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UNIVERSITY OF GHANA

COLLEGE OF HEALTH SCIENCES

SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES

KNOWLEDGE, PRACTICES AND ATTITUDE OF NURSES ON DYSPHAGIA MANAGEMENT AT THE EAR, NOSE AND THROAT/ MAXILLOFACIAL UNITS OF THE KORLE BU TEACHING HOSPITAL

by

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THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE IN SPEECH AND LANGUAGE THERAPY DEGREE

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DECLARATION

I, STELLA NAA DENSUAH AYIVOR, do hereby declare that this dissertation being submitted in partial fulfilment of the requirement for Master of Science degree in Speech and Language Therapy, is my independent research work performed under supervision, and that except where other sources are duly acknowledged and referenced, it has neither in whole or in part been submitted for a degree elsewhere.

I hereby give permission for the Department of Audiology, Speech and Language Therapy to seek dissemination/publication of the dissertation in any appropriate format. Authorship in such circumstances is jointly held by me as the first author and the research supervisors as subsequent authors.

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DEDICATION

I dedicate this work to God Almighty whom throughout the journey has been my source of knowledge, understanding and inspiration.

Secondly, to my husband Mr. Frank Kofi Ayivor for his love and patience and sacrifice. To my four adorable children-Sesi, Seline, Selikem and Sena- who have been affected in every way possible by this quest. Thank you. My Love for you all can never be quantified.

Lastly, I dedicate this work to the memory of my late Father- Prof. Dr, Patrick A.K Addy. I know you are happy wherever you are.

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LIST OF ABBREVIATIONS

ENT	Ear, Nose and Throat
KBTH	Korle Bu Teaching Hospital
SLT	Speech And Language Therapist
MBS	Modified Barium Swallow
FEES	Fiberoptic Endoscopic Swallow



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ABSTRACT

Background: Dysphagia is the medical term for swallowing difficulty. Swallowing is an essential human activity that transfers food or drink from the mouth to the stomach. The process involves both voluntary and involuntary actions for it to be carried out successfully. Prevalence rates of 2.3% to 16% have been recorded globally. Dysphagia is associated with complications like malnutrition, weight loss and aspiration. Due to the role nurses play in patient management, they are likely going to be those who will detect that a patient has dysphagia for onward referral for management. However, they need to possess adequate knowledge on the signs, symptoms, complications and management of dysphagia to be able to perform this function. The study is aimed at assessing the knowledge level and attitudes of nurses at the E.N.T. and Maxillofacial units of KBTH toward dysphagia.

Methods: Seventy nurses were conveniently sampled from the two units. A self-administered questionnaire with closed-ended questions was used to collect data which was analysed using descriptive and inferential statistics.

Results: Overall, the survey showed that the nurses had a high knowledge of the signs and symptoms of dysphagia (77%) a moderate knowledge of complications and management of dysphagia (68%). This study did not reveal any association between their knowledge level and qualification, years of work experience and care of patients with dysphagia.

Conclusion: It is clear that the dysphagia education provided as part of the nursing curriculum is insufficient, and these nurses need more specialised instruction in this area. The educational background, number of years of employment, and prior experience caring for patients with dysphagia did not have any bearing on the degree of knowledge held by the nurses at these units.

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Keywords: Dysphagia, Swallowing, Prevalence, Aspiration, Maxillofacial, Curriculum



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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Dysphagia, pronounced dis-FAH-juh, the term given to swallowing difficulties (Science, n.d.). According to the definition of dysphagia, it is an actual impairment or difficulty swallowing that causes an unnatural delay in the passage of a liquid or solid bolus (Abdel Jalil et al., 2015). As humans, eating and drinking are essential activities. Swallowing is the process that helps in getting the food or drink from the mouth to the stomach. The many neuromotor actions that make up the swallowing process are coordinated, last a different amount of time, and have different ranges of motion depending on the swallow type (Phoniatr & Logemann, 1995). Although it appears to be a simple act, it requires the coordination of various voluntary and involuntary (motor, sensory and psychological) activities for it to be carried out successfully (Matsuyama et al., 2021). A disruption or breakdown at one or more of the phases of the swallowing process may lead to dysphagia. According to Dworkin 1984, there are three main forms of dysphagia; transfer, transport, and delivery.

Transfer dysphagia is defined by varying kinds and severity of disturbances of the lip, tongue, jaw, palate, and/or pharyngeal adjustments required for food to be ground up within the oral cavity and propelled into the oropharynx and, ultimately, the upper end of the oesophagus. The syndrome frequently manifests as gagging, coughing, choking, nasal regurgitation, and aspiration incidents during swallowing (Dworkin, 1984).

The involuntary, peristaltic movements that are required to move the bolus from the upper to the distal portion of the oesophagus are disturbed in transport dysphagia. Heartburn, significant weight loss, soreness, and feelings of the bolus sticking or catching as it travels into the

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oesophagus are typical signs of this disorder. For evaluation and diagnosis of this condition, fibreoptic endoscopy and radiography with barium swallow are required (Dworkin, 1984).

The passage of the bolus from the distal end of the oesophagus into the stomach is disturbed in delivery dysphagia. The signs and evaluation methods for this ailment are typically the same as for travel dysphagia (Dworkin, 1984).

Dysphagia affects about 2.3 to 16% of the general population Globally (Kertscher et al., 2015) with higher prevalence rates recorded among the aged (26.2%) and stroke patients (50%) (Ickenstein et al., 2012; Kertscher et al., 2015). It is also common among patients who have Parkinson's disease, dementia, multiple sclerosis, head and neck cancer and may occur in those who have suffered traumatic brain injury (Takizawa et al., 2016).

Some of the known signs and symptoms of dysphagia include inability to swallow, painful swallowing, heartburns, and coughing or nausea when swallowing (Audag et al., 2021).

Also, it may be associated with serious complications such as pneumonia, malnutrition and dehydration, asphyxia and even death (Cichero et al., 2013; Roldan-Vasco et al., 2021). Some studies have recorded high prevalence rates (50 to 75%) of these complications in nursing homes alone worldwide (Peterson, 2016). The authors opined that some complications like aspiration may even occur unnoticed especially among elderly patients.

Nurses play a key role in patient management. They are involved in the day-to-day care of patients, administration of medication, feeding, dressing and liaising with other members of the health team on behalf of the patient. This puts them in the position to be the first to identify patients with swallowing difficulties for appropriate management. (Bhimte & Rangasayee, 2015). However, this requires that they possess adequate knowledge to be able to accurately recognize patients with dysphagia or at risk of dysphagia.

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1.2 PROBLEM STATEMENT

Head and neck cancer and or its treatment, is one cause of dysphagia. Patients with head and neck cancer are treated at the Ear Nose and Throat (E.N.T) and the Maxillofacial Units of the Korle Bu Teaching Hospital. A considerable dysphagia, can lead to having to have surgery for head and neck cancers (Sheet, 2010). Also, Dysphagia is a common symptom of head and neck cancers as well a complication of the various treatment modalities (radiotherapy and chemotherapy) (Manikantan et al, 2009). In Ghana, these cancers are quite prevalent (Abdulai et al., 2013; Acheampong et al., 2019). All phases of swallowing are impacted by dysphagia in motor neuron disorders, which compromises swallowing efficiency and safety(Waito et al., 2017). In a ten-year review of head and neck cancers in a teaching hospital in Ghana, Der, Antwi and Adjeso (2022) observed that the most affected sites were odontogenic and maxillofacial bone, oral cavity and tongue, and hypopharynx and larynx. Research has shown that about 50% of these patients experience swallowing difficulties (Martino et al., 2014; Linn et al, 2015; Pezdirec et al., 2019).

Moreover, there is a rapid increase in the population of adults aged 60 years and above in Ghana with more than seven-fold increase recorded from 1960 and 2010 alone (United Nations, 2017). This may further increase the incidence of dysphagia in the country as it is estimated that about 10% to 20% of elderly people (65 years and above) have swallowing difficulties globally (Barczi et al., 2000). This can contribute to poor quality of life and increase risk of mortality among this population.

The diagnosis and management of dysphagia involves a multi-disciplinary effort from professionals such as speech and language therapists (SLTs), dieticians, physicians and nurses. However, in a resource constrained country like Ghana, there is usually lack of some of these specialists in most health facilities (Fagan & Jacobs, 2009). Most of the patients who are admitted to the Ear, Nose and Throat (E.N.T.) and Maxillofacial units of Korle bu Teaching

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Hospital (KBTH) may experience swallowing difficulties due to its strong association with head and neck cancer and injuries. Other patients undergoing surgery of the mouth and throat for non-malignant conditions such as esophagitis, foreign bodies in the oesophagus, fibrous rings or webs within the oesophagus and extrinsic compression of the oesophagus, may also experience swallowing problems during their hospital admission. Early identification is important for the management of dysphagia and prevention of associated complications. Therefore, it is recommended that these patients are screened for dysphagia whiles on admission (Okuni & Ebihara, 2022).

