for this care, but this preparedness was often a result of personal experience with deaf friends and family members, and taking specific courses was a reality observed in only 21% of the sample. It is also noteworthy that only 16% of participants mentioned the residency programme as a resource for training in the care of people with hearing loss. Dos Santos et al. (2021) concluded that the healthcare delivered to persons with deafness by nurses is inefficient, evidencing mainly the lack of professional training and a shortage of human and material resources for providing this care, as a large portion of student and graduate nurses perceive that they do not feel able to provide this assistance.

Furthermore, Pauley (2022) investigated the implementation of an education module for Doctor of Nursing Practice (DNP) student nurses regarding the Deaf community and appropriate communication strategies to use with Deaf patients in the clinical setting. The study took place at the Midwestern University's College of Nursing, United States. A purposive sample of 38 out of the 44 Intensive enrolled DNP graduate students completed a pre-and post-education survey. The study assessed students' Deaf perceptions and evaluated students' knowledge by utilising Lewis and Keele's (2020) D/deaf and Hard of Hearing Interaction Beliefs Scale for Registered Nurses and a modified version of Greene and Scott's (2021) and Ruesch's (2018) published instruments respectfully.

Findings from the study showed that 20 student nurses had prior experience with a Deaf individual (n=20; 52.6%). Only six participants previously received education

about the D/deaf community (n=6; 15.8%). With respects to the pre-education survey, student nurses scored between a 42.1% - 94.7% on the pre-education knowledge assessment portion, with a mean knowledge score of 71% (SD=11.9). A mean test score of less than 75% was established as the benchmark for needing an educational intervention in Ruesch's descriptive study (2018). Also, participants achieved between a 47.4%-100% on the post-education knowledge assessment portion, with a mean knowledge score of 80.9% (SD=14.7). Finally, Pauley (2022) revealed that, the student nurses scored significantly higher on both the post-education (M=133.47; SD=11.46) and knowledge assessment (M=82.3; SD=14.1) after completing the module. The study concluded that healthcare professionals rarely receive Deaf-focused education in their training, which results in a higher percentage of healthcare providers who are not knowledgeable and incompetent to effectively provide care to Deaf individuals. Therefore, healthcare providers including future nurses must graduate from programs that provide Deaf education in their curriculum.

In another study, Machado et al. (2013) investigated how nurses at the Gafree and Guinle University Hospital at the Federal University of Rio de Janeiro State, Brazil, interact with Deaf patients. The study revealed that only 16 (43%) participants reported having provided care for a deaf patient, while 21 (57%) reported never having provided care to deaf patients. Another finding from the study showed that nurses were uncertain in providing healthcare to deaf patients. This is because the nurses' lacked skills in conveying information about the patient's health, inadequate training during the academic career, and even lacked experience in caring for Deaf patients.

Early identification of children with disabilities is a primary responsibility of paediatricians and other healthcare professionals who care for infants. Children who are deaf or hard of hearing face a potential developmental emergency if they do not receive fully accessible language exposure during the critical period of development, ages birth to 5 years (American Academy of Pediatrics, 2020). According to Minnesota Department of Health (2018), one of the goals of early intervention is to enhance the development of children and babies. A primary strategy is to assist families in supporting their child in development and learning. Therefore, providing comprehensive information and resources early will help families make appropriate decisions for communication, health, and education for their child who is being diagnosed of deafness.

Again, children who receive intervention very early in their developmental years are more likely to have language scores that more closely match their cognitive abilities (Yoshinaga-Itano, et al., 1998, cited in Minnesota Department of Health, 2018). In the United States, the Joint Committee on Infant Hearing (JCIH) in 2007 policy statement emphasized the important role that paediatricians and other healthcare professionals play in the process of early hearing disability detection and intervention. The statement includes a recommendation that "every infant with a confirmed hearing loss should have an evaluation by an ophthalmologist to document visual acuity and rule out concomitant or late onset vision disorders" (p. 908).

## 2.10 Summary of Literature Review

This chapter reviewed related literature on the knowledge and preparedness of student nurses to provide healthcare to Deaf patients based on the research questions. Critical Disability Theory formed the theoretical framework of the study. The literature reviewed for this study started with the theoretical framework which informed the entry point of perspectives that underline healthcare provision as a human rights issue as enshrined in Article 25 of the Convention on the Rights of Persons with Disabilities. The conceptual review on the study focused on the global prevalence of deafness, Deaf culture and legal provisions for Persons with Disabilities and healthcare. The literature review highlighted a significant existence of individuals who are Deaf that share a common language, values, traditions, norms, and identity. Again, the literature revealed policies and laws globally that sought to protect the rights of Persons with Disabilities to be provided with safe and quality healthcare.

The study also empirically reviewed literature on health professionals/student nurses' knowledge about Deaf culture, knowledge about the health needs of Deaf patients, competency to communicate with the Deaf, and preparedness to provide healthcare to Deaf patients. It was evident from the literature that student nurses' (healthcare professionals) lacks the knowledge and understanding of the Deaf culture and do not accommodate cultural and linguistic requirements in the healthcare settings. Again, the literature revealed that student nurses were not adequately prepared to provide healthcare to Deaf persons. Generally, majority of the literature reviewed focused on nurses, medical doctors, and other healthcare professionals, even though some studies have been conducted on student nurses with respect to communicating with the Deaf. However, in the Ghanaian context, no study was be found from the literature

especially on the level of knowledge and readiness of student nurses to be able to provide healthcare to Deaf patients after they graduate from school, thus, presenting a gap which this study sought to fill.

# CHAPTER THREE

# METHODOLOGY

## 3.0 Introduction

This chapter presents the methodology for the study. The areas covered by this chapter are the research approach, research design, population, sample size, sampling techniques, instrumentation, validity and reliability of the instruments, procedure for data collection method of data analysis and ethical consideration.

## 3.1 Research Approach

The study employed the quantitative research approach to investigate the level of knowledge and preparedness of student nurses to provide healthcare to Deaf patients. Williams (2011) stated that quantitative research involves the collection of data so that information can be quantified and subjected to statistical treatment to support or refute alternative knowledge claims. Similarly, Bryman and Bell (2011) remarked that quantitative research approach adopts mathematical and statistical methods in collecting and analysing data. The intent of quantitative research is mainly to confirm and validate relationships, and to develop generalizations that contribute to theory (Babbie, 2005; Leedy & Ormrod, 2005).

Hence quantitative studies are critical in the selection of methods that allow for objective measurement of variables of interest (Creswell & Creswell, 2018). These variables may be independent or dependent variables. Independent variables, also known as treatment, manipulated, antecedent, or predictor variables are the variables that cause, influence, or affect outcomes. Dependent variables which are also referred

to as criterion, outcome, or effect variables, they are the variables that are dependent on the independent variables (Creswell & Creswell, 2018).

There are several reasons for which the researcher adopted the quantitative approach to research. One of these is the fact that the researcher is detached from the research participants, to ensure that the conclusions drawn from the study are unbiased (Leedy & Ormrod, 2005). Also, in quantitative studies, researchers collect data which is specifically related to the variables of interest to the study, and specific procedures of measuring each variable are identified, developed, and standardized, with attention to the validity and reliability of the measurement instruments (Creswell, 2012).

Again, quantitative research makes room for high representativeness of the entire population in the study, thereby enhancing the ability to generalize findings (Queiros, Faria, & Almeida, 2017). Another strength of quantitative studies is that there is a high level of objectivity in the analysis of the data due to the use of predetermined statistical procedures and objective criteria to evaluate the outcomes of the procedures. Furthermore, quantitative research allows the researcher collect data so that information can be quantified and subjected to statistical treatment to support or refute alternative knowledge claims (Williams, 2011). Hence, findings from quantitative research are presented with several summarizing statistics such as means, medians and correlations, which make it easier to describe and report the results of the study (Creswell, 2014; McMillan & Schumacher, 2010).

