KNOWLEDGE OF NURSES ABOUT COMMUNICATION MILESTONES AMONG YOUNG CHILDREN AT THE PRINCESS MARIE LOUISE CHILDREN'S HOSPITAL

REBECCA BOISON

(10704001)

DEPARTMENT OF AUDIOLOGY, SPEECH AND LANGUAGE THERAPY

SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

A THESIS SUBMITTED TO THE DEPARTMENT OF AUDIOLOGY, SPEECH AND LANGUAGE THERAPY, SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES, COLLEGE OF HEALTH SCIENCES, UNIVERSITY OF GHANA,

IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER OF SCIENCE DEGREE IN SPEECH AND LANGUAGE THERAPY

OCTOBER, 2020

DECLARATION

I, Rebecca Boison, of the Department of Audiology, Speech and Language Therapy, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana, do hereby assert that with the exclusion of references to the literature and works of other researchers which have been duly mentioned, the work in this dissertation is the result of my original work under the keen supervision and direction of my supervisors.

Signature ..... Date 28/10/2020

REBECCA BOISON
(10704001)
(STUDENT)

Signature ..... Date 29/10/2020

NANA AKUA VICTORIA OWUSU

(SUPERVISOR)

Signature ..... Date Oct 29, 2020

HEAD OF DEPARTMENT
DEPARTMENT OF SPEECH AND LANGUAGE THERAPY,
UNIVERSITY OF GHANA.

DEPARTMENT OF AUDIOLOGY
SPEECH & LANGUAGE THERAPY
SCHOOL OF BIOMEDICAL AND ALLIED
HEALTH SCIENCES

DEDICATION

I wish to dedicate this work to the Almighty God for His protection and guidance throughout and to my two daughters; Wilhemina Bernice Steele-Dadzie and Emmanuella Steele-Dadzie for their sacrifices, prayers and immense support.

ACKNOWLEDGEMENT

I would like to express my uttermost gratitude to God Almighty for giving me strength to complete this study. I would not have been able to do so without Him.

My deepest gratitude goes to my family for their encouragement, prayers throughout this project session and their financial support.

I am extremely thankful to my supervisor Nana Akua Victoria Owusu for her support and guidance throughout this study and also to Josephine Ohenewa Bampoe for her immense contribution. To all the staff of the Department of Audiology, Speech and Language Therapy of the School of Biomedical and Allied Health Sciences, University of Ghana, I say a tremendous thank you for your varied contributions towards this project.

I extend my heartfelt appreciation to the Deputy Director of Nursing Services of the Princess Marie Louise Children Hospital and to Senior Nursing Officer, Gertrude Gastri for their support and time throughout my data collection process.

I also extend my gratitude to Jaiyeola Kofi Bohli, for his unflinching support and assistance.

Ms Alfreda Charway, thank you, for your insights and technical support throughout this study and to Mrs Victoria Tutu for her inspiration.

Finally, to all the study participants who took part in the data collection, I say thank you and God bless you for your contributions.

ABSTRACT

BACKGROUND: Understanding children's communication development is very important to their growth. Nurses, being the frontiers of the health institutions, are required to have basic knowledge of children's development. However, the role of the nurse in monitoring communication development of children during visits to the hospital is poorly met, especially in the context of identifying communication difficulties.

AIM: This study aims at analyzing the depth of knowledge of nurses about communication milestones of young children from 0 – 5years of age to equip in the monitoring of their communication development.

METHOD: The study adopted the use of a qualitative research design with 26 nurses comprising of general, enrolled and community health nurses. General Nurses are professional nurses trained in all aspects of nursing in order to provide quality health care to any patient they may come into contact with whereas a critical care nurse is a nurse who has specialized in providing quality health care to patients who are critically ill. Enrolled nurses are trained to assist the professional nurses in providing care to patients whiles community health nurses are trained to educate and promote healthy lifestyles in the community.

Semi-structured questionnaires were used during individual interview sessions with the nurses. Data obtained was collated and analyzed using thematic analysis.

RESULTS: The knowledge that nurses have about speech and language development of a child was in line with some communication milestones. They had fair knowledge but lacked the in-depth knowledge of typical language development of a child. Surveillance for communication disorders was next to non-existent as little knowledge in the typical, hampers identifying the atypical. The

limitations in knowledge negatively affected the quality of education given to parents and caregivers. The nurses reported that they would like to undergo training in order to get more information on typical communication milestones, identification of disorders and educational guidelines for parents to adhere to in order to greatly improve the care given to children.

CONCLUSION: This study has shown that the knowledge that nurses have with regards to communication milestones in children is very limited. There is a need for a revamp in the curricula of nurses to include communication milestones like other developmental milestones. Speech and language therapy should be embraced in order to expand instructional or educational practices. An interdisciplinary approach involving all health team members should be utilized in order to make use of all available resources.

KEYWORDS: Communication milestones, continuous professional development, child language, surveillance, child health, therapy, intervention.

LIST OF FIGURES

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS USED

WHO	World Health Organization
UN	United Nations
PML	Princess Marie Louise Children Hospital
AAP	American Academy of Paediatrics
NIDCD	National Institute on Deafness and Other Communication Disorders
CWCs	Child Welfare Clinics

CHAPTER ONE

1.0. INTRODUCTION

This chapter gives a background information on the study stating the problem statement, significance of study, aims and objectives.

1.1 BACKGROUND

Communication is a fundamental human right (McEwin & Santow, 2018). It is basic to an individual's functioning. Article 19 of the Universal Declaration of Human Rights states that "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media regardless of frontiers"(UN General Assembly, 2017). It includes the exchange of thoughts, ideas, or information through speech, writing, or signing from a sender to a receiver using a mutually accepted media (Owens, 2016).

Communication development in children usually follows a predictable pattern that needs to be monitored. Any difficulty in communication is likely to have a significant impact on a child's social behaviour and academic skills. It was observed in a study that children have various developmental delays of which personal or social interaction is the most common among the sampled children (Bello et al., 2013; van der Merwe et al., 2019). It is important for professionals working with young children to have the ability to identify children who are at risk for communication disorders as early as possible.

Early identification of communication disorders during the first 5years of a child's life can lead to early intervention and prevention of negative impacts on the child's communication development. Nurses are generally tasked with the responsibility of assisting with the day to day management of

the healthcare facility including rendering of services and relaying information for management and referral purposes. The role of nurses in most parts of Ghana is no different with more compounding responsibilities for those who find themselves in large capacity hospitals and health centres. In specialized children's hospitals and paediatric units where most parents and caregivers visit often, these nurses serve as the frontline information givers, advisors and health state assessors. Therefore, it is important for them to know the communication developmental milestones just as they do with motor and physical growth development in order to be able to identify any delays or deviations, hence making a timelier referral for intervention.

1.2. PROBLEM STATEMENT

Communication is key to the development of humans and thus it is strange that speech and language disorders are often overlooked or not seen as pivotal to a person's quality of life (Rice et al., 1991). Communication disorders in infants and toddlers are significantly under identified in Ghana, prohibiting early intervention for many children and families who might benefit from speech and language therapy services. It is important for nurses and other healthcare professionals to know the warning signs of communication disorders and the need for a communication, speech or language evaluation for children during infancy through to early childhood.

There is limited awareness and knowledge of communication development milestones among healthcare professionals in Ghana especially nurses who serve as the first point of call in healthcare facilities. The lack of awareness and knowledge of communication development milestones has contributed immensely to the late referral of children to the speech and language therapy clinic and this has long term consequences on such children. Children with developmental difficulties such as speech and language disorders are at a higher risk of reading disability (NIDCD, 2010). It was also stated in a report by the World Health Organization (W.H.O), that health care

professionals are mostly aware of gross motor development and that attention should be paid to areas of functional development that is pertinent to later outcomes, thus language and communication (Ertem, 2012).

1.3. SIGNIFICANCE OF STUDY

The outcome of the study will serve as a background information on the knowledge level of communication development in young children among nurses working at a children's hospital in Accra. The information gathered will help direct the kind of training to be given to practicing nurses to help in early identification of children with communication difficulties. It will help provide evidence for policy planning and inculcating communication development in nursing training curricula. This study will also add to existing knowledge of what is known on health professionals and child communication development in Ghana, West Africa and Sub-Saharan Africa.

1.4. THE AIM OF THE STUDY

This study sought to find out the depth of knowledge of nurses at the Princess Marie Louise Children's Hospital (PML) on communication milestones of young children from 0 – 5years of age as this will aid in the monitoring of their communication development.