Although the diagnosis is usually made by the SLTs, other members of the health team who have received training in this area can be of great assistance (Rhoda & Pickel-Voight, 2015). Considering the higher availability of nurses compared to SLTs, and the unique role they play in patient management, they will be the ideal health professionals to help in this regard. Conversely, some studies have shown that low level of knowledge of nurses with respect to signs and symptoms and management of dysphagia is a major barrier for providing adequate care for these patients (Bakhtiyari et al., 2019). Currently, the level of knowledge of nurses at the E.N.T. and maxillofacial units of KBTH on identifying and managing swallowing difficulties has not been established.

1.3 SIGNIFICANCE OF THE STUDY

SLT is a relatively new profession in Ghana and as yet, little has developed in the way of dysphagia services. Presently, there are five SLTs serving the entire KBTH which has daily out-patient attendance of about 1,500 resulting in a high workload. There is also a dearth of literature on dysphagia management and its outcome in Ghana. The findings of this study will serve as a starting point as it will identify the depth of knowledge possessed by the nurses of these units on dysphagia. This will guide the development and implementation of suitable continuing professional developments in dysphagia management for ENT and Maxillofacial

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nurses. Eventually, such continuing professional development can work towards offering them the requisite training that will enable them to support the SLTs in the identification and management of patients with dysphagia.

1.4 AIM OF THE STUDY

The study aimed at assessing the knowledge level and attitudes of nurses at the E.N.T. and Maxillofacial units of KBTH towards dysphagia.

1.5 RESEARCH OBJECTIVES

The specific objectives of this study are:

1. To evaluate the knowledge of nurses on the signs and symptoms of dysphagia
2. To assess the knowledge of nurses on the complications of dysphagia
3. To determine the attitudes of the nurses towards dysphagia management
4. To determine the factors that influence knowledge levels of dysphagia among nurses.

1.6 RESEARCH QUESTIONS

The study seeks to answer the following questions:

1. What is the knowledge level of nurses at the E.N.T and Maxillofacial units of KBTH on signs and symptoms of dysphagia?
2. What is the knowledge level of nurses on the complications of dysphagia?
3. What is the attitude of nurses towards the management of dysphagia?
4. What are the factors that affect the knowledge level and attitudes of nurses on dysphagia?

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CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter gives an overview of literature regarding dysphagia (definition, incidence, signs and symptoms) as well as complications and management. Other related studies on knowledge level of nurses on dysphagia have been reviewed.

2.2 DYSPHAGIA: DEFINITION AND TYPES

The term dysphagia is used to refer to any dysfunction of swallowing. Any interference with swallowing when a bolus is being transported from the oral cavity to the stomach is referred to as dysphagia (Philipsen, 2019). It can be quite debilitating, and its symptoms, intensity, and origin often vary across the several clinical groups in which it is frequently reported (Dworkin, 1984). Patients with dysphagia may experience problems with one or more of the anatomical or physiological aspects of the oral, pharyngeal, or oesophageal phases of swallowing (Phoniatr & Logemann, 1995). Swallowing is an essential part of human life. It is this process whereby food or drink travels from the mouth, to the stomach passing through the pharynx and oesophagus for digestion to take place. Digestion enables the absorption of nutrients and water into the body for nourishment and hydration.

The process of swallowing is described in three phases; oral, pharyngeal and esophageal (Matsuo et al., 2008). The oral phase involves the mastication and softening of food particles by addition of saliva, and rolling into bolus with the help of the tongue (Matsuo & Palmer, 2008). During the pharyngeal phase, the bolus of food is propelled through the pharynx and upper esophageal sphincter into the esophagus. Also, the airway is protected by the closure of the epiglottis (Jameson et al., 2009). The oesophageal stage begins once the bolus passes

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through the upper oesophageal sphincter and the peristaltic movement pushes the bolus down into the stomach (Burbidge et al., 2016; Yazaki et al., 2012; Morris, 2012).

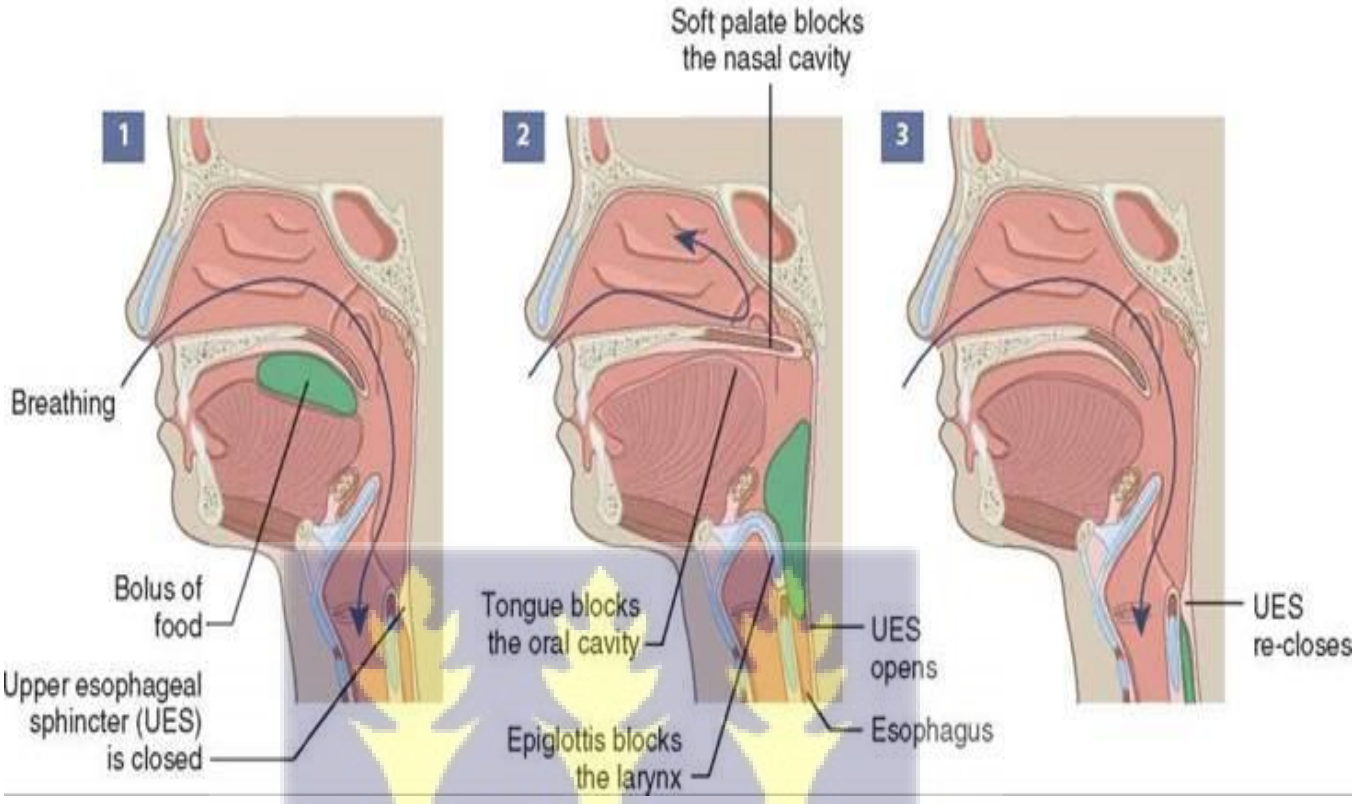


Figure 2.1: Phases of swallowing (source: Alila Sao Mai/Shutterstock.)

Dysphagia is potentially harmful to a patients' health. A person who struggles to swallow might not be able to consume enough of the correct meals to maintain good health or a healthy weight. Food consistencies which are difficult for the patient to swallow are at risk of entering the airway.

2.3 PATHOPHYSIOLOGY OF DYSPHAGIA

Individuals who struggle to swallow securely might not be able to consume enough of the regular meals to maintain good health or body weight. Food consistencies which are difficult for the patient to swallow are at risk of entering the airway. It is a sign of a delay in the movement of solids or liquids from the mouth to the stomach. Patients with head and neck

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cancer may experience dysphagia as a result of the illness or as a side effect of treatment (Manikantan et al., 2009).

A number of cranial nerves the trigeminal (CN V), facial (CN VII), glossopharyngeal (CN IX), vagus (X), and hypoglossal (CN XII) nerves and their nuclei regulate swallowing. Damage to the central nervous system or structures of the mouth cavity, pharynx, and larynx can cause dysphagia in a variety of different ways (Phoniatr & Logemann, 1995). When there is damage or loss of function of any of these muscles or nerves, the process of swallowing will be impaired. This is known as dysphagia. According to Corrigan et al.,2011, 'dysphagia is a deterioration of eating and/or drinking during one or all phases of swallowing where the transport of solids and liquids from the mouth to the stomach is disturbed'. Also, Abdel et al.,2015 defined dysphagia as 'an abnormal delay in the movement of a food bolus from the oropharynx to the stomach'. Consequently, when food or liquid penetrates the airway and enters the lungs dangerous bacteria that can proliferate in the lungs to cause aspiration pneumonia. Aspiration is the process through which oral secretions, food or foreign objects enter the airway in the context of neurogenic diseases.(Dikeman & Kazandjian, 2003) or because of head and neck cancers and/or their treatment, or by accident (for example, children inhaling foreign bodies)

Dysphagia may be categorized into oropharyngeal or oesophageal dysfunction either from an anatomical standpoint or from a pathophysiological standpoint (Clavé et., 2005; Clavé et al., 2004). Oesophageal dysfunction is part of the reflex aspect of the swallow and is not currently within the remit of SLT/nurses to manage.