However, limitations of the quantitative approach to research have been outlined and presented as justifications against its usage. These include the low return rate of questionnaires (Leeuw & Berzelak, 2016), as well as the overdependence on

respondents in ensuring the accuracy and reliability of the data (Queiros, et al, 2017). Nonetheless, this study adopted the quantitative approach to research because this approach provided a framework within which the knowledge and preparedness of student nurses to provide healthcare to Deaf patients could be investigated. Again, the quantitative approach was adopted because it allowed for greater objectivity and accuracy of results, which supported generalizations about the phenomenon under study (Singh, 2007).

### 3.2 Research Design

The study adopted the descriptive survey design to investigate the knowledge and preparedness of nursing students in the Tepa Nursing and Midwifery Training College to provide healthcare to Deaf patients after they have graduated from school. Creswell (2012) explained descriptive survey as a design which portrays accurately the characteristics of individuals situations or groups and enables the researcher to make use of questionnaires to obtain information from respondents for the study. According to McMillan and Schumacher (2010) and Creswell (2014), a descriptive survey design is one of the most appropriate methods for obtaining factual or attitudinal information or, for research questions based on self-reported beliefs, values, motives, ideas, habits, feelings, desires, characteristics and present or past behaviour.

Gay, Mills, & Airasian (2009) cited in Hayford, Avoke, & Ocansey (2019) described survey research as involving collecting data to test hypotheses or to answer questions about people's opinions on some topic or issue. The design assumed that the participants in this study have information that bear on the problem being investigated. The researcher adopted a descriptive survey design because, it described

the opinions, feelings, values, beliefs, and attitudes of student nurses in Tepa Nursing and Midwifery Training College about the Deaf.

### 3.3 Population

Hayford (2013) defined target population as a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we tend to generalize the results of the research. The study was conducted in Tepa Nursing and Midwifery Training College in the Ashanti region of Ghana. The target population of the study included all diploma student nurses in the college. The target population of the study was 332 student nurses.

**Table 3.1: Population distribution of diploma student nurses in Tepa Nursing and Midwifery Training College**

| Year | Male | Female | Total |
|---|---|---|---|
| Year 1 | 40 | 75 | 115 |
| Year 2 | 36 | 71 | 107 |
| Year 3 | 42 | 68 | 110 |
| **Total** | **118** | **214** | **332** |

**Source**: Fieldwork Data (2022)

Table 3.1 shows that out of the 332 student nurses' population, first year student nurses were 115. Out of this 40 were males and 75 were females. A total of 107 students were in year 2 and they were made up of 36 males and 71 females. Again, a total of 110 students were in year 3 and they were made up of 42 males and 68 females. From the table, year 1 had the highest number of student nurses.

### 3.4 Sample Size

The sample size employed in this study was 110 final year student nurses from the Tepa Nursing and Midwifery Training College.

### 3.5 Sampling Technique

Sampling refers to the process whereby a researcher selects a specific subset of a population to make inference about the nature of the total population (Marshall & Rossman, 2014). Purposive sampling technique was used to select third (final) year diploma student nurses as the target population. Hayford (2013) noted that the purpose of sampling is to deliberately select a group of participants who will provide specific information needed to address the questions raised in a study. Again, purposive sampling is 'used to select respondents that are most likely to yield appropriate and useful information' (Kelly, 2010, p. 317) and is a way of identifying and selecting cases that will use limited research resources effectively Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters, & Walker, 2020).

The reason for adopting a purposive technique assumed that given the aims and objectives of the study, specific kinds of people may hold different and important views about the ideas and issues in question and therefore need to be included in the sample (Robinson, 2014). Therefore, purposive sampling technique was employed to

attain a thorough data from participants who were experienced both theoretically and practically in issues related to the provision of healthcare to the Deaf. Hence, the technique enabled the researcher to collect data from study participants who met the criteria for selecting participants for the study.

### 3.6 Inclusion Criteria

Being a final year diploma student nurse was the inclusion criteria. The researcher preferred students from the final year because they had stayed long enough in the college and might have had adequate theoretical and clinical exposure and experiences with respect to the objectives of the study. Hence, they could be in the best position to provide the information required for the study.

### 3.7 Research Instruments

The instrument for gathering data for the study was a questionnaire. The close-ended questionnaire for the study were created based on a review of the literature (Adib-Hajbaghery & Rezaei-Shahsavarloo, 2015; Cooper, Rose, & Mason, 2004; Hoang et al., 2011; Kruse et al., 2021; Lewis & Keele, 2020), the researcher's prior knowledge, and guidance from the supervisor. The questionnaire had 35 items and was grouped into two sections (A – B). Section 'A' was made up of two items and elicited responses about the demographic data of the respondents. Section 'B' consisted of 33 items and evaluated responses about respondents such as knowledge about Deaf culture, knowledge about the health needs of Deaf patients, knowledge in communicating with the Deaf, and preparedness to provide healthcare to the Deaf. The items in Section 'B' were crafted in a closed ended three-point Likert scale (disagree, not sure, and agree) (See Appendix "A").

### 3.8 Pilot Test of Instrument

Prior to the implementation of data collection instrument, a pilot study was conducted with a small number of participants. The pilot test was conducted in Goaso Nursing and Midwifery Training College with 25 student nurses in February 2022. Goaso Nursing and Midwifery Training College runs a three-year diploma nursing programme same as Tepa Nursing and Midwifery Training College. It is therefore assumed that student nurses from Goaso Nursing and Midwifery Training College may have similar characteristics as the student nurses of Tepa Nursing and Midwifery Training College.

The pilot test was conducted to check the validity and reliability of the test instrument. The pilot test assisted the researcher to identify and discard all unnecessary, difficult, or ambiguous questions, and provided the opportunity for the researcher to re-word or re-scale any question that would be answered wrongly (Kerlinger, 2004). For example, all deaf people should wear hearing aids, an item in research question 2 and most deaf people would like to hear, an item in research question 3 were removed because they did not contribute to the reliability of coefficient of the study.

### 3.9 Validity of the Instruments

Creswell and Creswell (2018) asserted that content validity seeks to measure whether the items measure the content they were intended to measure. The researcher, therefore, designed the questionnaire items to cover the key themes raised in the research questions and a written format of the instrument items was shown to the researcher's supervisors for approval. The supervisor asked the researcher to reduce

the number of questions and aligned the test items with the research questions. These suggestions helped eliminate ambiguous questions. For example, an item in research question 3 which states that, Deaf people should arrange for interpreter services before seeking healthcare was seen as unnecessary as suggested by the supervisor. All other suggestions were incorporated into the questionnaire to ensure their suitability in measuring the attributes they are being assessed.

### 3.10 Reliability of the Instruments

Internal consistency test was run on the questionnaires (knowledge about Deaf culture, knowledge about the health needs of Deaf patients, knowledge in communicating with the Deaf, and preparedness to provide healthcare to Deaf patients) by means of Cronbach's Alpha statistics using the SPSS Version 29.0 (IBM SPSS, 29.0). Knowledge about Deaf culture questionnaire yielded a Cronbach's Alpha value of 0.783, while knowledge about the health needs of Deaf patients was 0.864. Also, knowledge in communicating with the Deaf had a Cronbach's Alpha value of 0.793 and preparedness to provide healthcare also produced a Cronbach's Alpha value of 0.771. Cronbach's alpha values vary depending upon the number of items in a scale, but a positive Cronbach's alpha value above 0.70 is considered acceptable (Battaglia, 2011; Pallant, 2013). The reliability statistics of each sub-section on section 'B' of the questionnaire from the pilot test is showed in Appendix "B".

### 3.11 Procedure for Data Collection

The researcher obtained an introductory letter from the Department of Special Education, University of Education, Winneba stating the aims and purpose of the study and the need for the participants to be given their consent and co-operation (See Appendix C). The letter was presented personally to the Principal of Tepa Nursing Training College in the Ashanti region for permission. After the Principal had agreed, she informed the academic coordinator for the nursing programme about the intentions to involve the students in the study. The researcher then met with the students and explained the purpose of the study to them. The researcher sought the consent of the participants and assured them of their privacy and confidentiality.