1.5. SPECIFIC OBJECTIVES

- To investigate nurses' awareness of communication milestones of children between 0-5 years at PML.
- To explore how nurses, identify communication disorders among children between 0-5 years.

- To ascertain the means of nurses' referral for children between 0-5 years with communication disorders.

1.6. RESEARCH QUESTION AND HYPOTHESIS

- How much training do nurses have on communication milestones?
- Does having in-depth knowledge on communication milestones improve nurses' ability to identify communication disorders?

1.6.1 HYPOTHESIS

Little or no knowledge on communication milestones diminishes the ability of nurses to identify communication disorders promptly and effectively in children between 0-5 years. The lack of awareness and knowledge of communication developmental milestones has contributed immensely to the late referral of children to the speech and language therapy clinic as the nurses are not able to identify these disorders.

CHAPTER TWO

2.0. LITERATURE REVIEW

This chapter discusses the literature available on communication milestones.

2.1. INTRODUCTION

In the early stages of human development, there is a lot of development and maturation which is pivotal to the acquisition of speech and language skills (NIDCD, 2010). Developmental milestones involve key skills such as smiling for the first time, taking a first step, paying attention to faces among others. Children attain these milestones in how they play, talk, mode of learning and their movement (Center on Birth Defects, 2010). These milestones are useful for charting the typical development of children as well as aiding the clinicians and other healthcare givers to determine whether or not a child is eligible for special care.

There is a variation in how children develop speech and language skills but they follow a natural progression for the mastery of language skills and these milestones are observable traits that children show at certain ages (Center on Birth Defects, 2010; NIDCD, 2010). One of the earliest ways of communication in infants occur when they learn that a simple cry would give them the food, comfort and companionship they are in dire need of (NIDCD, 2010).

Children who experience difficulty understanding what others say (open language) or difficulty sharing their musings (expressive language) may have a language issue which could hamper their communication development. Those who experience difficulty creating discourse sounds effectively or who waver or stammer when talking may have a discourse issue (NIDCD, 2010). Children with undetected hearing impairment regularly fall behind their friends in school concerning the advancement of language, intellectual, and social aptitudes and it is harder to

communicate, learn, and follow expressive gestures when a hearing loss is present (Roberts & Jones, 2017)

As the demands of patients increase in terms of the care given to patients with various conditions, the expectation for the nursing staff to deliver in order to meet the growing demands is high especially in the era where multidisciplinary collaboration is necessary to ensure good quality of life of patients (Ertem, 2012). In this trajectory, caretakers of persons with complex needs rely much on the nursing staff to facilitate health service delivery and in some cases refer them to the appropriate professionals.

In Ghana, the healthcare system lacks a model for the promotion and monitoring of the development of children, prevention and early identification of risk factors associated with developmental difficulties and early intervention whereas in high income countries, there are multiple opportunities for the prevention, early identification and management of developmental difficulties in young children (van der Merwe et al., 2019). One of such opportunities is the state-of -the -art healthcare facilities available with enhanced models and roadmaps for early childhood development and trigger points (or warning signs) used to identify lapses in the development (van der Merwe et al., 2019).

Sometimes the warning signs for referral in terms of communication disorders or delays may be subtle and may be overlooked by healthcare providers. Therefore a collaboration between nurses and speech and language therapists will allow for early identification and intervention (Wankoff, 2011). This calls for enhanced training for nursing staff to give them the requisite skills and knowledge needed to enable them make necessary referrals for interventions. For nurses to have these skillsets needed for prompt interventions, there is a need for them to be fully aware of all developmental milestones.

2.2. DEVELOPMENTAL MILESTONES

The first few years of development in infants and children are very important to how they develop lasting learning and development skills (NIDCD, 2010; Scharf et al., 2016). These first few years come with intense brain development and maturation. This phase is pivotal in acquisition of speech and language skills. It is the critical period for language development and if the child is not exposed to language, it becomes a daunting task to grasp later in life (NIDCD, 2010). Developmental milestones are practices and physical abilities that are seen in infants and children during their growth phase. They are checkpoints in the development of children to determine what they can do at particular ages. The ability to roll over, crawl, walk, talk are considered as milestones. The knowledge of these milestones would allow the caregivers of the children to grasp the concept of typical child development and to also troubleshoot problems with a delay in development.

2.2.1. TYPES OF DEVELOPMENTAL MILESTONES

Developmental milestones have been divided into four categories: physical milestones, cognitive milestones, social and emotional milestones, and communication and language milestones. The physical milestones appertain to gross and fine motor skills, the cognitive milestones deal with reasoning, memory and problem-solving skills, communication and language milestones deal with receptive and expressive communication, speech and nonverbal communication while socio-emotional milestones appertain to attachment, self-regulation and interaction with others (Dosman et al., 2012; Scharf et al., 2016).

2.2.2. IMPORTANCE OF DEVELOPMENTAL MILESTONES

Developmental milestones are very important because it gives the caregivers of the children knowledge on the child's growth and maturation. Developmental milestones can give one a clue if a particular child is lagging behind in terms of growth and maturation and ensure they get the right help to enable them to catch up. The milestones are divided into different categories and when one of these milestones are missing, the doctor/paediatrician can identify the problem and give an exact diagnosis to ascertain what is actually wrong with the child. Early diagnosis would in turn help the child to get the needed help in terms of therapy sessions and interventions so as to enable the child to learn key skills and not lag behind in terms of their development. (Dosman et al., 2012; Scharf et al., 2016).

2.3. DEVELOPMENTAL SURVEILLANCE AND SCREENING

The attention paid to a disease trend in a population is known as surveillance. Screening on the other hand involves the use of specific tools to detect developmental disorders and diseases during a time when prompt interventions would improve developmental growth of the child (Scharf et al., 2016). Developmental surveillance is the prompt observation of a child's development over a period of time in order to promote healthy development and identify children with developmental issues (Dosman et al., 2012). The adequate surveillance of children is vital for the prompt identification and treatment (interventions and therapies) of developmental disorders; hence, there is a need for adequate training on the milestones (Dosman et al., 2012). Developmental screening tools have standardized protocols that are significantly more sensitive than the clinical methods for identifying children at risk of developmental and behavioural difficulties and also to supplement developmental surveillance (Dosman et al., 2012; Scharf et al., 2016). The American

Academy of Paediatrics (AAP) advises that clinicians screen children at vantage time intervals for development using standardized, validated tools such as the Denver Developmental Screening Test and the Ages and Stages Questionnaires to evaluate milestones across diverse categories (Scharf et al., 2016). Screening allows for the prompt identification of communication disorders and to facilitate referrals to the speech and language therapy clinic.

2.4. COMMUNICATION AND LANGUAGE MILESTONES

The early years of a child are vital in the acquisition of speech and language skills and these skills develop optimally in an environment that is rich with sounds, sights and continuous exposure to the speech and language of others (NIDCD, 2010). Babies begin to communicate by crying and then after a few months of development, they begin to babble and copy the sounds others make around them. These communication milestones are broken into various segments based on the timeframe in their developments; they are seen over a period of time from when they are born to when they reach age four to five. The communication and language milestones are observed in age groups; the 0-3rd month, 4th -6th month, 7th – 9th month, 10th-12th month, 13th – 18th month, 19th – 24th month,2nd – 3rd year, 3rd -4th year, 4th - 5th and 5th – 6th year (MedlinePlus, 2020; Dosman et al., 2012; Scharf et al., 2016). These milestones have also been validated by the American Academy of Paediatricians.

2.4.1. MILESTONES IN THE FIRST THREE MONTHS (0-3 MONTHS)

- The child begins to get startled and alert to voice or sounds.
- Makes throaty or vowel-like noises.
- The child turns head towards sound or voice and shows keen interest in faces.

- Makes eye contact and cry differently for different needs such as hunger or fatigue.
- Coos and social smiles are seen at about 6 weeks.

2.4.2. MILESTONES IN THE 4TH – 6TH MONTH

- Reacts to sudden noises or sounds.
- Begins to use consonant sounds in babbling, e.g. “da, da, da”.
- Makes different kinds of sounds to express feelings.
- Notices toys that make sounds and plays with them.
- Uses babbling to get attention.
- Turns head in direction of a voice.
- Stops crying to soothing voice.
- Laughs out loud and vocalizes when alone and when in front of a mirror.
- Begins to respond or turn to name.
- Expresses anger with sounds other than crying.
- Stops momentarily to “no” and gestures for “up”.