2.4 EPIDEMIOLOGY OF DYSPHAGIA

Dysphagia itself is not a disease, it is the manifestation of disruption to the normal swallow. This can occur as part of a number of processes or as a result of trauma. Hence, epidemiological

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data vary widely as studies on dysphagia are usually conducted among individuals with specific conditions such as stroke (Falsetti et al., 2009). Similarly, studies have yielded varying incidence rates depending on the characteristics of the participants; either general or at-risk population. Kertscher et al. (2015) conducted a systematic review in Holland and recorded prevalence rates between 2.3% and 16%. Another review by Madhavan et al. (2016) among aged population recorded prevalence rates between 5% and 72%. A prevalence of 8% to 45% among stroke patients, 11% to 60% among patient with Parkinson's disease, and 27% to 30% among patients with traumatic brain injury has also been reported (Takizawa et al., 2016).

According to García-Peris et al. (2007), dysphagia is the most regular consequence of head and neck cancers and its treatment with a prevalence of 50%. With regards to demography, dysphagia equally affects both males and females but is more prevalent among older people than younger ones (Eslick et al., 2008).

2.5 CAUSES, SIGNS AND SYMPTOMS OF DYSPHAGIA

A person's ability to swallow may be affected by a number of elements, such as neuro-muscular incoordination, altered posture, size and texture of the bolus. In addition, the inability to swallow regularly on account of pain, sickness, taste changes, nausea, aging, cognitive impairment, and respiratory and cardiac issues, might affect one's capacity to swallow.

Several factors have been found to be associated with dysphagia at the various phases of swallowing among patients admitted to the ENT and Maxillofacial units. Some of the causes of oral and oropharyngeal dysphagia are poor dentition, oral cancers, pharyngeal and laryngeal cancers, aftermath/or complications of head or neck surgery and age-related changes in swallowing (Reza, 2006). Conditions that can lead to oesophageal dysphagia are gastroesophageal reflux disease, oesophagitis, tumour of the oesophagus, diverticula, complications of radiotherapy and age-related changes (MacQueen et al., 2019).

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In medicine, signs and symptoms are essential in the diagnosis of a particular disease condition. A sign is any tangible proof that can be recognised by others that a disease exists whereas symptoms are disruptions in normal function experienced by the individual (Cox et al., 2016). Some of the signs and symptoms reported by patients with dysphagia include change in voice, coughing or choking whiles feeding, feeling of food stuck in the throat, oesophageal reflux, and regurgitation (Philipsen, 2019). Patients may also have weight loss, malnutrition, dehydration, chest infections, and either a persistently low or high fever (Philipsen, 2019).

2.6 DYSPHAGIA IN HEAD AND NECK CANCER

Globally, head and neck cancer is ranked the seventh most common cancer with about 660,000 new cases and 325,000 related deaths recorded per year (Sung et al., 2021; Johnson et al., 2020). Changes in speech and swallowing are common side effects of head and neck cancer, affecting the patient's quality of life and capacity to function in society (Nguyen & Ringash, 2018). The extent of dysfunction after treatment depends largely on the location of the tumour and type of treatment chosen (Cousins et al., 2013). Dysphagia (mainly oropharyngeal) has been identified as the most common effect of this condition and its treatment and the onset may be sudden or over a period even after treatment (Patterson, 2019). Over 50% of head and neck cancer cases suffer dysphagia especially those who undergo total glossectomy and chemoradiotherapy (Cristofaro et al. 2021). The consequence of dysphagia among head and neck cancer patients include malnutrition and aspiration which can result in pneumonia (Han et al., 2016). Again, this may lead to psychological disorders such as anxiety, low self-esteem and isolation (Bendsen et al., 2022). Hence, the identification and management of dysphagia among head and neck cancer patients is essential to enhance their quality of life.

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2.7 DIAGNOSIS OF DYSPHAGIA

The SLT performs clinical bedside swallow assessment which is recognized as the most appropriate way to fully assess the nature and impact of dysphagia and screen for risk of aspiration (Mari et al., 1997). Diagnoses of dysphagia requires a multi-disciplinary approach. It commences with detailed history taking especially with regards to signs and symptoms followed by a clinical bedside swallow. It includes a thorough examination of the oral structures and then a trial swallow, usually with a sip of water. This might give sufficient information to guide management.

If sufficient information cannot be obtained from the above procedures, there are further assessments which can be carried out (Baumann & Katz, 2016). Other imagery assessments which involve the patient taking in food or liquid such for video fluoroscopy are also conducted to identify exact area of the pathology along oesophageal tract (Baumann et al., 2016). A management protocol is drafted based on the findings of the various assessment.

According to Pauloski, the Fibreoptic Endoscopic Examination of Swallowing (FEES)(Pauloski, 2008) and Modified Barium Swallow (MBS) also called video fluoroscopy are the most effective procedures for further investigation and/or diagnosis of swallowing issues(Pauloski, 2008).

2.7.1 Fibreoptic Endoscopic Examination Of Swallowing

This was first described by Susan Langmore (1988), by inserting an endoscopic tube trans-nasally and suspending its distal end over the soft palate, FEES allow the clinician to view the pharynx from above. A key advantage is the equipment is portable so can be taken to the bedside of patients who are unwell. In contrast to video fluoroscopic imaging, this procedure provides a different perspective of the pharynx and allows for the observation of true cord closure. However, FEES does not provide information on the oral stage of swallowing, which

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may be the most challenging for some patients with head and neck cancer who have undergone surgical treatment for oral cavity tumours (Pauloski, 2008). The majority of medical professionals concur that some patients find nasal anaesthetic to be more pleasant during the test, but it shouldn't be used if it interferes with swallowing (Langmore, 2017).

2.7.2 Modified Barium Swallow

Patients receive calibrated boluses of radio-opaque material with varied densities during the MBS. that it provides a dynamic picture of the patient's swallow, helping clinicians see how the different phases of the swallow are working in conjunction with one another. The basic swallowing examination, known as the MBS, enables real-time imaging of bolus flow and swallowing motion across the upper aerodigestive tract (Martin-Harris et al., 2020). It allows us to see the location and timing of difficulties arising. In the modified barium swallow, a film is taken in the lateral plane to visualise the whole swallow process but A-P (antero-posterior) views are taken to identify any pooling which may be occurring in the vallecula or pyriform sinuses.

Both of the above investigations can be very helpful if insufficient information is gained from the case history and the bedside swallow assessment.

2.8 ROLE OF NURSES IN ASSESSMENT AND MANAGEMENT OF DYSPHAGIA

The World Health Organisation recommends collaboration between SLTs and nurses in the assessment and management of dysphagia (Dondor et al., 2016). Nurses spend most of the time by the patients' side and are most likely to be the ones to identify signs of dysphagia for onward referral to the SLT. This has led to some researchers studying the benefits of training nurses in screening for dysphagia (Magnus, 2001). In some hospitals, patients are referred to the SLT after the nurse has screened for dysphagia and has recommended for further evaluation (Sandhaus et al., 2009).

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Nurses can also collaborate with SLTs during the management of dysphagia. After the SLT's assessment, a treatment plan is formulated and recommendations are made with regards to oral care, positional changes, diet consistencies and swallowing exercises and techniques. These activities will be implemented by the nurse (Dondor et al., 2016). Nurses are also more likely to notice dysphagia since they interact with the patient more frequently. It is crucial that formal dysphagia screening procedures remain standard nursing care, which calls for specialized training to carry out.(Abu-Snieneh & Saleh, 2018).

2.9 KNOWLEDGE LEVEL OF NURSES ON DYSPHAGIA

Nurses can be of great help in the identification and management of dysphagia when they possess adequate knowledge (Behera et al., 2018). Several studies have been conducted to determine their knowledge on the signs and symptoms, complications and practices involved in the management of dysphagia.

Albini et al., 2013 evaluated the knowledge of nurses about the care for dysphagia patients using a structured questionnaire in Brazil. Their findings indicated that the nurses had satisfactory knowledge on the definition and complications of dysphagia. However, they performed poorly on management practices with regards to oral hygiene, medication and nutrition. Similarly, Rhoda and Pickel-Voight (2015) in Namibia recorded moderate knowledge level of the signs, symptoms, and complications of dysphagia, but low knowledge on management Therefore, both authors recommended continual training on screening and management of patients with dysphagia.