This is necessary for research ethics because, permission and assurance of security raise respondents' cooperation to provide data (Creswell, 2014). The date and time of the data collection was agreed upon between the researcher and the respondents. The questionnaire was personally administered to the respondents in the study. They were given one week to fill the questionnaire as was agreed upon between them and the researcher. When the time was due, the researcher went back as agreed upon and collected the data.

### 3.12 Data Analysis

The Statistical Package for Social Sciences version 29.0 (IBM SPSS, 29.0) was used to analyse the data descriptively into frequencies, percentages, mean, and standard deviation presented in the form of tables. Data from the demographic questions were analysed using frequencies and percentage and were presented in tables. Questions on Section 'B' of the questionnaire was in the form of disagree, not sure, and agree.

1=disagree, 2=not sure and 3=agree. The researcher used descriptive statistics to determine the frequencies, percentages, mean and standard deviation scores for each response.

### 3.13 Ethical Considerations

In research, it is important that ethical considerations be given due attention. The researcher took due cognizance of ethical responsibility in the collection and analysis of data, and the reporting of the information. Consent of participants were sought before the questionnaires were administered. Participants were personally informed of the purpose and the procedures involved in collecting the data for the study by the researcher before the study was conducted. The researcher gave anonymity to participants by not requiring them to indicate their names on the questionnaire.

# CHAPTER FOUR

# PRESENTATION OF RESULTS/FINDINGS

## 4.0 Introduction

This chapter presents the results and findings of the study, and it is interpreted to reflect the research questions and objectives. The purpose of this study was to investigate the knowledge and preparedness of nursing students in Tepa Nursing and Midwifery Training College in Ghana to provide healthcare to Deaf patients. Descriptive statistics (frequencies, percentages, mean and standard deviation) were employed based on the research questions.

## 4.1 Demographic Information of Respondents

Demographic data were collected to evaluate the background of the participants. The demographic characteristics of 110 respondents that were considered in the study included gender and age. Details of respondents' gender is presented in Table 4.1.

**Table 4.1: Gender of respondents**

| Gender | Frequency | Percentage (%) |
|---|---|---|
| Male | 42 | 38.2 |
| Female | 68 | 61.8 |
| **Total** | **110** | **100** |

**Source**: Fieldwork Data (2022)

From Table 4.1, majority of the respondents (n = 68; 61.8%) reported their gender as female, with 42 (38.2%) indicating their gender as male.

**Table 4.2: Age distribution of respondents**

| Age | Frequency | Percentage (%) |
|---|---|---|
| 16 – 20 | 18 | 16.4 |
| 21 – 25 | 58 | 52.7 |
| 26 – 30 | 27 | 24.5 |
| 30 + | 7 | 6.4 |
| **Total** | **110** | **100** |

**Source**: Fieldwork Data (2022)

Table 4.2 shows that the modal age group was 21-25 years (n=58; 52.7%) with the least represented age group 31 years and above (n=7; 6.4%). Also, 27 (24.5%) of the respondents were between the ages of 26 and 30 years whereas 18 of them representing 16.4% of the total participants were between the ages of 16 and 20 years.

### 4.2 Research Question 1

What level of knowledge do student nurses have about Deaf culture?

This research question sought to determine the level of knowledge that student nurses in the Tepa Nursing and Midwifery Training College in the Ashanti Region of Ghana have about Deaf Culture. Respondents were required to state their level of agreement or disagreement regarding their knowledge and awareness about Deaf Culture using a five-point Likert scale questionnaire; Disagree, Not Sure, and Agree. There were 9 items for the student nurses to respond. The researcher used descriptive statistics to determine the frequencies, percentages, mean and standard deviation scores for each response from a 9-item questionnaire. Analysis of the respondents' responses to these items are presented in Table 4.3.

**Table 4.3: Descriptive statistics of student nurses' level of knowledge on Deaf culture (n = 110)**

| Variable | Disagree f (%) | Not Sure f (%) | Agree f (%) | *M* | *SD* |
|---|---|---|---|---|---|
| 1. Deafness is a disorder that needs correcting | 10(9.1) | 6(5.5) | 94(85.5) | 2.76 | 0.61 |
| 2. Deaf people have their own culture. | 81(73.6) | 8(7.3) | 21(19.1) | 1.45 | 0.80 |
| 3. Deaf people have their own language. | 24(21.8) | 6(5.5) | 80(72.2) | 2.51 | 0.83 |
| 4. Identity, traditions, values, and norms are key aspects of Deaf culture. | 85(77.3) | 18(16.4) | 7(6.40) | 1.29 | 0.58 |
| 5. In Deaf culture, terms such as hearing impairment and disable are not accepted. | 65(59.1) | 11(10.0) | 34(30.9) | 1.72 | 0.91 |
| 6. Deaf culture is Important because it allows individuals to be who they are. | 72(65.5) | 13(11.8) | 25(22.7) | 1.57 | 0.84 |
| 7. Understanding Deaf culture is important when providing healthcare to the Deaf. | 71 (64.5) | 9 (8.20) | 30(27.3) | 1.63 | 0.89 |
| 8. Having regular exposure to the Deaf helps to know their needs. | 23(20.9) | 20(18.2) | 67(60.9) | 2.40 | 0.82 |
| 9. Having training on Deaf culture will develop a positive feeling towards the Deaf. | 66(60.0) | 8(7.30) | 36(32.7) | 1.73 | 0.93 |

**Source**: Results of SPSS Analysis (2022).
Key: f – Frequency, % - Percentage, M – Mean, SD – Standard Deviation

From Table 4.3, it emerged that a mean score of 2.76 and a standard deviation of 0.61 shows that majority of respondents held the view that Deafness is a disorder that needs to be corrected. Again, the statement that Deaf people have their own culture yielded a mean and a standard deviation of 1.45 and 0.8 respectively. This indicates that majority of the respondents did not believe that Deaf people have their own

culture. Moreover, with a mean score of 1.29 and a standard deviation of 0.51, most of the respondents reported that identity, traditions, values, and norms are not the key aspects of Deaf culture. Also, a mean of 2.40 with a standard deviation of 0.82 indicates that majority of the respondents reported that having regular exposure to the Deaf helps to know their needs.

**Table 4.3.1: Descriptive Statistics of average mean score of student nurses' level of knowledge on Deaf culture (n = 110)**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Average mean | 110 | 1.67 | 2.44 | 1.8960 | 0.21877 |
| Valid N (listwise) | 110 | | | | |

**Source:** Results of SPSS Analysis (2022).

Table 4.3.1 depicts the minimum mean score of 1.67 and the maximum mean score of 2.44 of student nurses' level of knowledge on Deaf culture. The average mean score of respondents' knowledge on Deaf culture 1.90 and a standard deviation of 0.22. This showed that respondents' have low level of knowledge on Deaf culture.

### 4.3: Research Question 2

What level of knowledge do student nurses in Tepa Nursing and Midwifery Training College have about the health needs of Deaf patients?

This research question sought to examine the level of knowledge of student nurses about the health needs of Deaf patients. Nursing students were required to state their level of agreement or disagreement regarding their level knowledge about the health needs of Deaf patients using a three-point Likert scale questionnaire; Disagree, Not

Sure, and Agree. There were 8 items for the nursing students to respond to. The researcher used descriptive statistics to determine the frequencies, percentages, mean and standard deviation scores for each response from the 8-item questionnaire. Students' responses to these items are presented in Table 4.4.