2.4.3. MILESTONES IN THE 7TH – 9TH MONTH

- Looks toward familiar people and objects when named.
- Attends to music and enjoys gesture games.
- Recognizes sound of their name and participates in two-way communication.
- Increasing variety of syllables and responds to “Come here”, and also some other commands coupled with gestures.
- Looks for family members; “Where’s mama?”etc.
- Says “Dada” and “Mama” (nonspecific).

- Echolalia (8 to 30 months).
- Shakes head for “no”.

2.4.4. MILESTONES IN THE 10TH – 12TH MONTH

- Meaningfully uses “mama” or “dada” (specific).
- Responds to simple instructions, e.g. “Come here” and produces long strings of gibberish (jargoning) in social communication.
- Says one or two words and imitates speech sounds.
- Babbling has sounds and rhythms of speech.
- Pays attention to where you are looking and pointing.
- Begins using hand movements to communicate wants and needs (proto-imperative pointing), e.g. reaches to be picked up.
- Enjoys peek-a boo.
- Waves “bye-bye” back.
- Bounces to music.
- Uses several gestures with vocalizing (e.g., waving, reaching, shaking of head).

2.4.5. MILESTONES IN THE 13TH – 18TH MONTH

- Follows one-step command with and without gesture.
- Recognizes names of two objects and looks when named.
- Points to get desired object (proto-imperative pointing).
- Uses several gestures with vocalizations (e.g., waving, reaching).
- Names one object.
- Points at object to express interest (protodeclarative pointing).

- Can identify 1-2 body parts when named and shows interests in pictures.
- Responds to questions and repeats words overheard in conversation.
- Continues to produce speech-like babbling and points at familiar objects and people in pictures.
- Understands “in” and “on” and responds to “yes” or “no” questions with head shake or nod.

2.4.6. MILESTONES IN THE 19TH – 24TH MONTH

- Uses at least 50 words and consistently imitates new words.
- Names objects and pictures.
- Uses simple pronouns (me, you, my).
- Identifies 3-5 body parts when named and understands new words quickly.
- Begins to use 2-word phrases (“See cat”, “Mummy car”).
- Understands action words and uses gestures and words during pretend play.
- Follows 2-step related directions e.g. “Pick up your cap and bring it to me”.

2.4.7. MILESTONES IN THE 2ND – 3RD YEAR

- Consistently uses 2-3-word phrases and uses “in” and “on”.
- Follows 2-step unrelated directions, e.g. “Give me the ball and go get your coat”.
- Understands basic nouns and pronouns Understands “mine” and “yours”.
- Asks “what” and “where” questions.
- Uses plurals, e.g. “dogs”.
- Most speech is understood by caregiver.
- Simple understanding of concepts including colour, space, time.

- Understands “why” questions and most simple sentences.

2.4.8. MILESTONES IN THE 3RD – 4TH YEAR

- Uses three-word sentences and carries on a conversation.
- Talks clearly enough so that strangers can usually understand.
- Follows two- or three-part instructions, e.g. Pick your cup, go to the bedroom and clean the floor”.
- Says words like “I,” “me,” “you,” and “we” and uses some plurals.
- Understands words such as “in,” “on” and “under.”
- Says first name, age and gender. Asks “why,” “where,” “what,” “when” and “how” questions.
- Names a friend.
- Tells stories and recalls parts of stories.
- Knows some basic rules of grammar and uses words correctly.
- Sings a song or says a rhyme from memory.
- Says first and last name.
- Communicates clearly and speaks in complete sentences.

2.4.9. MILESTONES IN THE 5TH – 6TH YEAR

- Knows right and left on self.
- Points to different one in a series.
- Understands “er” endings (e.g., batter, skater, shatter).
- Understands adjectives: busy, long, thin, pointed.

- Enjoys rhyming words and alliterations.
- Produces words that rhyme.
- Points correctly to “side”, “middle”, “corner”.
- Repeats six- to eight-word sentence.
- Defines simple words and can use up to 2,000 words.
- Knows telephone number.
- Responds to “why” questions.
- Retells story with clear beginning, middle, end and asks what unfamiliar words mean.
- Can tell which words do not belong in a group.
- Repeats 8- to 10-word sentences.
- Describes events in order.
- Knows days of the week and can have up to 10,000-word vocabulary.

2.5. KNOWLEGDE ON COMMUNICATION MILESTONES

Nurses and midwives form the natural points of health managers of nursing mothers from prenatal to early developmental stages and have a paramount role in aiding in early identification.

Globally, the nursing curricula does not provide formal training with regards to communication development (Kemker et al., 2013). Thus, many trained nurses working at child welfare and paediatric units have less knowledge on communication development in children. Healthcare professionals are aware of gross motor development hence emphasis should be placed on areas of functional development pertinent to later outcome, i.e. language and communication (Ertem, 2012)

A study by Bello et al (2013) in a rural community welfare clinic in Ghana among children between the ages of 0 to 5 years showed that, 44% of the children sampled had developmental delays. Of this number, 12.4% had personal and social interaction difficulties, 5.8% communication difficulties among others. This reinforces the fact that a non-negligible percentage of children experienced developmental delays in communication and, personal and social interactions. These disorders were identified late due to the lack of periodic screening programmes in most rural welfare clinics in Ghana (Bello et al., 2013). The delay in identification of developmental disorders is further worsened as a result of insufficient knowledge about developmental disorders among nursing and expectant mothers and these group of people mostly get information during antenatal and postnatal meetings. It can be argued that the information may not have been provided to the mothers during the meetings. This could be a consequence of inadequate knowledge of the nurses that oversee such meetings. Parents have frequently been concerned about their children's communication development but have not been able to access assessment, intervention and advice. They have frequently been incorrectly assured that the child 'will grow out of it'. Due to this, there is a general need to assess the current knowledge level of nursing staff. A major children's hospital in Accra which caters for about 5000 children between the ages of 0-17 years annually has been selected for this study.

CHAPTER 3

3.0. METHODOLOGY

This chapter discusses the methodology used in the study. The study design, study site, sample size, inclusion and exclusion criteria, data collection, management and analysis.

3.1. STUDY DESIGN

This study was a qualitative descriptive study. The study utilized qualitative methods of data collection. For data collection, a semi-structured questionnaire with three open-ended questions were used and for qualitative analysis, audio interviews were also used. The open-ended questions and the transcript from the audio interviews were analyzed qualitatively using thematic analysis. Thematic analysis was used as it allowed for identification of common patterns of meanings that were displayed in the data. An inductive approach of thematic analysis was utilized as themes were developed based on the data available. The knowledge of nurses about communication milestones was explored using this method.

3.2. STUDY SITE

This study was conducted at the Princess Marie Louise Children's Hospital (PML) in Accra, Ghana. The Princess Marie Louise Children's Hospital (PML) is a 74-bed government health facility situated in the commercial hub of the capital city, Accra. It is one of the largest providers of specialist paediatric care, providing both primary and secondary care. The facility provides services to the inner-city populace along the coast of the southern border of the country and the rest of Accra populace, providing primary care and specialized services in paediatrics. This site was chosen because it is a major children's hospital in Accra which provides general and specialist care to about 5,000 children between the ages of 0-17 years annually.

3.3. STUDY PARTICIPANTS

The data analysis was made based on answers given on the questionnaires and the information collated during the interviews. The participants enlisted for this study were nurses who give care to patients at the Princess Marie Louise Children's Hospital. The fact that the study site is primarily a children's hospital makes it expedient to gauge the knowledge of the nurses on the communication milestones in young children.

3.4. SAMPLE SIZE

The Princess Marie Louise Children's hospital has 76 Nurses who are permanent nursing staff. Of the 76 nurses, 26 participated in the study. The 26 nurses comprised of general, enrolled, and community health nurses. Out of the 26 nurses, 10 of them were able to participate in the audio interview sessions. The remaining could not partake due to personal reasons and work-related issues but were available to fill the semi-structured questionnaire. Data saturation was reached as additional interviews buttress the points elaborated by the previous participants and no new information was being added to the study.

3.5. INCLUSION AND EXCLUSION CRITERIA

3.5.1. INCLUSION CRITERIA

General, enrolled and community health nurses who were permanent staff of the hospital during the time of the study.

3.5.2. EXCLUSION CRITERIA

Student nurses on clinical practicum and nurses on rotation were exempted from the study.