In a study by Olimpio et al. (2023) to assess a group of Portuguese nurses' knowledge of dysphagia, 241 nurses were enrolled between May and June 2021, of which 192 (79.6%) were female, with an average age of 37.8 years and a mean duration of service of 14.4 years. A substantial percentage of people (80.1%) had general knowledge about dysphagia.

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Additionally, the participants acknowledged dissatisfaction with their knowledge and a desire for additional training, particularly in therapeutic intervention, according to the authors. Based on the research's findings, it was also addressed how important it is to comprehend why nurses, although having better levels of expertise, yet feel uninformed. They suggested that these topics be explored in further research. These results confirmed the discrepancy between the nurses' real understanding of dysphagia and their perceived knowledge of it, which may have an impact on practise by influencing how decisions are made. This gap could result in higher patient safety risks because of its widespread occurrence and repercussions.

With the primary purpose of evaluating the skills and procedures of nursing staff caring for patients with dysphagia and identifying any needs for additional education programmes, Khoja conducted her research in Saudi Arabia in 2018. To assess the extent of their understanding of dysphagia, the nurses at a tertiary hospital in Saudi Arabia answered a self-administered questionnaire with closed-ended questions. A representative sample of 174 nurses answered the questionnaire out of 316 prospective participants. The findings showed that the participants only had a basic understanding of both theoretical and practical aspects of nursing care for patients with dysphagia. It's interesting to note that only 4% of nurses knew that speech and language pathologists have a role in managing dysphagia, and 78% of nurses said they had gone through less than an hour of education on the topic of dysphagia. The authors came to the conclusion that nurses play a key role in the management of patients with dysphagia since they are healthcare professionals who interact with patients the most. In particular, the predicted frequency of dysphagia in Saudi Arabia is significant due to the rising prevalence of medical diseases like stroke, cerebral palsy, and traumatic brain injuries from car accidents. The care of these patients is largely handled by nurses. How much care patients with dysphagia need in Saudi hospital settings is not well understood, hence a strategy for in-service nurse education programmes on dysphagia will be aided by the information this study provides.

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Also, Mubeen and Butt, (2014) and Diendéré et al, (2016) observed that most nurses did not recognize the importance of dysphagia screening and the role of SLTs in the management of dysphagia. In Nepal, majority of the nurses reported that they had taken care of patients who had or were at risk of developing dysphagia but most of them had not received any training on dysphagia (Nepal & Sherpa, 2019). Most of the nurses who participated in these studies indicated that they are not satisfied with their level of knowledge about dysphagia and would like to receive further training and information (Knight et al., 2020; Nepal & Sherpa, 2019, Rhoda & Pickel-Voight, 2015).

2.10 HEALTHCARE IN GHANA

Great Britain colonised the Republic of Ghana, a West African nation that borders the Gulf of Guinea. It became the first state in Sub-Saharan Africa when it formally declared independence from colonial rule in 1957. Ghana's capital is Accra. The challenging task of enhancing and securing everyone's health and well-being falls on Ghana's healthcare system (Ghana Statistical Serivce & Ministry of Health Ghana, 2003). The Ghana Health Service is charged with managing and providing comprehensive, easily accessible, high-quality healthcare in accordance with endorsed national policy (Amankwah et al., 2019). District hospitals, many of which are mission-based, offer curative care at the local level. In Ghana, district hospitals' public health units provide public health services, whereas subdistricts are overseen by and get management support from the District Health Administration (DHA).(Ghana Statistical Serivce & Ministry of Health Ghana, 2003). In Ghana, public health services are delivered through a hierarchy of hospitals, health clinics, maternity homes, and community-based health planning and services (CHPS) programs (Ghana Health Service (GHS), 2011). The Sustainable Development Goals (SDGs) of the United Nations (SDG 3) call on all countries to guarantee healthy lifestyles and promote wellbeing for all people of all ages. In order to accomplish this goal, the Ghana Health Service has made a commitment to enhance Ghanaians' health and

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wellbeing through the creation of coordinated health system that prioritizes the needs of communities and patients (SDG 3). The overall goal is to establish a health system that prioritizes the patient as the centre of care (Amankwah et al., 2019). The majority of research do, however, indisputably show that Ghana's health care services fall short of what those who utilise them would hope for (Atinga et al., 2011; Cross Marketing Group Inc, 2022; Ghana Statistical Serivce & Ministry of Health Ghana, 2003). The quality of the healing environment has an impact on patient happiness and the provision of healthcare, hence stakeholders in the Ghanaian healthcare system should take steps to improve it (Amankwah et al., 2019).

In order to offer interventions in support of the government of Ghana's health sector strategy in 2022, WHO worked in partnership with the Ministry of Health, Ghana Health Service, affiliated institutions, and other stakeholders. Over 80 health and environmental health professionals from 14 districts have had their capacities improved to identify, advocate for, plan for, and monitor environmental health risks as well as manage healthcare waste in the Okyeman area as part of efforts to promote a healthier population by the Ghana Health Service, WHO, and other partners. More than 200 healthcare professionals, including program planners, officers in charge of information and disease control, and physicians do now have better understanding of gender, equity, and rights as well as the ability to monitor health disparities and enhance inclusive health services(Cross Marketing Group Inc, 2022).

2.11 CONCLUSION

In order to comprehend the present state of nurses' knowledge, practises, and attitudes about dysphagia care in a particular clinical environment, the review aimed to completely analyse and synthesise the body of existing research. This review provided critical insights into the difficulties and opportunities connected with managing dysphagia in the Ear, Nose, and Throat/Maxillofacial Units of the Korle Bu Teaching Hospital through a methodical exploration of pertinent scholarly literature. The results of these research collectively shed light

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on a number of important issues, with impairments in the ability to recognise dysphagia symptoms, comprehend underlying causes, and comprehend effective therapies being highlighted. This indicates the necessity for focused teaching programmes to improve nurses' comprehension of dysphagia.

Patient outcomes are significantly influenced by nurses' attitudes towards managing dysphagia. Positive attitudes were linked to improved patient care, whereas negative attitudes could result in less-than-ideal management. Collaboration amongst different healthcare specialists, such as dietitians, physicians, and speech therapists, is necessary for effective dysphagia management. The research emphasised the importance of interdisciplinary teamwork in providing patients with dysphagia with comprehensive care. The review found a number of barriers, including a lack of funding and insufficient training opportunities, that prevent the best dysphagia care.

In summary, the examined literature sheds light on the numerous possibilities and problems that nurses in the Korle Bu Teaching Hospital's Ear, Nose, and Throat/Maxillofacial Units face when managing dysphagia. To fill the gaps that have been found and to promote positive change in this crucial area of patient care, more research is required.

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CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter provides an overview of the design and techniques used in conducting this study. It also includes the description of the participants, sample size determination, sampling technique as well as data analysis.

3.2 STUDY SETTING

The study was conducted at the E.N.T. and Maxillofacial units of Korle bu Teaching Hospital. The hospital is located in the Greater Accra region of Ghana. It is the largest tertiary hospital in the country with a bed capacity of over 2000 and about 150 admissions daily. It serves patients across the country and other countries within the West African sub-region. The selected units have a total of 80 beds.

3.3 STUDY DESIGN

A descriptive non-experimental survey design was adopted. This design allows the collection of information in order to describe a phenomenon without interfering (Domholdt, 2000). It was ideal for the study because it enabled the researcher to collect information on the knowledge of nurses working at the E.N.T. and Maxillofacial units regarding identification and management of swallowing difficulties.

3.4 STUDY POPULATION

The participants in the study are registered nurses and nursing staff who work in the ENT and maxillofacial units at Korle Bu Teaching Hospital in Korle Bu, Ghana. Within these specialised units, professional nurses are involved in managing and directly caring for patients. They have at least a nursing diploma from a reputable, authorised nursing training facility in Ghana and

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have been licensed by the nursing and midwifery council of Ghana. The study intends to look into their attitudes, practises, and understanding of managing dysphagia. In all, there are 84 nurses stationed at these units.

3.5 SAMPLE SIZE AND SAMPLING TECHNIQUE

The sample size was calculated using Yamane's formula, which is $n = N/ 1 + N(e)^2$, (Adam, 2020; Size, n.d.) where

n = sample size

N = target population (84)

e = margin of error (0.05)

This implies, $n = 84/1 + 84(0.05)^2 = 69.3$

Therefore, 70 nurses were recruited from these units for the study. Convenience sampling technique was used. This is a non-probability sampling method and involves recruiting participants based on their availability (Stratton, 2021).

3.6 INCLUSION CRITERIA

1. Registered Nurses: Participants were registered nurses with a valid nursing license, currently employed in the ENT and Maxillofacial Units of the Korle Bu Teaching Hospital.
2. Nursing Staff: This included nursing staff members with roles such as clinical nurse specialists, nurse practitioners, and other nursing roles directly involved in patient care within the specified units.
3. Experience Level: Nurses with varying levels of experience, a minimum of diploma in nursing

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4. Work Unit: Participants who worked in the ENT and Maxillofacial Units at the time of the research to ensure their relevance to the study objectives.