**Table 4.4: Descriptive statistics of student nurses' level of knowledge about the health needs of Deaf patients (n = 110)**

| Variable | Disagree f (%) | Not Sure f (%) | Agree f (%) | *M* | *SD* |
|---|---|---|---|---|---|
| 1. The nursing training programme included a lot of Deaf related issues. | 89(80.9) | 8(7.3) | 13(11.8) | 1.31 | 0.67 |
| 2. Cochlear implants enable the Deaf to have normal hearing. | 77(70.0) | 7(6.4) | 26(23.6) | 1.54 | 0.85 |
| 3. Children who are Deaf face a Potential developmental problems. | 81(73.6) | 7(6.4) | 22(20.0) | 1.46 | 0.81 |
| 4. Marginalising the Deaf in the campaigns and preventive orientations against diseases affects their health. | 22(20.0) | 10(9.1) | 78(70.9) | 2.51 | 0.81 |
| 5. Depriving the Deaf access to incidental information may increase their stress levels. | 85(77.3) | 7(6.4) | 18(16.4) | 1.39 | 0.76 |
| 6. Nurses should not understand only the disease, but also, the experience of living with disability. | 83(75.5) | 7(6.4) | 20(18.2) | 1.43 | 0.78 |
| 7. Vulnerable people who are at risk of being underserved by healthcare professionals include Deaf patients. | 77(70.0) | 8(7.3) | 25 (22.7) | 1.53 | 0.84 |
| 8. Children with a confirmed hearing loss should have an evaluation by an ophthalmologist. | 72(65.5) | 12(10.9) | 26(23.6) | 1.58 | 0.85 |

**Source**: Results of SPSS Analysis (2022).
Key: f – Frequency, % - Percentage, *M* – Mean, *SD* – Standard Deviation

From Table 4.4, the results showed that with a mean score of 1.31 and a standard deviation of 0.67, majority of the respondents disagreed that their nursing training programme included a lot of Deaf related issues. Also, the mean score of 1.46 and a

standard deviation of 0.81 indicated respondents' disagreement to the statement that children who are Deaf face potential developmental problems. The results further showed that with a mean score of 1.39 and a standard deviation of 0.76, majority of the respondents did not see the effects of depriving the Deaf access to incidental health information. Again, a mean score of 1.43 and a standard deviation of 0.78, is an indication that majority of the respondents were of the view that taking into consideration the experience of living with a disability when providing healthcare to the Deaf is not important.

**Table 4.4.1: Descriptive Statistics of average mean score of student nurses' level of knowledge about health needs of the Deaf (n = 110)**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Average mean | 110 | 1.25 | 2.75 | 1.5932 | 0.57180 |
| Valid N (listwise) | 110 | | | | |

**Source:** Results of SPSS Analysis (2022).

From Table 4.4.1 the analysis of student nurses' level of knowledge about health needs of the Deaf yielded a minimum mean of 1.25 and a maximum mean of 2.75. The average mean of respondents' level of knowledge about health needs of the Deaf was 1.59 and a standard deviation of 0.57. This is evident that respondents have a low level of knowledge about the health needs of the Deaf.

### 4.4: Research Question 3

How knowledgeable are student nurses in communicating with the Deaf using sign language?

In addressing the issue of student nurses' proficiency in communicating with Deaf patients using sign language, respondents were required indicate their responses on a three-point Likert scale questionnaire; Disagree, Not Sure, and Agree. The researcher used descriptive statistics to determine the frequencies, percentages, mean and standard deviation scores for each response from 8-item questionnaire. Respondents' responses to these items are presented in Table 4.5.

**Table 4.5: Descriptive statistics of student nurses' knowledge in communicating with Deaf patients (n = 110)**

| Variable | Disagree f (%) | Not Sure f (%) | Agree f (%) | *M* | *SD* |
|---|---|---|---|---|---|
| 1. The training gives me the opportunity to develop my sign language skills. | 102(93.6) | 5(4.5) | 3 (2.7) | 1.10 | 0.38 |
| 2. I have taken sign language course for a semester. | 5 (4.5) | 2(1.8) | 103(93.6) | 2.89 | 0.44 |
| 3. I communicate with the Deaf face to face using sign language. | 100(90.9) | 4(3.6) | 6 (5.5) | 1.15 | 0.49 |
| 4. I comfortably use sign language to communicate with the Deaf. | 98(89.1) | 9(8.2) | 3 (2.7) | 1.14 | 0.42 |
| 5. I use speech, written notes, speech reading, and gestures to communicate with the Deaf. | 13(11.8) | 6(5.5) | 91(82.7) | 2.71 | 0.67 |
| 6. I am willing to learn sign language. | 78(70.9) | 13(11.8) | 19(17.3) | 1.47 | 0.77 |
| 7. Denying the Deaf the access to sign language is a violation of their human rights | 94(85.5) | 7(6.4) | 9 (8.2) | 1.23 | 0.59 |
| 8. Communication impacts the quality of care in healthcare environments | 38(34.5) | 7(6.4) | 65(59.1) | 2.25 | 0.94 |

**Source**: Results of SPSS Analysis (2022).
Key: f – Frequency, % - Percentage, *M* – Mean, *SD* – Standard Deviation

Table 4.5 presents descriptive data on student nurses' proficiency in communicating with people who are Deaf. The results show that majority of the respondents were not adequately trained to communicate with sign language (M = 1.10; SD = 0.38). Additionally, the results showed that the respondents were not comfortable to use sign

language to communicate with the Deaf (M = 1.14; SD = 0.42). It was also revealed that majority of the respondents indicated that they would prefer to use speech, written notes, and gestures to communicate with the Deaf (M = 2.71; SD = 0.67). Again, most of the respondents with a mean score of 1.23 and a standard deviation of 0.59, disagreed that denying the Deaf the access to sign language is a violation of their human rights.

**Table 4.5.1: Descriptive Statistics of average mean score of student nurses' knowledge in communicating with Deaf (n = 110)**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Average mean | 110 | 1.50 | 2.25 | 1.7420 | .12474 |
| Valid N (listwise) | 110 | | | | |

**Source:** Results of SPSS Analysis (2022).

From Table 4.5.1 the minimum mean and the maximum mean of student nurses' knowledge in communicating with the Deaf using sign language were 1.50 and 2.25 respectively. The average mean score of respondents' proficiency in communicating with the Deaf using sign language was 1.74 and a standard deviation of 0.12. This indicates that student nurses' have poor level of knowledge in communicating with the Deaf using sign language.

### 4.6 Research Question 4

What level of preparedness do student nurses have to provide healthcare to Deaf patients?

In exploring the level of preparedness of student nurses in Tepa Nursing and Midwifery Training College to provide healthcare to Deaf patients, 8-item Likert scale questionnaire was designed to solicit opinions from participants. Table 4.6 illustrates the descriptive statistics (frequency, percentage, mean and standard deviation) of the responses to each question.

**Table 4.6: Descriptive statistics of student nurses' level of preparedness to provide healthcare to Deaf patients (n = 110).**

| Variable | Disagree f (%) | Not Sure f (%) | Agree f (%) | *M* | *SD* |
|---|---|---|---|---|---|
| 1.Attitudes affect the actions of nurses caring for patients with deafness. | 33(30.0) | 9(8.2) | 68(61.8) | 2.32 | 0.91 |
| 2. Deaf patients should be in the same ward with hearing patients. | 92(83.6) | 5(4.5) | 13(11.8) | 1.28 | 0.67 |
| 3. Deaf people have the right to healthcare | 18(16.4) | 16(14.5) | 76(69.1) | 2.53 | 0.76 |
| 4. I am aware of the referral resources for parents of a child that is newly diagnosed as deaf. | 81(73.6) | 18(16.4) | 11(10.0) | 1.36 | 0.66 |
| 5. Having a Deaf friend would be easy to cope with. | 83(75.5) | 17(15.5) | 10(9.1) | 1.34 | 0.64 |
| 6. I would like to see many Deaf patients coming to the health facilities to seek medical care. | 87(79.1) | 8(7.3) | 15(13.6) | 1.35 | 0.71 |
| 7. I am willing to provide healthcare to the Deaf | 78(70.9) | 5(4.5) | 27(24.8) | 1.54 | 0.86 |
| 8. I have provided healthcare to Deaf patients. | 90(81.8) | 6(5.5) | 14(12.7) | 1.31 | 0.69 |

**Source**: Results of SPSS Analysis (2022).

Key: f – Frequency, % - Percentage, *M* – Mean, *SD* – Standard Deviation

From Table 4.6, the statement that Deaf patients should be in the same ward with hearing patients yielded a mean of 1.28 and a standard deviation of 0.67. This shows that majority of respondents may have some negative perceptions about the Deaf. Moreover, the results showed that with a mean score of 2.53 and standard deviation of

0.76, the respondents agreed that Deaf people have the right to healthcare. Again, the study reported a mean and a standard deviation of 1.36 and 0.66 respectively. This showed that majority of the respondents were not aware of the referral resources for parents of a child that is newly diagnosed as deaf. In addition, majority of the respondents were not willing to provide healthcare to the Deaf (M = 1.54; SD = 0.86). This implies that student nurses' may be lacking the skills in conveying information about the patient's health and may be because of a lack of clinical experience on caring for Deaf patients in the nursing programme. Also, a mean score of 1.31 and a standard deviation of 0.69 indicates that a greater number of respondents have not provided healthcare to Deaf patients.