3.6. PROCEDURE FOR DATA COLLECTION

The data for this study was collected using qualitative descriptive techniques. Semi-structured questionnaires were used to collect data for descriptive analysis and recorded audio interviews were used to collect the data used for qualitative analysis. A qualitative research with 26 nurses with individual consultation carried out through semi- structured questionnaires and recorded audio interviews. The interview session lasted between five to eleven minutes at the nurses' restroom and station. A convenience sampling technique was used to select the participants. Semi-structured questionnaires adapted from Pizolato et al., 2016, was administered by the principal researcher for data collection in three folds capturing morning, afternoon and night shift nurses with about two to three nurses on each shift at the various units. The questionnaire has three phases; knowledge of communication milestones, ability to rapidly diagnose and give referrals for children with communication disorders and the possible suggestions on training to aid in the diagnosis of communication disorders or delay.

3.7. DATA MANAGEMENT PLAN AND QUALITY CONTROL

Participants were given unique identification numbers by which they were identified. These numbers were used in data collection and collation. All information obtained from participants were used for the purpose of this study only. Only the researcher and supervisor(s) had access to research materials. Confidentiality of the information provided by participants was safeguarded. The participants were given codes A1 to A10 to represent those who were interviewed and B1 to B16 for those who filled the questionnaire. Their anonymity was secured during collection and storage.

3.8. DATA ANALYSIS

Data collected was coded and analyzed using thematic analysis (Braun & Clarke, 2006). Thematic analysis can also be used in inductive or deductive way (Elo & Kyngäs, 2008). The inductive approach of thematic analysis was adopted in the study as themes were developed and determined by the data. Questionnaire responses, used to describe the participant's interview responses were collated and analyzed using descriptive statistics such as proportions in order to summarize the data.

The data for the qualitative analysis; the audio recordings were transcribed manually using Microsoft word. The transcripts were later imported into Atlas.ti 8. The transcripts were analyzed thoroughly in order to identify the potential themes. Initial codes developed using the same Atlas.ti software were reviewed, some were changed, modified and the vague ones deleted. The codes were grouped into code groups or themes and network between codes and themes were developed. Quotations which were in agreement with the ambient themes were identified. The themes were then reviewed before they were defined and named.

3.9. ETHICS

Ethical approval was obtained from the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences, University of Ghana. Written informed consents were obtained from nurses enrolled for the studies. The nature, aims, objectives and significance of the study were explained to the participants. Informed permission was sought from the Nursing Administrator of P.M.L Children's Hospital before the study was carried out.

CHAPTER FOUR

4.0 RESULTS

This chapter presents the overall findings of the study. It includes statistical analysis of demographic characteristics of respondents and also gives a summary statistic of key variables used to assess nurses' knowledge on communication milestones. This chapter also presents the results of the findings of the depth of nurses' knowledge on communication milestones.

4.1 DEMOGRAPHICS OF THE STUDY POPULATION

Within the period of this study, a total of 26 nurses with working experiences ranging from less than a year to 20 years gave their consent and partook in the study. 16 nurses filled the semi-structured questionnaire and 10 nurses were interviewed. Of the 16 nurses that filled the questionnaire, 2 were males and 14 were females. The 10 nurses that were interviewed were all females. In total, 24 females and 2 males partook in the study. The highest proportion of experience group ranged from 1-5 years which represented 30.8% of the total population and the lowest being 15-20 years representing 3.8% of the total population. The largest categories of nurses that partook in the study were general nurses representing 80.8% of the population whilst critical care and enrolled nurses were the least with 3.8% each.

Table 1: Demographic characteristics of Study Population

Demographics	**Number**	**Percentage (%)**
Sex		
Male	2	7.7
Female	24	92.3
Working Experience		
Less than a year	4	15.4
1 to 5 years	8	30.8
5 to 10 years	7	26.9
10 to 15 years	6	23.1
15 to 20 years	1	3.8
Categories of Nurses		
Critical care	1	3.8
Enrolled	1	3.8
Community health	3	11.6
General	21	80.8

4.2 INFORMATION ON RECOGNIZING CHANGES IN CHILDREN'S LANGUAGE DEVELOPMENT

With respect to the information on recognizing changes in children's language development early in life, most of the participants reported that they can identify the changes. 11 respondents reported they can identify the changes whilst 5 of the respondents could not identify the changes.

Table 2: Information on recognizing changes in children's language development

Recognizing changes in children's language development	Yes Number (%)	No Number (%)	Total Number (%)
Respondents	11 (68.75)	5 (31.25)	16 (100)

4.3 INFORMATION ON USE OF PROTOCOL FOR DIAGNOSIS OF COMMUNICATION DISORDERS

The respondents gave contradicting responses regarding the use of protocols in diagnosis of children with communication difficulties. 68.75% reported that no protocol was being used while 31.25% reported the use of a protocol.

Table 3: Information on use of Protocol for diagnosis of communication disorders

Use of protocol in diagnosing children with communication disorders	**Yes Number (%)**	**No Number (%)**	**Total Number (%)**
Respondents	5 (31.25)	11 (68.75)	16 (100)

4.4 AWARENESS OF THE SIGNS OF EARLY CHILDHOOD LEARNING AND LANGUAGE DEVELOPMENT

The variables used to determine and assess the awareness of early childhood learning and language development included presentation of first social smile, babbling or prattling sounds, formation of first words and presentation of expressive speech at 18 months respectively.

With respect to the first variable, 56.25% of the nurses revealed that the ideal age is before 3 months. 32.25% of the nurses believed it was at 3 months and 6.25% of the nurses thought it was four months and five months respectively.

On the second variable, 31.25% of the nurses revealed the ideal age for babbling is at three months. 25% of the nurses opted for four months, 25% for six months and 18.75% said five months.

With respect to the formation of first words, 12.5% of the nurses reported the ideal age to be before six months, 62.5% reported ages between six to twelve months whilst 25% believed it to be between twelve to twenty-four months.

On the presentation of expressive speech, 43.75% of the nurses reported that at eighteen months, the child should be able to form two-word sentences. 43.75% also reported that the child speaks

the first words such as: Mom and Dad. 12.5% of the nurses reported that the child should be able to speak about 30 single words.

Table 4: Awareness of the signs of early childhood learning and language development

Variables	**Number**	**Percentage (%)**
Presentation of Social Smile		
Before 3 months	9	56.25
3 months	5	31.25
After 3 months	2	12.5
Babbling/Prattling		
Less than 6 months	12	75
6 months	4	25
Formation of first words		
Before 6 months	2	12.5
6 to 12 months	10	62.5
12 to 24 months	4	25
Presentation of expressive speech at 18 months		
Forms two-word sentences	7	43.75
First words	7	43.75
Speaks about 30 single words	2	12.5

4.5 ASSESSMENT OF CHILDREN WITH COMMUNICATION DISORDERS

The variables used to assess how the nurses identify children with communication disorders was based first on whether nurses understood the potential causes of these disorders. The development of a child's speech may be related to the hearing health of the child and the stimulation the child's speech receives. 87.5% of the nurses reported hearing health of the child is a factor and 12.5% said it was not. 93.75% of the nurses agreed that the development of a child's speech may be related to the stimulation the child's speech receives and 6.25% did not agree. With respect to children with syndromes and preterm babies needing early stimulation programmes, 87.5% had knowledge of this fact while 12.5% reported they had no knowledge.

75% of the nurses agreed that a child's speech might be related to hearing health, speech stimulation, and preterm and/or syndromic children require early stimulation programmes while the remaining 25% of the nurses were not in unison to all three.

Table 5: Assessment of children with communication disorders

Variables	**Yes Number (%)**	**No Number (%)**	**Total Number (%)**
A. Child's speech related to Hearing health	14(87.5)	2 (12.5)	16 (100)
B. Child's speech related to Speech stimulation	15(93.75)	1 (6.25)	16 (100)
C. Preterm and syndromic babies require early Stimulation programmes	14(87.5)	2(12.5)	16 (100)

When asked whether or not they paid attention to the communication behaviour of children in order to aid identification of communication disorders, 75% (12) responded 'yes' and 25% responded 'sometimes'. Upon meeting an 18-months old child who does not respond to simple commands, 68.75% (11) nurses selected that they would suggest that a hearing assessment be conducted for further investigation, 18.75% (4) reported they would stay alert and ask the mother to observe the child closely, and 12.5% (2) chose that they would reassess the child during the next consultation.

75% (12) of the nurses reported that they advise parents to encourage child's language stimulation while 25% (4) reported it is something they sometimes do. Upon observation, if a child is suspected to have communication issues or problems, 62.5% (10) of the nurses said they discuss such cases with the rest of their team members whilst 37.5% (6) of the participating nurses say they sometimes discuss with their team.