3.7 EXCLUSION CRITERIA

Student nurses as well as staff nurses who have not worked for more than one year were excluded. Because they are not registered nurses and they may not have adequate knowledge about dysphagia due to the fact that dysphagia is a specialized field that requires trained professionals.

3.8 DATA COLLECTION TOOL

A structured self-administered questionnaire (Appendix III) was used. The construction of the questionnaire was guided by the objectives of the study and other questionnaires used in similar studies (Lok, 2012; Rhoda & Pickel-Voight, 2015). The questionnaire was divided into five sections (A -E). Section A involved questions with regards to socio-demographic characteristics of the participants such as gender, age, educational level and number of years of work experience. Sections B, C and D contained closed ended questions about signs and symptoms, complications and management of dysphagia, respectively. The participants were required to respond by selecting either 'Agree', 'Disagree' or 'Unable to decide'. Section E contained questions meant to assess the participants' attitude towards dysphagia with 'Yes', 'No' or 'Not sure' as options to select as response.

3.8 ETHICAL CONSIDERATION

Ethical clearance was obtained from the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Science (SBAHS/AA/ASLT/10874699/2021-2022) before the commencement of data collection. Subsequent to this, permission was granted by the heads of the two units where data collection would take place. The purpose of the study, benefits as well as associated risks were clearly stated for the participants to read before giving their

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consent. They were also informed of their right to withdraw from the study at any time. The identity of participants was protected by using codes instead of their real names. All the filled questionnaires were stored in a cabinet that could only be accessed by the researcher. The Excel sheets and Statistical Package for Social Sciences (SPSS) forms were stored on a password-protected drive to prevent third party access.

3.9 PROCEDURE FOR DATA COLLECTION

Permission was obtained from the hospital and the heads of the two units. The researcher was introduced to the nurses by the matrons and the purpose of the study was explained to them. They were given the opportunity to seek further clarification. Also, the contact number of the researcher was made available to them in case they require further information. The questionnaires were deposited at the matrons' office together with informed consent forms, envelopes and pens. The participants were informed to answer the questionnaires and put them in individual envelopes before submission.

3.10 DATA ANALYSIS

The responses of the participants were coded and entered in Microsoft excel. The data was then transferred to SPSS version 22 for analysis. Descriptive statistics were summarized using frequencies, means and standard deviations, and presented with tables and charts. For sections B to E, every correct response was scored 1 point whiles an incorrect response resulted in 0 point. Also, 'Unable to decide' and 'Not sure' responses were counted as 0 point. It was assumed that these responses indicate that the participant did not know the correct response (Park et al., 2011).

The total available score of the various sections are as follows;

- Section B =13 points
- Section C =10 points

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- Section D = 7 points
- Section E = 4 points

The total score of sections B – D was 30. Their level of knowledge was classified based on the score they obtained out of 30. A score of 15 and below (≤ 50%) was classified as 'low', 16 to 22.5 (51% to 75%) moderate and above 22.5 (> 75%) was classified as 'high'. With regards to Section E, a total score of 3 or more out of 4 (≥ 75%) was classified as a positive attitude towards dysphagia.

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CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

This chapter presents the analysis of the findings obtained from the study. It covers the demographic characteristics of the participants as well as their knowledge level with regards signs or symptoms, complications and management of dysphagia and their attitude towards dysphagia

4.2 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

Table 1: Demography of participants

Variable		Frequency	Percentage
Gender	Male	7	10.0
	Female	63	90.0
Age (years)	20 – 30	21	30.0
Mean age = 33.6 ± 6.2	31 – 40	38	54.3
	41 – 50	11	15.7
Educational level	Diploma	11	15.7
	First degree	54	77.2
	Postgraduate	5	7.1
Rank	SN/SSN	18	25.7
	NO/SNO	42	60.0
	PNO/DCNO	10	14.2
Work experience (years)	1 – 5	18	21.4
	6 – 10	32	45.7
	Above 10	23	32.9
Nursed patient with dysphagia	Yes	43	61.4
	No	27	38.6
Trained on dysphagia management	Yes	25	35.7
	No	45	64.3

*SN = Staff nurse, SSN = Senior staff nurse, NO = Nursing officer, SNO = Senior nursing officer, PNO = Principal nursing officer, DCNO = Deputy chief nursing officer

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Most (90%) of the participants were females. Their age ranged from 24 to 50 years old (*M* = 33.6, *SD*= 6.2) and majority (77%) had first degree in nursing. More than half (60%) of them were either Nursing officers or Senior nursing officers. Only eight of them had worked between one to three years. Also, 43 participants (61%) indicated that they have never nursed a patient with dysphagia (table 4.1).

4.3 KNOWLEDGE OF NURSES REGARDING DYSPHAGIA

4.3.1 Knowledge of signs and symptoms of dysphagia

Table 2 presents the number of correct responses for the individual items. The least and highest scores of the signs and symptoms sub-section were 6 and 12, respectively. However, all the participants agreed with the statement 'patients always cough if they aspirate' which was incorrect. Also, 'difficulty closing lips' was correctly identified as a sign of dysphagia by 39 (55.7%) of the participants.

Table 2: Knowledge of signs and symptoms of dysphagia

Sign or symptom	Correct response	
	Frequency	Percentage
Coughing while eating	47	67.1
Skin irritations	63	90.0
Feeling of food getting stuck in the throat	63	90.0
Choking on saliva during non-meal times	63	90.0
Poor movement of the tongue	47	67.1
Food remains in the mouth	55	78.6
Poor chewing	63	90.0
Patients always cough if they aspirate	0	0
Difficulty closing lips	39	55.7
Weight loss	63	90.0
Frequent throat clearing after swallowing	63	90.0
Hoarse voice	55	78.6
Chest pain	47	67.1

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4.4 KNOWLEDGE OF COMPLICATIONS OF DYSPHAGIA

The scores obtained for the complications sub-section C ranged from 4 to 9 out of 10. An average score of 6.8 (68%) which indicate moderate knowledge was recorded. All the participants correctly identified general weakness, dehydration and malnutrition as complications of dysphagia. 46 (66%) of them wrongly stated that anaphylactic shock, sudden heart attack and haematemesis were complications of dysphagia as presented in table 3.

Table 3: Knowledge of complications of dysphagia

Complication	Correct response	
	Frequency	Percentage
Increased mortality	39	55.7
Pneumonia	63	90.0
Anaphylactic shock	24	34.3
General weakness	70	100
Problems with digestion	32	45.7
Aspiration	63	90.0
Dehydration	70	100
Sudden heart attack	24	34.3
Malnutrition	70	100
Haematemesis (vomiting blood)	24	34.3

4.5 KNOWLEDGE OF MANAGEMENTS OF DYSPHAGIA

Figure 1 depicts the percentage of correct responses provided by the participants with regards to management of dysphagia. All of them agreed with the need to provide oral hygiene daily as well as not feeding these patients with normal hospital food. Majority (83%) rightly

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disagreed with feeding patients whiles they lie flat on their back. However, all of them indicated that 'watery liquids were the safest to drink' and 'thickened liquid should be avoided' (89% of them) which were incorrect. An average score of 3.8 (54.3%) out of seven which indicate moderate knowledge was recorded.