**Table 4.6.1: Descriptive Statistics of average mean score of student nurses' level of preparedness to provide healthcare to Deaf patients (n = 110).**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Average mean | 110 | 1.13 | 2.63 | 1.6273 | .35395 |
| Valid N (listwise) | 110 | | | | |

**Source:** Results of SPSS Analysis (2022).

Table 4.6.1 presents the minimum average mean score of 1.13 and the maximum average mean score of 2.63. The average mean score of student nurses' level of preparedness to provide healthcare to Deaf patients was 1.63 with a standard deviation of 0.35. This is an indication that the student nurses have a low level of preparedness to provide healthcare to Deaf patients.

# CHAPTER FIVE

# DISCUSSION OF FINDINGS

## 5.0 Introduction

In this chapter, significant findings on the knowledge and preparedness of student nurses to provide healthcare to patients with deafness are interpreted and discussed. The discussions highlight the major study findings based on the research questions.

## 5.1 Student nurses' level of knowledge about Deaf culture

Analysis of data on student nurses' level of knowledge about Deaf culture revealed that, Deafness is a disorder that needs to be corrected medically. This suggests that student nurses see deafness as a disability and not as a culture. This finding collaborates with Greene and Scott (2021) who argued that many healthcare professionals are trained in the traditional model, where they view deafness as a disability needing correction. Similarly, the finding is consistent with McKee, et al. (2013) who posited that healthcare professionals often view deafness as a deficit to be remedied, which frequently conflicts with Deaf patients' stance that their hearing loss is a cultural identity, not a disability. On the other hand, the finding contradicted the cultural model viewed point of deafness. The cultural model viewed deafness as entrance to a distinct community with its own values, practices, and, most importantly, language (Grady et al., 2018b; WebAIM, 2021). Therefore, the cultural model supports a concept that society should not label the Deaf as disabled (Holcomb, 2013; Padden et al., 2009). In line with the critical disability theory, student nurses should not view deafness based on the biomedical model of disability, but rather as a

human rights approach to disability that seeks for equal access to all aspects of social life including health (Gillies (2014).

Another finding from the study revealed that respondents did not believe that Deaf people have their own culture. This is an indication that student nurse may not appreciate the cultural needs of the Deaf when providing healthcare to them. The finding agreed with Hankins (2015) who researched into the personal experiences of hearing people in their interactions with Deaf persons and their knowledge about Deaf culture with 582 undergraduate students at the University of Mississippi in the USA. Hankins (2015) reported that students who are not deaf did not consider Deaf people to be members of a distinct culture. In contrast, Kung et al. (2021) undertook a descriptive study to evaluate medical students' knowledge about the Deaf culture and community at San Juan Bautista School of Medicine (SJBSM) in Puerto Rico. The study revealed that most medical students were aware of the existence of the Deaf culture.

Again, from the study it was reported that identity, traditions, values, and norms are not the key aspects of Deaf culture. The finding suggests that student nurses may have limited understanding of the socio-cultural components of Deaf individuals. As future nurses, this may affect their decision when providing healthcare to the Deaf. This suggestion is in line with the conclusion made by Mprah (2013) who recognized that health professionals' ignorance about the socio-cultural conditions of deafness was a factor which hindered effective interaction, and thereby creates barriers for Deaf people in their quest to seek healthcare from the healthcare professionals. The finding opposed to the opinion that Deaf cultural identity can be seen in all five sociological

criteria for defining a culture: namely language, values, traditions, norms, and identity (Deaf Culture Centre, 2022).

Furthermore, the findings showed that having regular exposure to the Deaf helps to know their needs. This indicated that student nurses understand the need to socially interact with the Deaf in their communities. Social interactions with the Deaf helps to develop a positive attitude towards the Deaf and understand the Deaf and their needs when providing healthcare to them. The finding confirmed opinion of Gilmore et al. (2019). The researchers argued that to understand the Deaf, one needs to become Deaf. They further explained that without encountering the Deaf, it would be difficult to truly understand the issues facing them in the society.

Finally, and average mean score 1.90 showed that student nurses have low level of knowledge on Deaf culture. This could negatively affect the quality of healthcare student nurses will provide for patients with deafness after graduating from school. For example, Kruse et al. (2021) argued that the lack of knowledge about Deaf culture among healthcare professionals may interfere with building a trusting relationship and cause fear, mistrust, and frustration in the healthcare facility. The conclusion of this study supports the opinion of Diaz & Goyal (2021). The researchers noted that nurses are not adequately taught on issues concerning the Deaf, hence, lack the understanding of the Deaf culture and do not accommodate cultural and linguistic requirements since they are not adequately taught in the nursing training schools. Similarly, Velonaki et al. (2015) in a study to investigate nurses' knowledge, attitudes, and practices toward the Deaf, reported that nurses have an overall poor knowledge and education about issues concerning the Deaf.

**5.2 Student nurses' knowledge about the health needs of Deaf patients.**

The analysis of questionnaire data on student nurses' level of knowledge about the health needs of Deaf patients revealed that student nurses were of the view that their nursing training programme did not include disability-related issues. This is an indication that student nurses have limited Deaf awareness training as part of their nursing programme. Hence, student nurses are likely not to be aware of the causes of deafness, and some of the early interventions available for the Deaf. Therefore, student nurses may not understand the needs of the Deaf when providing healthcare for them. This finding is not consistent with Section 32 of the Persons with Disability Act (715) of the Republic of Ghana, which mandates the Ministry of Health to include the study of disability and disability related issues in the curricula of training institutions for health professionals to develop appropriate human resources to provide general and specialised healthcare. This is parallel with the opinion held by Lawson and Beckett (2021). The researchers maintained that the nature of the human rights approach to disability is prescriptive, rather than descriptive, in that it answers the question 'what should we do?' to advance social justice for persons with disabilities. Its answer is that we need to progress disability policy and law reform in line with human rights principles and obligations, as set out in the United Nations Convention on the Rights of Persons with Disabilities.

It is significant to note that, student nurses did not believe that children who have been diagnosed with deafness face a potential developmental problem. This shows that student nurses may lack the knowledge in providing safe and optimum healthcare to the Deaf. Oldland et al. (2020) was of the view that the quality of healthcare may be compromised if nurses are not aware of the breadth of their responsibilities, or do

not feel equipped to fulfil those responsibilities (Oldland et al., 2020). This finding disagrees with American Academy of Paediatrics (2020) who argued that children with deafness face a potential developmental emergency if they do not receive fully accessible language exposure during the critical period of development, which is ages birth to 5 years.

Also, the study revealed that student nurses were not aware that depriving the Deaf access of incidental health information may increase their stress levels. Therefore, student nurses may not see the importance of providing the Deaf access to incidental health information. This can lead the marginalization of Deaf individuals in the campaigns and preventive orientations of diseases, and lack of access to health education information. Hall et al. (2018) opined that Deaf people's limited access to the auditory and language environment constitutes a major impediment to the development of their lifelong health literacy and outcomes. This finding opposed to the claims made by Naseriboori abadi et al. (2017). The researchers in their conclusion noted that meeting deaf individuals' health needs and promoting their health status involve increasing incidental health learning situations, providing sign language interpreter services, developing deaf educational programmes, and training healthcare professionals about deaf individuals' health needs.