All participants said they would love to participate in a training course on communication disorders in infants and toddlers.

4.6 RESULTS OF FINDINGS

Table 6 shows a summary of themes and sub-themes which emerged from the analysis. The results are presented in six sections: themes generated on (1) Knowledge of communication milestones (2) Identifying communication disorders (3) Experience as a factor in identifying communication disorders (4) Parental education on communication milestones (5) Reasons for nurses' inadequacy in communication milestones and (6) Benefits of training on communication milestones. In each section, the results are presented in order of dominating themes followed by minority themes. Areas of conflict are presented as they occur in nurses' narratives. Quotes that best capture unique

ideas are also presented. Nurses are identified by specific numbering codes A1 to A10 and B1 to B16.

Table 6: Summary of themes and subthemes

Themes	Sub-themes
What did you learn in school about communication milestones in children aged 0-5years?	Onset of sound production Onset of speech production Child being able to respond to sound Child being able to respond to gestures
Have you had any continuous professional development training on communication milestones?	No formal training
How best can you identify a child with communication difficulties?	Child cannot hear Child does not respond to sound Child does not respond to gestures Child does not speak Child has difficulty speaking Child does not respond to simple commands
Have you ever identified a child with communication difficulties?	Frequency of identification
Do you educate parents on communication milestones?	Limited information to educate parents Little parental education No parental education
Would you require training on communication milestones?	Training benefits to nurse Training benefits to parent and child

What did you learn in school about communication milestones?

Nine out of ten participants were startled and short of words when they heard this question but some of them demonstrated fair knowledge of communication milestones.

"*Yes, I've learnt something. When children grow from 0-11 months there are signs you see if a child is for example 1 month and the child cries, we can call that a milestone*" *(Nurse A1)*

"*That children should be able to make certain sounds or gestures at certain ages*" (Nurse A6)

"*Each stage in the life of a neonate or toddler comes with what the child can do or the communication skill the child can perform. It can be verbal or non-verbal but it first begins with the non-verbal*" *(Nurse A7)*

"*I know that at a point in their development they coo, blab and say some things. At about 3 -4 months they coo, 5-6months they blab, some of the children (female) say ma, da at about 9 months*" *(Nurse A9)*

Some participants had an idea but reported that they were not taught in-depth.

"I remember it was mentioned when we did developmental milestones but they didn't zero in on communication milestones. I remember my teacher once said that at every stage of the child's growth you should expect certain things; they will crawl, sit at a point, between 10-12 months they'll repeat simple words like mama, dada" (Nurse A10)

"When doing general nursing, there's just a semester for paediatric nursing and we learn all about peadics in 3 months. So, I didn't exactly learn about the milestones" (Nurse A3)

Other participants reported that it was not part of their curriculum and that they had no training whatsoever on communication milestones.

"*During nursing school days, although it wasn't part of our curriculum but I came across it when reading my books*" *(Nurse A5)*

"*I have no formal knowledge of communication milestones but I know a bit from experience" (Nurse A8)*

Have you had any CPD training on communication milestones?

All the participants stated that they have not had any continuous professional development training on communication milestones.

"*No, I haven't*" *(Nurse A9)*

One of the participants however stated having some sort of training.

"*Not training per say. But I watched YouTube videos as they was a point that I was working with a private facility as the team lead for the nurses and some children came in and I felt they were too old not to be talking so I took it upon myself and watched a few videos to learn about communication and what to expect from children" (Nurse A10)*

How best can you identify a child with communication difficulties?

Seven of the participants showed good knowledge in identifying children with communication difficulties.

"*As a nurse, if a child doesn't coo at 3-4 months and if you also snap your fingers close to the ears of the child and if the child doesn't turn the head towards the area of sound, there's a problem. Response to noises made close to the baby and no response from the child and this means there's a problem*" *(Nurse A9)*

"*Most of the time it could be your own intuition and sometimes I'll ask another person that don't you think this child isn't making audible noises or being too late to talk*" *(Nurse A10)*

"*Depending on the age of the child. A 3-year-old or below child is expected to talk or make sounds, or respond to simple commands, repeat certain actions portrayed to him/her, give feedback. If a child can't do these things then there's a problem*" *(Nurse A7)*

"*Child is unable to mention his/her name. Child not responding to their name. Child unable to mention simple words like mom or dad*" *(Nurse B7)*

"*Sometimes when you clap your hands, the child doesn't hear. The child does not respond when you call unless he/she can see you*" *(Nurse B2)*

Have you ever identified a child with communication difficulties?

Eight of the respondents have not identified a child with communication difficulties. They demonstrated a neglect on the subject matter

"*No, because much attention is not paid to that and the issue props up once a while in our conversations. It doesn't come that often" (Nurse A7)*

"No, I haven't. I don't look out for these things and also the workload is too much and we are in a hurry to clear our patients" (Nurse A4)

"No. I haven't come across children with those disorders and perhaps it is because we don't pay attention to it and most of the times we are concerned with feeding and medication and we don't pay attention to it" (Nurse A9)

Other participants reported they could not identify because they did not have ample time in training with children while in nursing school.

"No, I haven't. When in nursing school, most of the clinicals were with adults and I didn't have ample time with children" (Nurse A3)

Do you educate parents about the communication milestones?

Parental education ranged from little to virtually non-existent. The participants reported that they do not educate them due to the conditions of the job.

"*There are no enough nurses and the pressure is on the nurses on duty. When the parent comes in with the child, we educate parents on feeding issues but no education on communication milestones. We tell mothers to be observant for changes in a child as he/she grows especially some sounds made within the age brackets. We weren't really thought, just a few highlights but as one works, one gets to know about these milestones…*" (Nurse A3)

"No, I don't. It something we should do but we don't do. One reason being that we are overwhelmed with work and as such they are the least things we think about" (Nurse A5)

Some participants said they do not educate as they don't have information

"*No, but in school we had seminars on autism and how to identify autistic children. We can't really educate them, because we don't have much information*" *(Nurse A4)*

Some participants reported that although they educated parents, they did not have enough information to disseminate to them.

"*We rather educate on developmental milestones using the maternal child health book but on communication milestones is not into details. We tell them that after a couple of months, a child should be able to make certain sounds based on their need e.g. when they need food (hungry)" (Nurse A1)*

"Yes. We give them a timeline for which the child has to respond, play on his/her own, or hear and if the child doesn't do these things there is a problem. It is important to educate the mother as this would let the mother monitor the child. The education is general and not into details as we don't have much information" (Nurse A2)

Would you require further training on communication milestones?

All the participants stated that they would require training on communication milestones and they cited some benefits.

"Yes, it would enable both the nurses and the parents to detect the communication difficulties earlier. And as it isn't part of our curriculum in school, we don't see the importance of it; hence training would help to bridge that gap. I think it would help if we can modify our curriculum to include some of these things" (Nurse A5)

"*Yes. When we have more information on it, we can share with the parents*" *(Nurse A6)*

"Yes. It is very necessary. It allows us to identify children with communication problems as early as possible. As one can think that as the child develops it would come and you don't take any initiative; it ends up affecting the child later on and it would also help us build our skills in the communication milestones" (Nurse A7)

"Yes. It would help nurses a lot, even if not for themselves but for the benefit of the patients. It would help nurses who would engage the parents in discussions" (Nurse A9)

"Actually yes. Especially after this interview I realized my past experience happened about 2-3 years ago and I think I forgot about it. But thinking about it, there may be other cases where the child may have needed speech therapy but because me as the nurse didn't know much about communication milestones…" (Nurse A10).

CHAPTER FIVE

5.0 DISCUSSION

This chapter discusses the findings from the qualitative data analysis supported by relevant studies in the literature review.

5.1 DISCUSSION

Speech and language disorders have been overlooked and has not been seen as one of the important aspects in the developmental sphere of a growing child (Rice et al., 1991). Attention needs to be paid to functional development areas such as language and communication that is important to the overall growth of the child (Ertem, 2012). This lack of attention is one of the main reasons for the under identification of communication disorders in children, as the warning signs that showed up early on would have been missed. Nurses form an integral part of health professionals who come into contact and spend time with children from post-natal to early childhood. Knowing the viewpoint of nurses with respect to the surveillance of a child's language development is a significant step in the process of health education in order to propose encouraging methodologies to add to the cycle of progressive information in the delivery of care to children by nurses.

The quantitative descriptive data extracted from the semi-structured questionnaire filled by 16 participants showed that 68.75% of the participants are able to recognize changes that occur in a child's language development. This showed that a fair proportion of the participants could identify the changes.