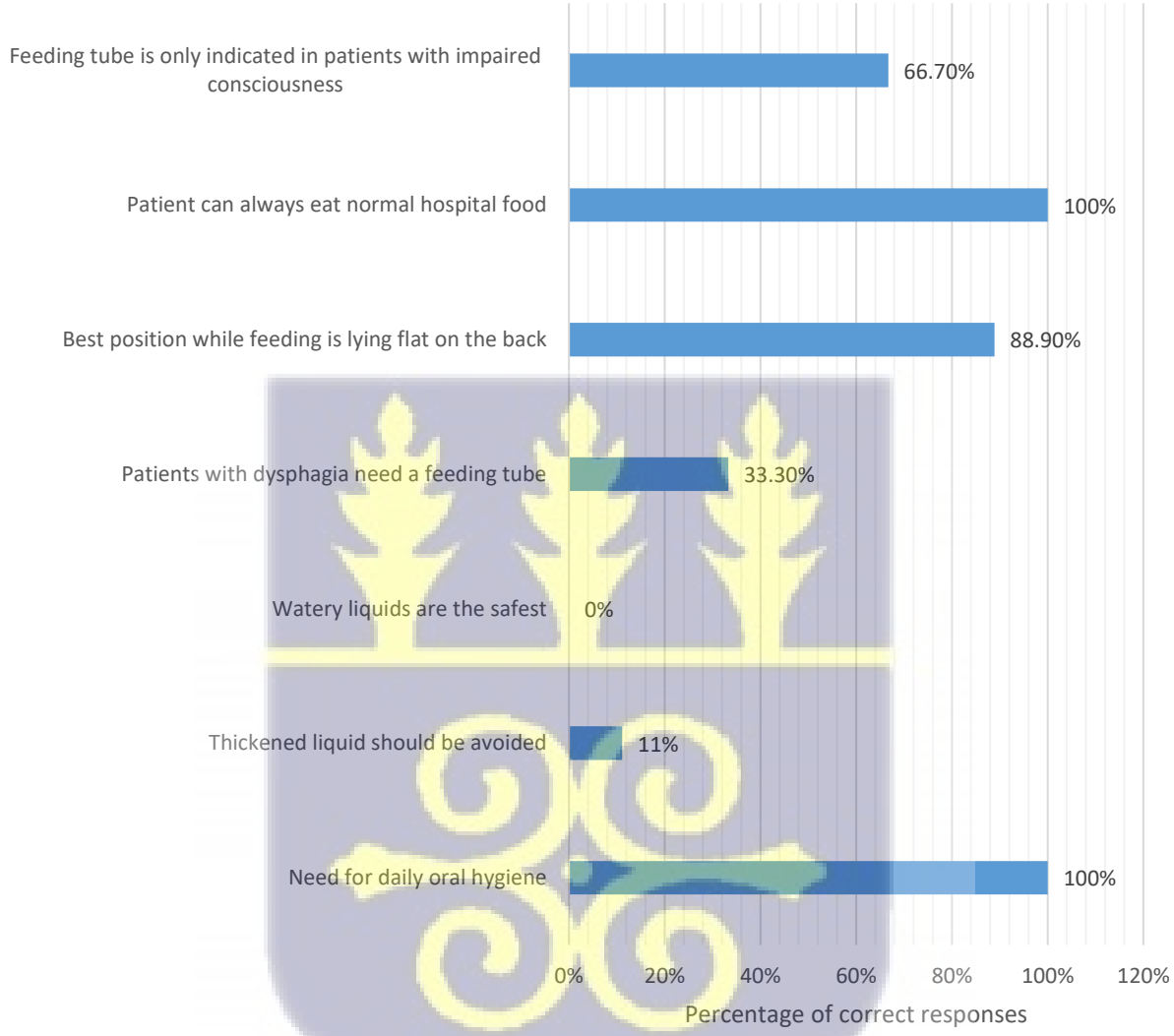


Figure 1: Knowledge of management practices

4.6 COMPARISON OF KNOWLEDGE LEVELS OF SUB-SECTIONS

Majority (71%) exhibited moderate knowledge of dysphagia whilst few (2.9%) had low knowledge level. From figure 2, most (75%) of the participants demonstrated high knowledge level in the signs and symptoms sub-section compared to the complication's table 3 and

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management fig 1 sub-sections. It can be observed that under the management sub-section, more (20%) participants recorded low knowledge level than the other sub-sections.

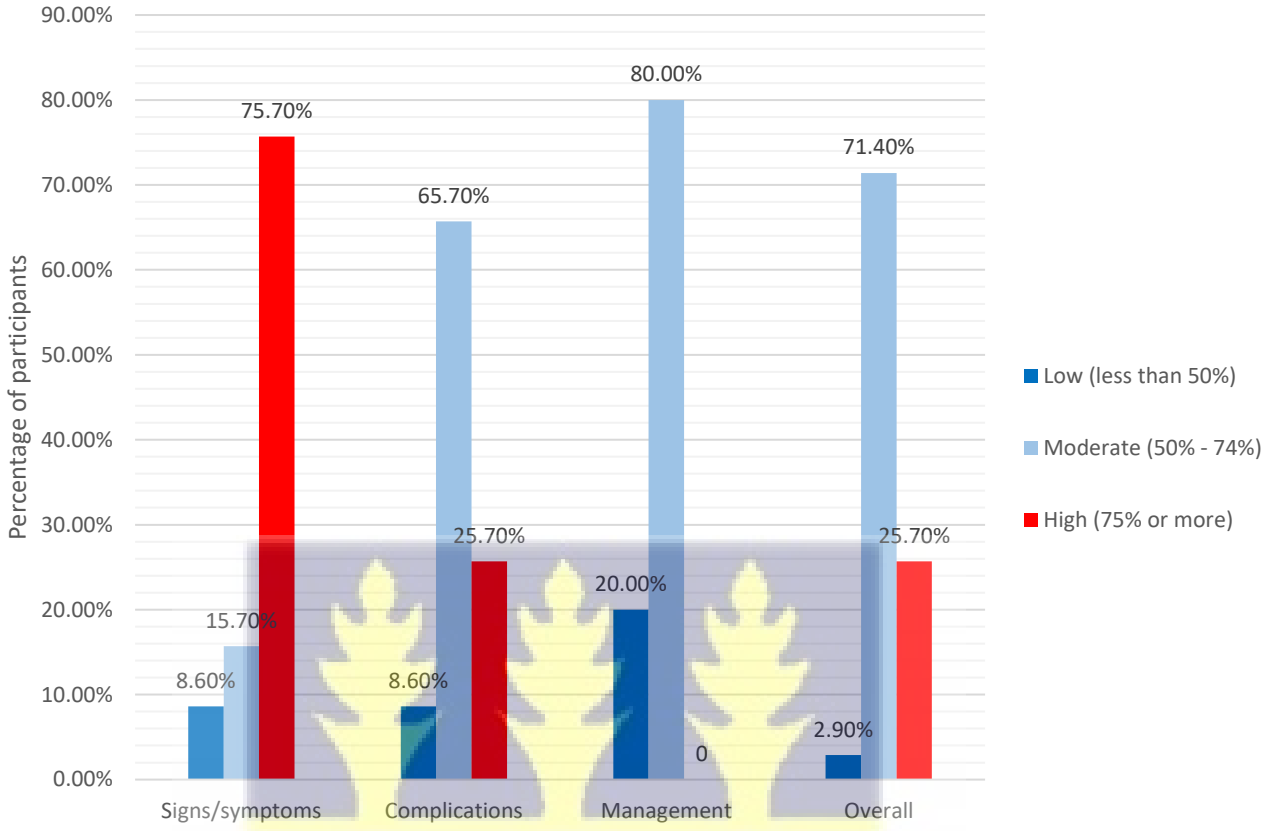


Figure 2: Participants' knowledge of dysphagia

4.7 FACTORS AFFECTING KNOWLEDGE OF DYSPHAGIA

A Fisher's exact test was used to determine if there was significant association between educational level, work experience and history of nursing a patient with dysphagia, and the knowledge level of the participants. There was no significant association between these variables and the participants' level of knowledge of dysphagia as shown in table 4.

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Table 4: Test for association

Variable		Knowledge level			Fisher's exact *p* – value
		Low	Moderate	High	
Educational level	Diploma	0	7	4	0.64
	First degree	2	38	14	
	Postgraduate	0	5	0	
Work experience	1 – 5	0	5	3	0.85
	6 – 10	0	16	4	
	Above 10	1	11	5	
Nursed patient with dysphagia	Yes	2	30	11	0.71
	No	0	20	7	

4.8 ATTITUDE TOWARDS DYSPHAGIA

About one-third (33%) of the participants reported that they are not satisfied with their current knowledge level of managing patients with dysphagia. Also, all the participants agreed that it is important for every nurse to receive formal training in the management of dysphagia and were willing to avail themselves for such training. This is indicative of a positive attitude towards dysphagia (table 5)

Table 5: Attitude towards dysphagia

Question	Response	Frequency (%)
Importance of formal training on management of dysphagia?	Yes	70 (100)
	No	-
Satisfaction with current knowledge level of dysphagia	Yes	47 (66.7)
	No	23 (33.3)
Willingness to receive training on nursing patients with dysphagia	Yes	70 (100)

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CHAPTER FIVE

DISCUSSION

5.1 INTRODUCTION

The study was aimed at assessing the knowledge, attitudes and management of dysphagia of nurses at selected units of KBTH. This chapter presents a discussion of the findings based on the objectives set for the study and in context with other authors of similar studies in literature. More than half (61%) of the participants reported that they had nursed patients with swallowing difficulties. This high percentage further supports the need for these nurses to be well versed in the identification and management of dysphagia.

5.2 KNOWLEDGE LEVEL ON SIGNS AND SYMPTOMS OF DYSPHAGIA

A mean score of 77% indicative of high knowledge level was recorded under this sub-section. Also, most (75%) of the nurses possessed high knowledge level of signs and symptoms of dysphagia. This score is relatively higher than those recorded by other authors like Knight et al., in 2020. Probably due to the fact the most of the participants had received higher education. In a study by Knight et al. (2020) in South Africa, participants demonstrated moderate knowledge level (mean score = 66.7%) of signs and symptoms of dysphagia. Rhoda & Pickel-Voight (2015) recorded a moderate knowledge level (mean score = 64.6%) of the signs and symptoms of dysphagia among nurses in Namibia. Also, a moderate knowledge level of signs and symptoms of dysphagia was recorded among Iranian physicians (mean score = 68.6%) by Bakhtiyari et al. (2019) and among nurses (mean score = 65.4%) in Nepal by Nepal & Sherpa (2019). Having adequate knowledge of signs and symptoms is important for the purpose of early identification and prevention of complications.