Another finding from the study indicated that when providing healthcare to Deaf patient, the focus should be on the medical aspects rather than considering the experience of the Deaf living with a disability. This finding agrees with the Sustainable Development Goal 3 (SDG) which reports that healthcare professionals may not consider the impact of impairments when providing healthcare to persons

with disabilities (UN, 2018). The indication is that student nurses may not consider the psychological aspect of Deaf patients when providing healthcare to them. Therefore, they would not be able to understand and appreciate the conditions associated with deafness. Such luck of knowledge exhibited by student nurses (future nurses) has the potential of causing dissatisfaction for Deaf individuals when they seek healthcare. However, if student nurses are aware of the importance of understand the experience of people living with disability, they may be able to provide quality healthcare to Deaf patients. This opinion is consistent with the assertion made by Gillies (2014) to explain the Critical Disability Theory. The researcher argued that the application and understanding of disability issues directly relate to the quality of life of persons with disabilities. Therefore, how disability is seen by people in the society ultimately affects the rights of persons with disabilities and the way they are treated in the society. From the study, a 1.59 mean score of student nurses' level of knowledge about health needs of the Deaf is an indication that student nurses' have low level of knowledge about health needs of the Deaf.

### 5.3 Student nurses' knowledge in communicating with the Deaf

The analysis of questionnaire data on student nurses' proficiency in communicating with people who are Deaf revealed that student nurses are not adequately trained to communicate with sign language, even though they acknowledged to have studied Ghanaian Sign Language as a course for a semester. This may be attributed to the limited number of semesters used for the teaching and training of student nurses on sign language at the Tepa Nursing and Midwifery Training College. As suggested by Leftridge (2022), the researcher contended that course content in nursing programs rarely touches on how to communicate effectively with Deaf patients.

This situation could create a communication gap among student nurses (future nurses) and Deaf patients at the healthcare facilities. The consequence is that student nurses may lack the skills to convey information about the health of patients who are Deaf which could lead to poor diagnosis that would affect the health of the Deaf. These findings support the views of Adib-Hajbaghery and Rezaei-Shahsavarloo (2014) who studied nursing and midwifery students' competencies in communicating with patients who have speech impairment in the Kashan University of Medical Sciences, Iran. Their study revealed that few of the participants had been trained to communicate with the Deaf. Therefore, student nurses had low knowledge and skills needed to communicate with patients who are Deaf. On the contrary, even though Orrie and Motsohi (2018) reported the existence of communication gap among Deaf patients and healthcare professionals in Cape Town, South Africa. However, the researchers maintained that communication barriers were not a challenge in the provision of healthcare.

Moreover, the study revealed that student nurses were not comfortable to use sign language. Hence, have not communicated with the Deaf face to face using sign language. This is an indication that student nurses have inadequate skills in using sign language, though they reported have learned sign language for a semester. This is because teaching sign language for a semester will not fully prepare the students to effectively communicate with the Deaf. The finding is consistent with the findings of Adib-Hajbaghery and Rezaei-Shahsavarloo (2015). The researchers in investigating student nurses' knowledge and performance in communicating with Deaf patients in the city of Kashan, Iran revealed that none of the students had a very good level of knowledge and performance in communicating with a patient with deafness.

Similarly, Alselai and Alrashed (2015) established that health professionals were deficient in sign language. They attributed this to the lack of adequate sign language instructions in their nursing schools, and training in the job on communication with Deaf patients. Also, findings from Simasiku and Nghitanwa (2017) showed that nurse's difficulty in communicating with the Deaf because of the limited sign language training during their basic nursing training programme or through in-service education.

Furthermore, the study reported that student nurses prefer to use speech, written notes, and gestures to communicate with the Deaf instead of using sign language. This implies that participants have inadequate knowledge in the usage of sign language. This could lead to misdiagnoses, mistreatment, and poor assessments on patients. The finding affirms the result of Hornakova and Hudakova (2013) who investigated into future healthcare professionals' methods use for effective communication with Deaf patients in the University of Presov, Slovakia. Respondents acknowledged using facial expressions and gestures in communication when providing healthcare to deaf patients. Similarly, Ljubicic et al. (2017) who studied the communication that exit between nurses and patients with deafness in some health institutions in Croatia revealed that nurses mostly communicate with deaf people by showing and writing but cannot clearly assess if the Deaf have understood their message.

It is wealth mention that student nurses were of the view that not providing the Deaf the access to sign language cannot be a violation of their human rights. Therefore, the study revealed that student nurses were not willing to learn sign language. These findings opposed to assertions made by Ljubicic et al. (2017). The researchers noted

that nurses showed interest to attend a course in sign language and expressed the need to have an interpreter in a health institution. Again, these findings conflicted the opinion of Eckert and Rowley (2013). In the researcher's opinion, denying Deaf the access to sign language is a violation of their human rights. World Federation of the Deaf (2016) maintained that Deaf people are often deprived of their rights to access information and communications due to poor accessibility, and lack of information in sign languages, even though they have a right to be acknowledged as a culture with their own language.

The object of the critical disability theory as argued by Oliver and Barnes (1993) cited in Gillies (2014) conflicts with the findings of this study. The researchers opined that critical disability theory is about a human rights approach to disability that seeks for equal access to all aspects of social life including health, communication, transportation, housing, education, and employment for persons with disabilities. Similarly, United Nations (2014) maintained that human rights approach to disability acknowledged persons with disabilities as subjects of rights that must be respected in the society. From the study, a 1.74 mean score of student nurses' knowledge in communicating with Deaf indicated that student nurses' have poor knowledge to effectively communicate with patients who are Deaf.

**5.4 Student nurses' level of preparedness to provide healthcare to Deaf patients.**

Findings from the study revealed that student nurses were of the view that Deaf patients should be accommodated in a separate ward from the hearing patients. This indicates that student nurses (future nurses) are likely to segregate Deaf patients from hearing patients in the health facilities when they seek healthcare. Therefore, student

nurses may have negative opinions and perceptions about the Deaf patients. This could negatively affect their decisions when providing healthcare to the Deaf. This result contradicts Velonaki et al. (2015) who indicated in their study that nurses were willing to accommodate Deaf patients in the same room with hearing patients in a healthcare facility.

Even though student nurses would prefer to accommodate Deaf patients in a separate ward from the hearing patients, the study further reported that people who are Deaf have the right to healthcare. This is an indication that student nurses believe that the Deaf should be provided with healthcare as it is done for all individuals. This finding supports the intention of Critical disability theory as stated by Oliver and Barnes (1993) cited in Gillies (2014). The researchers argued that critical disability theory is about a human rights approach to disability that seeks for equal access to all aspects of social life, including health for persons with disabilities. Similarly, the Standard Rules on the Equalization of Opportunities for Persons with Disabilities, Rule 2, emphasized the need by member countries to ensure the provision of healthcare services for persons with disabilities (UN, 1994). Also, Article 25 of the Convention on the Rights of Persons with Disabilities (CRPD) underscores the rights of persons with disabilities to access the highest attainable standard of healthcare without discrimination because of their conditions (United Nations, 2006).

Also, the result indicated that student nurses were not aware of the referral resources that are available for a child that is newly diagnosed as deaf. These findings indicated that student nurses have limited knowledge on the early intervention and referral resources for children who are deaf. Therefore, children who are deaf could be denied

the needed support that will improve their development by nurses. This indication supports the claims made by Minnesota Department of Health (2018). Minnesota Department of Health suggested that an important goal of early intervention is to enhance the development of children and babies. A primary strategy is to assist families in supporting their child in development and learning. Therefore, providing comprehensive information and resources early will help families make appropriate decisions for communication, health, and education for their child who is being diagnosed of deafness.

On the issues of student nurses' willingness to provide healthcare to the Deaf, respondents were not willing to provide healthcare to the Deaf. Hence, student nurses would not be happy to see many Deaf patients coming to the health facilities to seek healthcare. This implies that student nurses' may be lacking the skills in conveying information about the patient's health, inadequate training during the academic career, and even the lack of clinical experience on caring for deaf patients. The is consistent with the revelation reported by Dos Santos et al. (2021). The researchers noted that large portion of student and graduate nurses felt that they do not feel able to provide healthcare to patients with deafness. The researchers concluded that the healthcare delivered to persons with deafness by nurses is inefficient, evidencing mainly the lack of professional training and a shortage of human and material resources for providing this care. On the other hand, the finding contradicts Velonaki et al. (2015) who reported in their study that almost half of nurses were willing to provide care for Deaf patients.