The awareness of early childhood learning and language development were assessed by key milestones such as presentation of social smile, making of babbling sounds, formation of first words and presentation of expressive speech. With respect to the presentation of first social smile,

only 56.25% of the participants got the timeline correct representing barely more than half of the entire population. On the ideal age for babbling, only 25% of the participants selected the correct timeline which means that 75% selected wrong timelines. The error rate is quite alarming as it gives certain warning signals about the participants. A good proportion (62.5%) of the participants selected correct timelines for the formation of first words whilst only 12.5% of the participants selected the correct response for the presentation of expressive speech. This is contradictory to the previous statements when the participants reported to know how to identify the changes in the language development of a child. This lays down the foundation that there is a wide knowledge gap in how much the participants actually know about communication milestones.

On the assessment of children with communication disorders, 87.5% of the nurses agreed that a child's speech delay/disorder might be related to hearing health, 93.75% agreed on speech stimulation playing a key role and 87.5% of the participants were aware that preterm and syndromic babies require early stimulation programmes. In total, 75% of the nurses reported they were aware of the aforementioned key points. This represents a good background knowledge but further displayed the discordance in the responses given by the participants.

More than half (68.75%) of the nurses selected they would suggest a hearing assessment be conducted for an 18-month old child who could not respond to simple commands. 62.5% of the participants opined that they would engage in discussions with the primary health care team members upon suspicion of communication disorders in a child. On parent education, 75% of the participants reported that they advise parents to encourage language stimulation of the child. All the participants who filled the questionnaire said that they would love to participate in a training course on communication disorders in infants and toddlers. In total, the participants averaged approximately 5/8 of the correct responses to technical questions that sought to assess their

knowledge on communication milestones. 37.5% of the participants got 4 correct responses, 12.5% provided 3 and 5 correct responses. 18.75% of the participants gave 6 and 7 appropriate responses respectively. No participant gave 8 appropriate responses to the technical questions asked. This shows clearly that there is a need for an overhauling of the knowledge base of nurses on communication milestones.

With respect to the qualitative analysis, the themes to be discussed include the following: ((1) Knowledge of communication milestones (2) Identifying communication disorders (3) Experience as a factor in identifying communication disorders (4) Parental education on communication milestones (5) Reasons for nurses' inadequacy in communication milestones and (6) Benefits of training on communication milestones.

5.2 KNOWLEDGE OF COMMUNICATION MILESTONES

This study found a good level of awareness of communication milestones in children. Although not all the participants were able to give appropriate responses, they were able to classify communication milestones into three categories namely onset of speech in a child, onset of sound production and the ability of a child to respond to sound and gestures. The onset of speech production was regarded as an expression for communication milestones in children by the participants. At this stage, the children begin to sort out the speech sounds that compose the language, recognize the basic sounds of their native language and start to copy or mimic words spoken around them (NIDCD, 2010).

It was evidenced in this study that the participants had a fair knowledge but not in-depth about communication milestones as they could not give the specific timelines for the presentations of

these communication skills in developing children. The onset of sound production and the ability of a child to respond to sound and gestures were also highlighted as communication milestones in developing children. Sound production is a means of communication as the child makes various sounds (vocalizes) based on particular needs. The child may cry when hungry or when seeking attention, or just make random noises to portray various emotions. Another highlighted milestone from this study was children's ability to respond to sound and gestures made to them. Gestures such as smiling, lifting hands to indicate interest in being carried,

"Yes, I've learnt something. When children grow from 0-11 months there are signs you see if a child is for example 1 month and the child cries, we can call that a milestone" (Nurse A1)

"I know that at a point in their development they coo, blab and say some things. At about 3 -4 months they coo, 5-6months they blab, some of the children (female) say ma, da at about 9 months" (Nurse A9)

Some participants who gave responses, lamented they did not know so much as their training was not into details. Others were of the opinion that they were not taught and hence their knowledge base was limited or rather non-existent. Kemker et al's study cited that there is a lack of training of nurses in the United States and globally on the communication needs of patients with impaired hearing (Kemker et al., 2013). The communication disorders that often show up has some element of hearing impairments and disabilities in them and often nurses are not even aware of the communication needs of these patients.

"During nursing school days, although it wasn't part of our curriculum but I came across it when reading my books" (Nurse A5)

"I have no formal knowledge of communication milestones but I know a bit from experience" (Nurse A8)

When the participants were asked if they had any CPD training on communication milestones, which would help a great deal in bridging the knowledge gap, they all gave a resounding no.

The knowledge base of nurses on communication milestones is limited which tallies with another study which cited that a lot of health professionals lacked in-depth knowledge on communication milestones (Pizolato et al., 2016). This further buttress the point that there is a need for the nurses and primary health care team workers to know about normal language development patterns in children so that they would be able to monitor and detect abnormalities promptly and effectively.

5.3 IDENTIFYING COMMUNICATION DISORDERS

In identifying communication disorders, the techniques reported in this study includes checking on the absence of presentation of particular communication milestones. The following are the presentations that were highlighted in children with communication disorders: child not able to hear, cannot respond to sound and/or gestures, cannot speak or has difficulty speaking, does not respond to simple commands. The child not being able to respond to sound (commands inclusive) and/or gestures was reported as the highest presentation of communication disorders. Children are normally known to be vibrant and responsive as they grow and when there is a dip in their exuberance it calls for prompt surveillance to quickly troubleshoot reasons why they do not portray certain communication skills. Difficulty of a child speaking or lacking the ability to speak was also frequently reported amongst the participant as a key tool to help identify communication disorders. Children normally utter certain words or make certain sounds to help communicate their needs to

their parents or caregivers, express happiness or displeasure about their treatment etc., and if this skill is lacking, it is an indication that something could have gone wrong and proper care need to be sought.

"Depending on the age of the child. A 3-year-old or below child is expected to talk or make sounds, or respond to simple commands, repeat certain actions portrayed to him/her, give feedback. If a child can't do these things then there's a problem" (Nurse A7)

When the participants were asked if they have ever identified a child with communication difficulties, majority of them reported they have never identified children with such. There was a perceived neglect on the subject matter as it was not regarded as pertinent enough to warrant attention. This exposed a great deal of weak surveillance of communication disorders in children. Some participants attributed the neglect to the frequency of receiving such cases, others cited excessive workload and being short-staffed as contributing factors.

5.3.1 EXPERIENCE AS A FACTOR

Some participants reported that although they had little to virtually no training on communication milestones, they have been able to pick up and learn on the job from accumulated professional and personal experiences. Professional experience could be due to several observations made over the years and this has helped them boost their knowledge bank and helped them with some ideas to use to identify children with communication difficulties. Personal experiences include exposure to other families who had children with communication disorders and from parenting; and this has helped them to learn passively about some of the communication milestones.

"When child comes into the health facility, from experience, you expect that they should behave like their peers and so when you try to communicate with them and they don't respond, you inquire from the mother if that's the norm" (Nurse A4)

"As a nurse, if a child doesn't coo at 3-4 months and if you also snap your fingers close to the ears of the child and if the child doesn't turn the head towards the area of sound, there's a problem. Response to noises made close to the baby and no response from the child and this means there's a problem. I learnt some from school, as a mother and from people whose children have speech disorders; as such its combined" (Nurse A9)

5.4. PARENTAL EDUCATION ON COMMUNICATION MILESTONES

In this study, it was evidenced that education of parents on communication milestones was minimal to non-existent. Majority of the participants stated that a contributing factor was that they had no information to give to the parents on communication milestones. Others cited the large volumes of patients they have to deal with and inadequate staff and as such are usually in a hurry to attend to as many as possible. This implies that the rigors of having to deal with high patient turnovers hampers the nurses' ability to properly educate the parents on communication milestones.