Unfortunately, all the nurses agreed that patients always cough if they aspirate which was incorrect. According to Miles et al., (2013), patients do not always cough when they aspirate;

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a phenomenon known as silent aspiration. This type of aspiration occurred among 20.8% of stroke patients in a study by Masiero et al. (2008). This can result in patients developing aspiration pneumonia if not identified (Teuschl et al., 2018). This leads one to consider whether or not nurses appreciated what aspiration entailed. Alternatively, the participants in this study were not aware of this because it is more common among patients with neurogenic dysphagia.

Similarly, other authors recorded very low scores for this particular statement with 78.3% to 83.1% of the participants providing an incorrect response (Rhoda & Pickel-Voight, 2015; Nepal & Sherpa, 2019; Knight et al., 2020). The findings of this study and that of other authors show that most nurses are not aware of this type of aspiration and suggest lapses in on-the-job training received by these nurses.

5.3 KNOWLEDGE LEVEL ON COMPLICATIONS OF DYSPHAGIA

The participants obtained an average score of 68% indicative of a moderate knowledge level with regards to the complications of dysphagia. This can be attributed to experiences gathered while nursing patients with dysphagia and discussions during ward meetings. This is consistent with the findings of Nepal & Sherpa (2019) where a mean score of 63.7% was recorded. However, a similar study among nurses in Eastern Cape – South Africa, recorded a low knowledge level (47.3%) of complications of dysphagia.

Most of the participants were able to identify pneumonia (90%), general weakness (100%), aspiration (90%), dehydration (100%) and malnutrition (100%) as complications of dysphagia. Likewise, Rhoda & Pickel-Voight (2015), Nepal & Sherpa (2019) and Knight et al. (2020) observed that pneumonia, aspiration, dehydration, malnutrition and general weakness were the most cited complications of dysphagia. These conditions are well-known complications of dysphagia associated with conditions such as head and neck cancers. Other conditions like anaphylactic shock, problems with digestion, sudden heart attack and haematemesis were

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wrongly classified by more than half of the nurses as complications of dysphagia. These conditions are known complications of several disease conditions such as ulcer. The nurses may have wrongly associated them with dysphagia. The same trend was observed by Knight et al. (2020) where the majority of the nurses indicated that anaphylactic shock, problems with digestion and sudden heart attack were complications of dysphagia.

5.4 KNOWLEDGE LEVEL ON MANAGEMENT OF DYSPHAGIA

An average score of 54.3% (moderate knowledge level) was recorded among the participants with regards to management of dysphagia. Similar levels were recorded by Knight et al. (2020) (54.2%), and Nepal & Sherpa (2019) (54.96%). Conversely, Rhoda & Pickel-Voight (2015) recorded a low knowledge level (49.3%) of dysphagia management practices among nurses in Namibia. This trend suggests that nurses may not be aware of some of the ideal or evidence-based practices involved in the management of dysphagia. Pierpoint and Pillay (2020) reported that there is a gap between evidence-based guidelines and nursing practice which can be attributed to lack of continuous professional development programmes on dysphagia for nursing staff. Majority of the participants (88.9% to 100%) agreed with providing daily oral care, not feeding patient whiles lying on their back, and not giving patients regular hospital food. These statements were also identified as ideal practices by nurses in Nepal and South Africa (Nepal et al., 2019; Knight et al. 2020). Nonetheless, the participants had misconceptions with regards to avoiding thickened liquids, giving watery liquids and use of feeding tube by patients with dysphagia leading to low number of correct responses. This is consistent with the findings of Rhoda & Pickel-Voight (2015), Nepal & Sherpa (2019) and Knight et al. (2020). These authors recorded the lowest number of correct responses for these statements. The participants may have considered that it will be easier for an individual with swallowing difficulty to swallow watery liquids than thickened liquids without considering the risk of aspiration. Thickened liquids are recommended for patients with dysphagia instead of

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watery liquids since they give the patient time to put in measures to protect the airway thereby preventing aspiration (Cichero, 2013; Barbon & Steele, 2018). This finding is an indication that the nurses are not aware of some of the recommended evidence-based practices with regards to feeding dysphagic patients. Adopting a multidisciplinary approach with the involvement of other health personals like SLTs during nurses' ward meetings can help address these knowledge gaps.

5.5 FACTORS AFFECTING KNOWLEDGE OF DYSPHAGIA

There was no significant association between knowledge level and educational level, years of work experience and care of patients with dysphagia. With respect to educational level, Nepal & Sherpa (2019), Rhoda & Pickel-Voight (2015) and Sharbatti et al. (2013) also found no association between nurses' knowledge level on dysphagia and educational level. This trend may be due to scarce information provided on dysphagia as part of the general nursing curriculum. Again, the fact that most of the nurses have not received formal training on dysphagia management implies the current knowledge they possess was acquired on the job which may not reflect their academic qualification. There is therefore the need for speciality courses in dysphagia management to make up for the knowledge gap.

In contrast to the findings of this study and that of Nepal & Sherpa (2019), Harper (2007) recorded significant association between knowledge level and years of work experience. The observation in the study can be attributed to lack of standard protocols for the identification and management of dysphagia at the various wards (Clave & Shaker, 2015). The institution of these protocols at the wards will keep the nurses updated with current knowledge and practices on dysphagia management even in the absence of a formal training.

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5.6 PERCEPTION TOWARDS DYSPHAGIA

In general, the nurses demonstrated a positive perception towards dysphagia management. Although more than half of them indicated that they were satisfied with their current knowledge level on management of dysphagia, all of them regarded training on management of dysphagia as very important and were willing to participate in such trainings. This implies that they may be aware of deficiencies in their knowledge on dysphagia management and are willing to make amends in order to improve the standard and quality of care they provide such patients.

Likewise, all the nurses in a study by Nepal & Sherpa (2019) in Nepal indicated that they would like to receive further training on management of dysphagia.

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CHAPTER SIX

CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

6.1 INTRODUCTION

This study was aimed at assessing the knowledge and attitudes of nurses at the E.N.T. and Maxillofacial units of KBTH toward dysphagia using a structured self-administered questionnaire. This chapter presents the conclusions drawn after analysing their responses. Also, recommendations have been made based on the findings as well as limitations of the study.

6.2 CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn:

Overall, nurses at the E.N.T. and Maxillofacial units of KBTH have moderate knowledge level on dysphagia. Most of them demonstrated high knowledge level on signs and symptoms of dysphagia and a moderate level on complications and management of dysphagia. Majority of the nurses have cared for patients with dysphagia but only few have received formal training on dysphagia. It is obvious that the training received on dysphagia as part of the nursing curriculum is inadequate and these nurses require a more specialized training in this regard.

The knowledge level of the nurses at these units was not influenced by educational level, years of work experience and experience of caring for a patient with dysphagia.

Nurses at the E.N.T and Maxillofacial units of KBTH have a positive attitude towards receiving training and information on management of dysphagia. The signs and symptoms of dysphagia can be easily identified, and these patients can be properly managed, by nurses who engage directly with patients experiencing dysphagia while they are in the hospital.

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6.3 RECOMMENDATIONS

The following recommendations were made based on the conclusions of the study: The following recommendations were made based on the conclusions of the study:

1. Regular training on dysphagia for the nurses at these wards can address the knowledge gaps identified in this study.
2. Organisation of specialty courses on dysphagia management for the nurses as related to ENT and maxillofacial conditions may introduce the staff to evidence-based practices with regards to dysphagia when nursing such patients.
3. Periodic teaching during ward rounds should be encouraged. Doing so in collaboration with otolaryngologist and SLT's will serve as a stop gap for nurses who are yet to undergo speciality training in dysphagia management.
4. Developing a protocol for identification and management of dysphagia can be considered for the units to enable the nursing staff adhere to best practices in order to avoid complications.
5. Nurses from other units and hospitals from other regions of the country as well as other health professionals can enrol in specialty tutorials on dysphagia in order determine the state of dysphagia management in the country.

6.4 LIMITATIONS

The study involved nurses from only two units in one hospital. Study could have provided more information by expansion to one or 2 other hospitals. Therefore, the results may not be a true representation of the knowledge of all nurses in KBTH and Ghana as whole.

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APPENDIX I

PARTICIPANTS INFORMATION SHEET

Title of Research Project:

Knowledge, Practices and Attitudes of Nurses on Dysphagia Management at the Ear, Nose and Throat (ENT)/ Maxillofacial Wards of the Korle Bu Teaching Hospital, Accra.