It is important to note that student nurses reported not to have provided healthcare to Deaf patients. The finding is constant with Machado et al. (2013) who investigated how nurses at the Gafree and Guinle University Hospital at the Federal University of Rio de Janeiro State, Brazil, interacts with Deaf patients. The study revealed that majority of nurses reported to have never provided care to deaf patients. This finding contradicts the outcome of Dos Santos et al. (2021) who studied the aspects of healthcare for hearing-impaired individuals based on the assessment of nurses and student nurses working in family healthcare units in the state of Rio de Janeiro, Brazil. The study revealed that 62.16% of participants have worked with patients with hearing loss.

Overall, the study reported that student nurses have a low level of preparedness to provide healthcare to Deaf patients. This finding supports the revelation made by Dos Santos et al. (2021). The researchers revealed that concerning the nurses' self-assessment on the care provided to persons with deafness, it was observed that 27% of the student nurses enrolled in the Specialization Course in Nursing in Family Health reported that they were totally unprepared for this type of care, despite being in the process of finishing the residency. The researchers concluded that the healthcare delivered to persons with deafness by nurses is inefficient, evidencing mainly the lack of professional training and a shortage of human and material resources for providing this care, as a large portion of student and graduate nurses perceive that they do not feel able to provide this assistance. Again, finding by Machado et al. (2013) revealed that nurses were uncertain in providing healthcare to deaf patients. This according to Machado et al. (2013) is because, the nurses' lack skills in conveying information

about the patient's health, inadequate training during the academic career, and even the lack of experience on caring for deaf patients.

# CHAPTER SIX

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 6.0 Introduction

This chapter presents the summary of key findings, conclusions and recommendations on the study which sought to investigate the knowledge and preparedness of student nurses to provide healthcare to Deaf patients. The study was conducted in the Tepa Nursing and Midwifery Training College in the Ashanti Region of Ghana.

## 6.1 Summary of main findings

### Knowledge about Deaf culture

It emerged from the study that the average mean score of respondents' knowledge on Deaf culture was 1.90 with the minimum mean score of 1.67 and the maximum mean score of 2.44. This is an indication that majority of student nurses in the Tepa Nursing and Midwifery Training College have low level of knowledge on Deaf culture.

### Knowledge about the health needs of Deaf patients

The study reported the minimum mean score and the maximum mean score of 1.25 and 2.75 respectively. The average mean of respondents' level of knowledge about health needs of the Deaf was 1.59. This is evident that student nurses in the Tepa Nursing and Midwifery Training College have a low level of knowledge about the health needs of the Deaf.

### Knowledge to communicate with the Deaf

The study revealed a minimum mean score of 1.50 and a maximum mean of 2.25 on student nurses' knowledge in communicating with the Deaf using sign language.

Findings of the study revealed that the average mean score of respondents' proficiency in communicating with the Deaf using sign language was 1.74. This indicates that majority of student nurses in the Tepa Nursing and Midwifery Training College have poor level of knowledge to communicate with the Deaf using sign language.

**Preparedness to provide healthcare to Deaf patients.**

Results from the study yielded a minimum average mean score of 1.13 and the maximum average mean score of 2.63 on student nurses' level of preparedness to provide healthcare to Deaf patients. An average mean score of 1.63 was reported by the study. This clearly showed that majority of student nurses in the Tepa Nursing and Midwifery Training College have a low level of preparedness to provide healthcare to Deaf patients.

## 6.2 Conclusion

As observed in the literature, healthcare professionals rarely receive Deaf-focused education in their training, which results in a higher percentage of healthcare professionals graduating with limited knowledge and incompetent to effectively provide healthcare to Deaf individuals. Therefore, student nurses (future nurses) must graduate from programmes that provide Deaf education in their curriculum. The knowledge possessed by student nurses on the issues concerning the Deaf such as Deaf culture, health needs, and communication is critical to the provision of safe and quality healthcare to patients with deafness. It is, therefore, important that the training of student nurses on deafness and related issues be given maximum attention in the nursing training institutions.

From the discussion, the study the study identified a significant deficiency in student nurses' knowledge about Deaf culture even though student nurses acknowledge the existence of sign language. Again, majority of student nurses have inadequate knowledge about health needs of the Deaf. Also, a higher proportion of student nurses have poor knowledge to communicate with the Deaf using sign language. Finally, it was deduced from the results that the education and experiences specifically designed to prepare student nurses in the Tepa Nursing and Midwifery Training College to provide healthcare for the Deaf were not adequate.

### 6.3 Recommendations

Based on the findings of the study, the following recommendations were made:

1. Management of the Tepa Nursing and Midwifery Training College should as a matter of policy integrate Deaf culture and Deaf awareness education into the nursing coursework. This will help improve student nurses' knowledge and competency related to Deaf culture that is needed to provide adequate and safe healthcare to the Deaf population.
2. Management of the College should provide additional training for student nurses with respect to deafness and its related problems. This will enable student nurses to understand and appreciate the challenges associated with the health needs of persons with deafness to provide healthcare to them.
3. Management of the Tepa Nursing and Midwifery Training College should include the study of sign language course extensively from the first year to the third year in the nursing education to prepare competent nurses for the common issues they would face in practice, such as communicating with the patient with deafness.

4. There should be the inclusion of appropriate educational programs in the Tepa Nursing and Midwifery Training College, such as having contact with Deaf people by visiting some Schools for the Deaf, which could contribute to the improvement of student nurses' knowledge and behaviour toward Deaf people.

### 6.4 Suggestion for Further Study

This was a quantitative descriptive study which was limited to only Tepa Nursing and Midwifery Training College in the Ashanti Region of Ghana. It is suggested therefore that more research work on the topic, be conducted in other nursing training colleges in Ghana. It is also suggested that more research to be conducted on the effectiveness of the implementation of the Persons with Disability Act in the various healthcare training institutions in Ghana. This would help the Ministry of Health and the management of the various health training institutions to intensify their education and training to be able to produce health professionals who are ready and capable of providing quality healthcare for patients who are Deaf.

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# APPENDICES

## APPENDIX A

## Questionnaire for Respondents

UNIVERSITY OF EDUCATION, WINNEBA
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF SPECIAL EDUCATION

Questionnaire on the knowledge and preparedness of student nurses of Tepa Nursing and Midwifery Training College to provide healthcare to Deaf patients.

Introduction

I am an M.Phil student at the Department of Special Education, University of Education, Winneba. As part of the academic requirement, I am conducting research on the "knowledge and preparedness of student nurses of Tepa Nursing and Midwifery Training College, Ghana, to provide healthcare to patients with deafness". Your participation in this study could one day help improve the quality of healthcare provisions for the Deaf. I assure you that any information provided shall be used sorely for academic purposes, confidentiality is assured. Thank you very much for agreeing to participate in this study.

### SECTION A: Demographic Data

Please tick where appropriate.

1. Age: 16 – 20 [ ] 21 – 25 [ ] 26 – 30 [ ] 31+ [ ]

2. Gender: Male [ ] Female [ ]

**SECTION B**

Research Question 1

What level of knowledge do student nurses in Tepa Nursing and Midwifery Training College have about Deaf culture?

To what extent do you agree or disagree with the following statements?

Please tick (√) as appropriate. 1 = Disagree, 2 = Not Sure, and 3 = Agree.

| S/N | Statement | Disagree | Not sure | Agree |
|---|---|---|---|---|
| 1 | Deafness is a disorder that needs correcting | | | |
| 2 | Deaf people have their own culture. | | | |
| 3 | Deaf people have their own language. | | | |
| 4 | Identity, traditions, values, and norms are key aspects of Deaf culture. | | | |
| 5 | In Deaf culture, terms such as Hearing impairment and disable are not accepted. | | | |
| 6 | Deaf culture is important because it allows individuals to be who they are. | | | |
| 7 | Understanding Deaf culture is important when providing healthcare to the Deaf | | | |
| 8 | Regular exposure to the Deaf helps to know their needs. | | | |
| 9 | Training on Deaf Culture develop a positive feeling towards the Deaf. | | | |

Research Question 2

What level of knowledge do student nurses in Tepa Nursing Training College have about the health needs of Deaf patients?