"There are no enough nurses and the pressure is on the nurses on duty. When the parent comes in with the child, we educate parents on feeding issues but no education on communication milestones. We tell mothers to be observant for changes in a child as he/she grows especially some sounds made within the age brackets…" (Nurse A3)

"No, I don't. It something we should do but we don't do. One reason being that we are overwhelmed with work and as such they are the least things we think about" (Nurse A5)

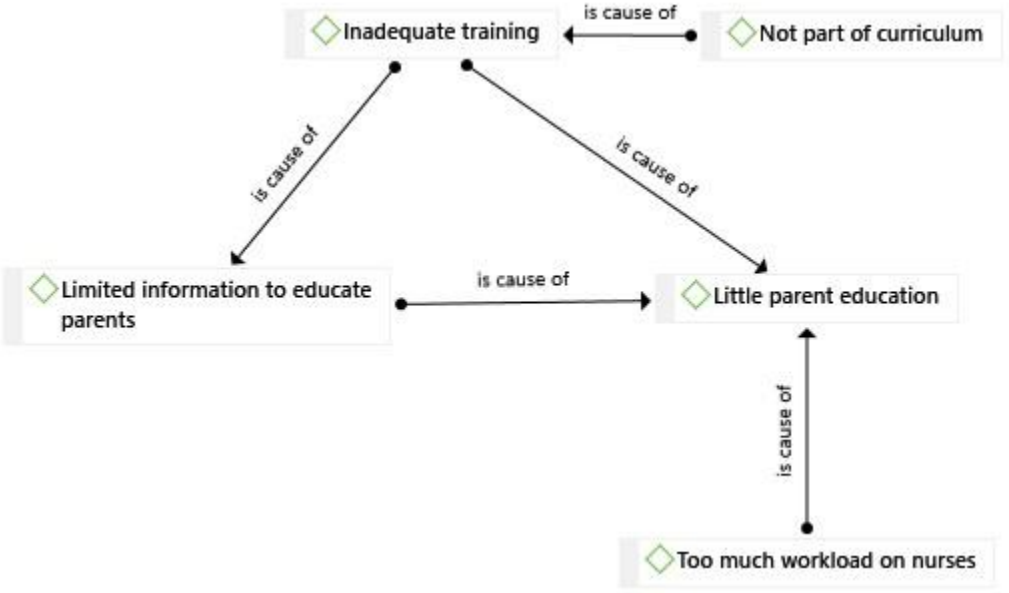
We can't really educate them, because we don't have much information" (Nurse A4)

"Yes. We give them a timeline for which the child has to respond, play on his/her own, or hear and if the child doesn't do these things there is a problem. It is important to educate the mother as this would let the mother monitor the child. The education is general and not into details as we don't have much information" (Nurse A2)

5.5. REASONS FOR NURSES' INADEQUACIES ON COMMUNICATION MILESTONES

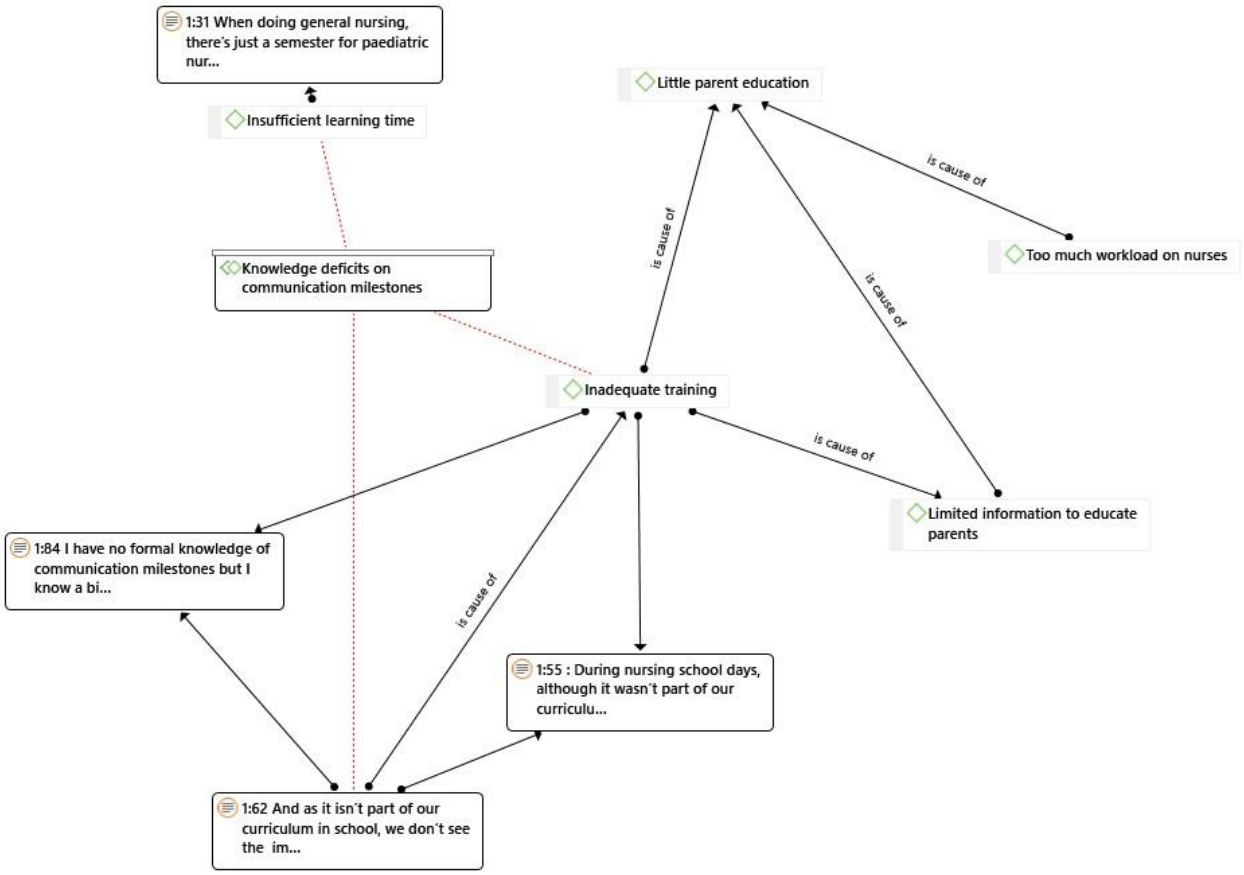
In this study, several reasons emerged that could possibly explain the knowledge deficits on communication milestones. Some of the central reasons include but not limited to: inadequate training, insufficient learning time, subject matter missing in curricula. Insufficient staff strength and too much workload on the nurses sums up major reasons for little or no parental education.

Figures 1 and 2 gives linkages to these effects.



Source: Author's construct from in-depth interview

Figure 1: Causes of inadequate parent education



Source: Author's construct from in-depth interview

Figure 2: Reasons for knowledge deficiencies

5.6. BENEFITS OF TRAINING ON COMMUNICATION MILESTONES

The benefits of training on communication milestones was made bare by the respondents. Participants highlighted certain benefits and from the author's construct was broken down into two namely: benefits to nurse and benefits to child and parent. To the nurses it would improve the quality of service given to the children as they would be more informed and can easily interact with and help in the surveillance and assessment of children with communication difficulties. This would in extension help the child get the needed intervention and relieve parents and caregivers of

emotional and psychological stress they encounter due to their wards lacking certain communication skills.

"It would enable both the nurses and the parents to detect the communication difficulties earlier. And as it isn't part of our curriculum in school, we don't see the importance of it; hence training would help to bridge that gap. I think it would help if we can modify our curriculum to include some of these things" (Nurse A5)

"Yes. It is very necessary. It allows us to identify children with communication problems as early as possible. As one can think that as the child develops it would come and you don't take any initiative; it ends up affecting the child later on and It would also help us build our skills in the communication milestones" (Nurse A7)

"Yes. It would help nurses a lot, even if not for themselves but for the benefit of the patients. It would help nurses who would engage the parents in discussions" (Nurse A9)

One major part of the problem or a contributing factor here is that CWCs (Child Welfare Clinics) have been reduced to "weighing clinics" so that the comprehensive checks nurses are meant to accomplish in these clinics do not happen. They are simply interested in ensuring the baby is thriving and have enough information on what foods to eat to encourage the physical growth of the child. If they were following their own set up plan of a CWC then they would have been learning about all the different developmental areas, including communication, to be able to identify alarm bells promptly and make early and appropriate referrals

CHAPTER SIX

6.0. CONCLUSION AND RECOMMENDATIONS

This chapter gives a summary conclusion of the study and makes recommendations based on the issues that arose in the course of the study. It also highlights limitations of the study.

6.1. CONCLUSION

This study has shown that the knowledge that nurses have with regards to communication milestones in children is very limited. There is a need for a revamp in the curricula of nurses to include communication milestones like other developmental milestones. Speech and language therapy should be embraced in order to expand instructional or educational practices and an interdisciplinary approach involving all health team members should be utilized in order to make use of all available resources.