Principal Investigator: Stella Naa Densuah Ayivor

Address:

Department of Audiology, Speech and Language

School of Biomedical and Allied Health Sciences

University of Ghana, Legon

Telephone:0244236209

Email: naadensuah@yahoo.com

General Information about Research

This study seeks to determine the knowledge levels of nurses on dysphagia diagnosis and management at the Ear, Nose and Throat (ENT)/ Maxillofacial Wards of the Korle Bu Teaching Hospital, Accra. More specifically, the study seeks to (i) To determine the socio-demographic characteristics of nurses in relation to knowledge levels of dysphagia (ii) Evaluate the knowledge levels of nurses on the signs and symptoms of dysphagia (iii) Evaluate the knowledge levels of nurses, practices and attitudes on dysphagia management.

This study is primarily for academic purposes, and data gathered will only be used for that. The researcher intends to gather data for this study through this interview. Your participation in this

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study is therefore important in aiding to gather data for this study. Kindly take note that this interview is scheduled to last between 10-20 minutes.

Possible Risks and Discomforts

This study is for academic purposes. Some of the notable risks associated with participating in this interview are time spent during the interview, and possible spread of Covid-19 as the interview will be conducted face-to-face. To reduce the risk of Covid-19, the researcher will provide you with a small-sized bottle of sanitizer, one disposable nose mask, and will take steps to ensure strict adherence to social distancing protocols.

Possible Benefits

The researcher hopes that the outcomes of this study will improve nursing practice regarding Dysphagia. It is hoped that in the event of a positive result of the intervention programme the subject will be a part of the Continuous Professional Development (CPD) activity of Korle-Bu Teaching Hospital and other hospitals, nationwide. Additionally, the interview process could be psychotherapeutic as it will offer you the opportunity to share your experience with the researcher.

Alternatives to Participation

There will be disclosure of positive result of the intervention programme of this study that might be advantageous to participants.

Confidentiality

In upholding confidentiality, the researcher will ensure that data collected from participants are not unveiled to third parties to the research process. However, supervisors of this study, members of the EPRC of SBAHS, examiners of this thesis, and other lecturers of the Department of Audiology, Speech and Language can assess the data as and when the need

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arises. The data obtained will be stored on a personal laptop, reserved pen drive, and in a private Google Drive account, all of which are sealed with password.

Compensation

There will be no monetary compensation. However, in showing the researchers appreciation for the participants willingness and time to participate in the study, a token in the form of some snacks (will be offered to the participants).

Additional Cost

No additional cost is envisaged to result from participating in this study

Voluntary Participation and Right to Leave the Research

Please take note that participation in this study is totally voluntary. You have the right to withdraw from the study at any time during the interview session without suffering any penalty or loss.

Termination of involvement by the Researcher

In situations, where the participants are at risk, the investigator may terminate participation of the participants involved in this study

Notification of Significant New Findings

Participants will be made aware of significant new findings developed during the research to may relate to the participant's willingness to continue participation in the study.

Contacts for Additional Information

If you need clarity about this study or whom to contact in case of research-related injury, kindly contact: Stella Naa Densuah Ayivor at the Department of Audiology, Speech and Language,

University of Ghana http://ugspace.ug.edu.gh

School of Biomedical and Allied Health Sciences, University of Ghana, Legon on 0244236209 and via email: naadensuah@yahoo.com

Your rights as a Participant

Participants will be made to know their participation in this study is on voluntary basis and that they are at liberty to quit participation at any point of the study (before, during and after the study) and have the right to refuse to participate and refusal continue at any stage/level of the study.

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APPENDIX II

CONSENT FORM

The above document describing the benefits, risks and procedures for the research 'Knowledge, Practices and Attitudes of Nurses on Dysphagia Management at the Ear, Nose and Throat (ENT)/ Maxillofacial Wards of the Korle Bu Teaching Hospital, Accra' has been read and explained to me. I have been given an opportunity to ask questions about the research and answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Name and signature or mark of volunteer Date

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

_____ _____

Name and signature of Witness Date

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

_____ _____

Signature of Person Who Obtained Consent Date

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APPENDIX III

RESEARCH QUESTIONNAIRE

Dear participant,

Thank you for agreeing to participate in the study. This is a survey and not a test. It is very important that you complete the questionnaire by yourself. Your answers will help to identify the knowledge of nurses about eating and swallowing difficulties.

Section A: Socio-demographic characteristics of participant

Kindly fill in the blank spaces provided with the necessary information or tick the appropriate option.

A1. Age ……..

A2. Gender ☐ Male ☐ Female

A3. What is your highest qualification as a nurse?

☐ Certificate ☐ Diploma ☐ Advanced diploma ☐ First degree ☐ Post-graduate

A4. What is your current rank?

☐ SN ☐ SSN ☐ NO ☐ SNO ☐ PNO ☐ DCNO/DDNS

A5. How many years have you worked as a nurse?

☐ 1 – 3 ☐ 4- 6 ☐ 7 – 9 ☐ 10 and above

A6. What is your current ward? ……

A7. Have you ever nursed a patient with difficulty in swallowing or eating? ☐ Yes ☐ No

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Section B: Signs and symptoms of Dysphagia

Please read the following statements carefully and decide if you agree or disagree. Kindly select 'unable to decide' if you are not sure.

	Do you **agree/disagree** that the following statements are **signs or symptoms** of eating and swallowing difficulties?	Disagree	Unable to decide	Agree
B1.	Coughing while eating			
B2.	Skin irritations			
B3.	Feeling of food getting stuck in the throat.			
B4.	Choking on saliva during non-meal times.			
B5	Poor movement of the tongue			
B6	Food remains in the mouth			
B7	Poor chewing			
B8	Patients always cough if they aspirate.			
B9	Difficulty closing lips			
B10	Weight loss			
B11	Frequent throat clearing after swallowing			
B12	Hoarse voice			
B13	Chest pain			

Section C: Complications of Dysphagia

Please read the following statements carefully and decide if you agree or disagree. Kindly select 'unable to decide' if you are not sure.

	Do you **agree/disagree** that the following statements are **complications** of eating and swallowing difficulties?	Disagree	Unable to decide	Agree
C1	Increased mortality			
C2	Pneumonia			
		Disagree	Unable to decide	Agree

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C3	Anaphylactic Shock			
C4	General weakness.			
C5	Problems with digestion			
C6	Aspiration			
C7	Dehydration			
C8	Sudden heart attack			
C9	Malnutrition			
C10	Haematemesis (vomiting blood)			

Section D: Management of Dysphagia

Please read the following statements carefully and decide if you agree or disagree. Kindly select 'unable to decide' if you are not sure.

	Do you agree/disagree with the following statements about management of eating and swallowing difficulties?	Disagree	Unable to decide	Agree
D1	Patients with a feeding tube need daily oral hygiene (mouth washing and brushing of the teeth)			
D2	Thickened liquid should be avoided			
D3	Watery liquids are the safest substances to drink			
D4	All patients with difficulty in swallowing need a feeding tube.			
D5	The best position while feeding the patient is when the patient lies flat on his back.			
D6	The Patient can always eat normal hospital food.			
D7	Feeding tube is only indicated in patients with impaired consciousness.			

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Section E: Attitude towards Dysphagia management

		Yes	No	Not sure
E1	Is it important for every nurse to receive training on management of patients with eating and swallowing difficulties?			
E2.	Have you received formal training on management of eating and/or swallowing difficulties?			
E3.	Are you satisfied with your current knowledge level about nursing patients with eating and swallowing difficulties?			
E4.	Would you like to receive further formal training and information about nursing patients with eating and swallowing disorder?			



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APPENDIX IV

ETHICAL CLEARANCE

UNIVERSITY OF GHANA
SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES
OFFICE OF THE SCHOOL ADMINISTRATOR

September 15, 2022

Mr. Stella Naa Densuah Ayivor
Department of Audiology, Speech, and Language Therapy
SBAHS, Korle–Bu.

Dear Ms. Ayivor,

ETHICS CLEARANCE

Ethics Identification Number: SBAHS/AA/ASLT/10874699/2021-2022

Following a meeting of the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences held on August 29, 2022, I write on behalf of the Committee to approve your research proposal entitled:

"Knowledge, Practices and Attitudes of Nurses on Dysphagia Management at the Ear, Nose and Throat (Ent)/ Maxillofacial Wards of the Korle Bu Teaching Hospital, Accra".

This clearance is valid for three years and requires that you submit three-monthly review reports of the protocol to the Committee and a final full review to the Committee on completion of the research. The Committee may observe the procedures and records of the research during and after implementation.

You are required to report all serious adverse events related to this research to the Committee within seven (7) days verbally and fourteen (14) days in writing.

Please note that any significant modification of the research must be submitted to the Committee for review and approval before its implementation.

As part of the review process, it is the Committee's duty to review the ethical aspects of any manuscript that may be produced from this research. You will, therefore, be required to furnish the Committee with any manuscript for publication.

Please always quote the ethics identification number in future correspondence regarding this protocol.

Thank you.

Yours sincerely,

David Nana Adjei (PhD)
Chairman, Ethics and Protocol Review Committee

CC: Dean, SBAHS
Head, Dept. of Audiology, Speech, and Language Therapy
School Administrator, SBAHS

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