To what extent do you agree or disagree with the following statements?

Please tick (√) as appropriate. 1 = Disagree, 2 = Not Sure, and 3 = Agree.

| S/N | Statement | Disagree | Not sure | Agree |
|---|---|---|---|---|
| 10 | The nursing training program included disability related issues. | | | |
| 11 | Cochlear implants enable the Deaf to have normal hearing. | | | |
| 12 | Children who are Deaf face a Potential developmental problems. | | | |
| 13 | Marginalising the Deaf in the campaigns and preventive orientations against diseases affect their health. | | | |
| 14 | Depriving the Deaf access to incidental information may increase their stress levels. | | | |
| 15 | Nurses should not understand only the disease, but also, the experience of living with disability. | | | |
| 16 | Vulnerable people who are at risk of being underserved by healthcare professionals must include Deaf patients. | | | |
| 17 | Children with a confirmed hearing loss should have an evaluation by an ophthalmologist. | | | |

Research Question 3

How knowledgeable are student nurses in Tepa Nursing Training College have in communicating with the Deaf using sign language?

To what extent do you agree or disagree with the following statements?

Please tick (√) as appropriate. 1 = Disagree, 2 = Not Sure, and 3 = Agree.

| S/N | Statement | Disagree | Not sure | Agree |
|---|---|---|---|---|
| 18 | The training gives me the opportunity to develop my sign language skills. | | | |
| 19 | have taken sign language course for a semester. | | | |
| 20 | I communicate with the Deaf face to face using sign language | | | |
| 21 | I comfortably use sign language to communicate with the Deaf. | | | |
| 22 | I use speech, written notes, speech reading, and gestures to communicate with the Deaf. | | | |
| 23 | I am willing to learn sign language | | | |

| | | | | |
|---|---|---|---|---|
| 24 | Denying the Deaf the access to sign language is a violation of their human rights | | | |
| 25 | Communication impacts the quality of care in healthcare environments | | | |

Research Question 4

What level of preparedness do student nurses have to provide healthcare to Deaf patients?

To what extent do you agree or disagree with the following statements?

Please tick (√) as appropriate. 1 = Disagree, 2 = Not Sure, and 3 = Agree.

| S/N | Statement | Disagree | Not sure | Agree |
|---|---|---|---|---|
| 26 | Attitudes affect the actions of nurses caring for patients with deafness | | | |
| 27 | Deaf patients should be in the same ward with hearing patients. | | | |
| 28 | Deaf people have the right to healthcare | | | |
| 29 | I am aware of the referral resources for parents of a child that is newly diagnosed as deaf. | | | |
| 30 | Having a Deaf friend would be easy to cope with. | | | |
| 31 | I would like to see many Deaf patients coming to the health facilities to seek medical care. | | | |
| 32 | I am willing to provide healthcare to the Deaf | | | |
| 33 | I have provided healthcare to Deaf patients. | | | |

# APPENDIX B

## Reliability Statistics

**Reliability statistics of knowledge about Deaf culture questionnaire**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .783 | .795 | 9 |

**Reliability statistics of knowledge about health needs of Deaf questionnaire**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .864 | .867 | 8 |

**Reliability statistics of knowledge in communicating with the Deaf questionnaire**

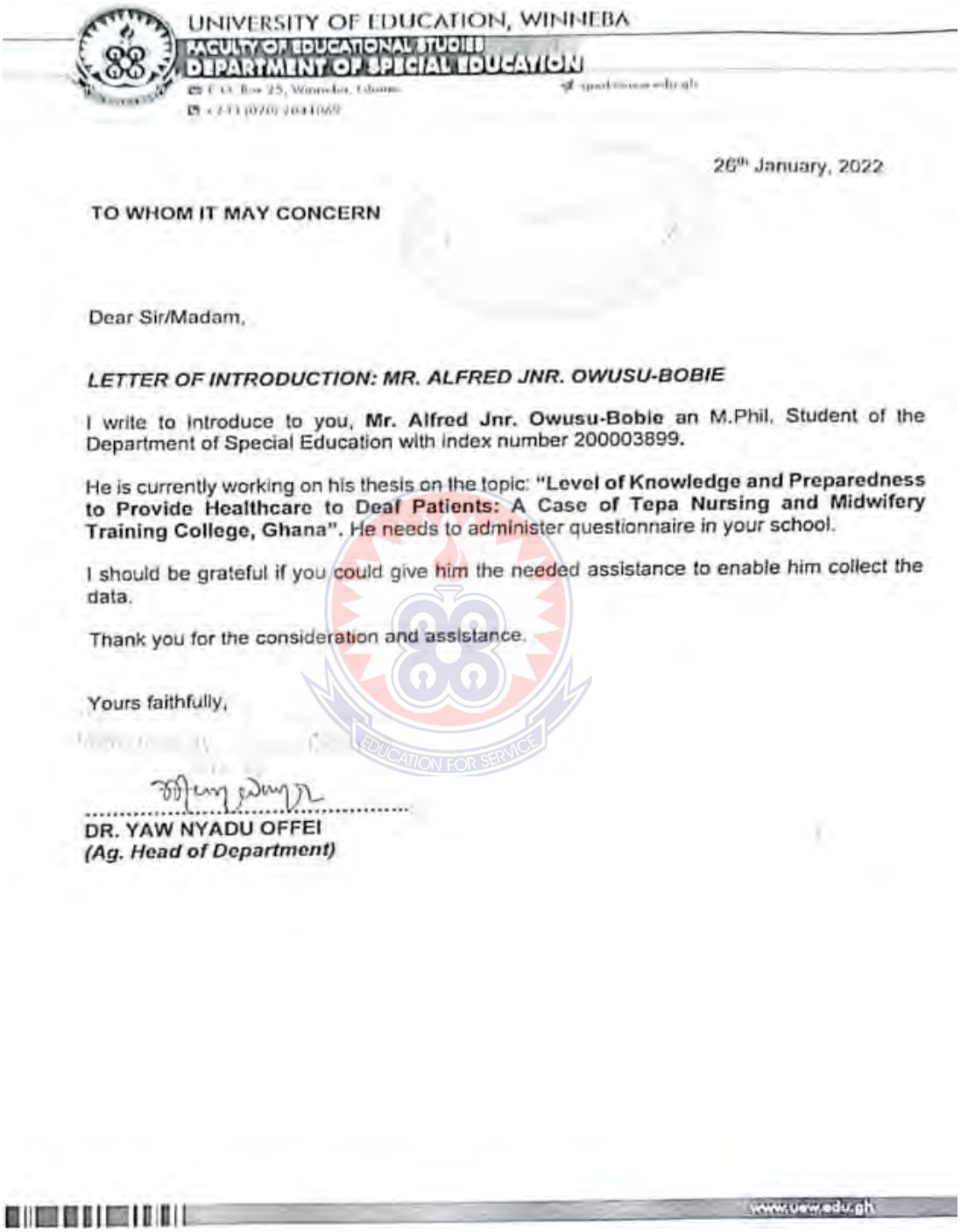
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .793 | .819 | 8 |

**Reliability statistics of preparedness to provide healthcare to the Deaf**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .771 | .800 | 8 |

# APPENDIX C

## Letter of Introduction



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF SPECIAL EDUCATION

26th January, 2022

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

***LETTER OF INTRODUCTION: MR. ALFRED JNR. OWUSU-BOBIE***

I write to introduce to you, **Mr. Alfred Jnr. Owusu-Bobie** an M.Phil. Student of the Department of Special Education with index number 200003899.

He is currently working on his thesis on the topic: **"Level of Knowledge and Preparedness to Provide Healthcare to Deaf Patients: A Case of Tepa Nursing and Midwifery Training College, Ghana".** He needs to administer questionnaire in your school.

I should be grateful if you could give him the needed assistance to enable him collect the data.

Thank you for the consideration and assistance.

Yours faithfully,

.....
**DR. YAW NYADU OFFEI**
***(Ag. Head of Department)***

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