6.2. RECOMMENDATIONS

There should be adequate education and instruction on communication milestones as an integral part of developmental milestones in the nursing schools. Communication milestones should be added to the nursing curricula as this would enhance awareness and improve knowledge on the subject matter. Speech and language therapy should be embraced in order to expand instructional or educational practices and an interdisciplinary approach involving all health team members should be utilized in order to make use of all available resources. There is a need for the organizers of CPD programmes to hold regular trainings so as to polish the knowledge of practicing nurses on the job. The nurses and other family health practitioners in general need to work closely with speech and language therapists and follow recommended protocols developed by these professionals. There should be a broader consultation on the identification of communication disorders and a protocol should be developed for early identification and referral of children with

communication disorders to facilitate early intervention. A surveillance team should be set up to actively search for cases of children with communication disorders and give them the needed help. Awareness should also be drummed up with regards to early child language and communication development.

6.3. LIMITATIONS OF STUDY

It was difficult to recruit participants for this study as they were skeptical about participating due to not being comfortable with the subject area. There was a reluctance to participate in the study as early participants were exposed because they had insufficient knowledge on the development of communication milestones in children. The different shift systems and workload on the nurses made it impossible to engage them in longer interview sessions which could have afforded the opportunity to answer the questions better and express themselves better. Participants lamented that the questions asked were too difficult and technical. This made data collection quite difficult for the researcher. Some participant refused to participate as they feared victimization by their peers and superiors alike. The Corona Virus Disease (COVID-19) also played a major role as a there was delay in getting approval from the study site and the participants were also coy about getting into a conversation. With the restrictions in place, data collection was greatly affected as the time left for data collection upon partial lifting of the restrictions was very limited. Social distancing and maintaining only a few staff on site at a time, made it more difficult for the original 50 participants to be recruited, which would have given the researcher a greater scope in terms of nurses' knowledge.

A consequence of these restrictions yielded the researcher to adapt to interviewing one set of nurses and handing out questionnaires to the rest.

There was also limited to non-existent literature on the subject matter and this made it difficult for the researcher to gather enough literature on the knowledge of nurses on communication milestones.

In spite of the above-mentioned limitations, the validity and quality of this study was not affected in any way.

REFERENCES

Bello, A. I., Quartey, J. N., & Appiah, L. A. (2013). Screening for developmental delay among children attending a rural community welfare clinic in Ghana. *BMC Pediatrics*, *13*(1), 119. https://doi.org/10.1186/1471-2431-13-119

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Center on Birth Defects. (2010). *Learn the signs act early - Developmental milestones checklist*. CDC. www.cdc.gov/ActEarly

Dosman, C. F., Andrews, D., & Goulden, K. J. (2012). Evidence-based milestone ages as a framework for developmental surveillance. *Paediatrics and Child Health (Canada)*, *17*(10), 561–568. https://doi.org/10.1093/pch/17.10.561

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Ertem, I. O. (2012). Developmental difficulties in early childhood: Prevention, early identification, assessment and intervention in low- and middle-income countries. In *World Health Organization*. www.who.int

Kemker, B. K., Sumrall, V. L., Marx, C. G., & Goshorn, E. L. (2013). Nurse's Awareness of Hearing Impaired Patients' Communication Needs. *Online Journal of Health Ethics*, *9*. https://doi.org/10.18785/ojhe.0901.09

McEwin, A., & Santow, E. (2018). The importance of the human right to communication. In *International Journal of Speech-Language Pathology* (Vol. 20, Issue 1, pp. 1–2). Taylor

and Francis Ltd. https://doi.org/10.1080/17549507.2018.1415548

National Institute of Health. (2018). Developmental milestones record: MedlinePlus Medical Encyclopedia. In *U.S National Library of Medicine*. https://medlineplus.gov/ency/article/002002.htm

NIDCD. (2010). Speech and Language Developmental Milestones. *National Institutes of Health*. http://www.nidcd.nih.gov/staticresources/health/voice/NIDCD-Speech-Language-Dev-Milestones.pdf

Pizolato, R. A., Fonseca, L. M. M., Bastos, R. da S., Fernandes, A. Y., Lefévre, F., & Maximino, L. P. (2016). Vigilância do desenvolvimento da linguagem da criança: conhecimentos e práticas de profissionais da atenção básica à saúde. *Revista CEFAC*, *18*(5), 1109–1120. https://doi.org/10.1590/1982-0216201618520615

Rice, M. L., Sell, M. A., & Hadley, P. A. (1991). Social interactions of speech- and language-impaired children. *Journal of Speech and Hearing Research*, *34*(6), 1299–1307. https://doi.org/10.1044/jshr.3406.1299

Roberts, C., & Jones, A. L. (2017). Measuring nurses' knowledge and understanding of universal newborn hearing screenings. *Journal of Early Hearing Detection and Intervention*, *2*(2), 38–47.

Scharf, R. J., Scharf, G. J., & Stroustrup, A. (2016). Developmental milestones. *Journal of Gay and Lesbian Mental Health*, *20*(3), 193–194. https://doi.org/10.1080/19359705.2016.1180585

UN General Assembly. (2017). United Nations Universal Declaration of Human Rights. In

Applied Ethics: A Multicultural Approach: Sixth Edition (pp. 54–57). https://doi.org/10.4324/9781315097176

van der Merwe, M. N., Mosca, R., Swanepoel, D. W., Glascoe, F. P., & van der Linde, J. (2019). Early detection of developmental delays in vulnerable children by community care workers using an mHealth tool. *Early Child Development and Care*, *189*(5), 855–866. https://doi.org/10.1080/03004430.2018.1480481

Wankoff, L. S. (2011). Warning signs in the development of speech, language, and communication: When to refer to a speech-language pathologist. In *Journal of Child and Adolescent Psychiatric Nursing* (Vol. 24, Issue 3, pp. 175–184). Wiley-Blackwell Publishing. https://doi.org/10.1111/j.1744-6171.2011.00292.x

APPENDICES

APPENDIX I

INFORMATION SHEET

Dear Sir/ Madam

I am Rebecca Boison, a master's student of the Department of Audiology, Speech and Language Therapy, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana, carrying out a research work titled:

KNOWLEDGE OF NURSES ABOUT COMMUNICATION MILESTONES AT THE PRINCESS MARIE LOUIS CHILDREN HOSPITAL.

Structured questionnaires will be administered in three folds to capture nurses on morning, afternoon and evening work duties. Audio interviews will also be recorded with the consent of the nurses on duties.

The study will help to discover and uncover the depths of knowledge that nurses have about communication milestones of young children from the ages of zero months to five years. All information given will be kept confidential and used for the research purpose only. Participation is voluntary and you are free to withdraw your participation at any time.

For any further information and questions on the project, you can contact me on –+233208758463 or my supervisors: Nana Akua Victoria Owusu at the Department of Audiology, Speech and Language Therapy.

Thank you.

APPENDIX II

NURSES INFORMED CONSENT FORM

PRINCIPAL RESEARCHER: Rebecca Boison

NAME OF INSTITUTION: SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES, COLLEGE OF HEALTH SCIENCES, UNIVERSITY OF GHANA.

SUPERVISORS: NANA AKUA VICTORIA OWUSU

PROJECT TITLE: KNOWLEDGE OF NURSES ABOUT COMMUNICATION MILESTONES AT THE PRINCESS MARIE LOUIS CHILDREN HOSPITAL.

I have been invited to take part in this study for the research titled above. My role is to complete some attached questionnaires and have a recorded audio interview session. I acknowledge that the research procedures have been explained to me and all my questions have been answered to my satisfaction. I have been informed that the confidentiality of the information I will provide will be safeguarded and that privacy and anonymity will be ensured in the collection, storage and publication of the research material.

I…….... have fully understood the aims, methods and procedure participation in this study. I therefore voluntarily consent to my participant

…….. …….

Participant's signature/ Thumbprint Date

. …… …….

Researcher's signature Date

APPENDIX III

Questionnaire on Communication Disorders in Infants and Toddlers.

Dear Nurse, please read each question and check one answer to the questions that present alternative answers. In some questions you may have to provide short answers.

Name: ……

Station: ……..

Telephone: …….

Email: ……

1) How long have you been at that profession?

   ( ) less than 1 year ( ) 1 to 5 years ( ) 5 to 10 years ( ) 10 to 15 years

   ( ) 15 to 20 years ( ) more than 20 years

2) What do you know about communication disorders in children aged 0-24 months?

   _____

   _____

   _____

   _____

   _____

3) Is there a protocol used by nurses in this Health facility that can note phases of the child's language development? ( ) Yes ( ) No

4) Can you identify if the child has language development change for the age 0-24 months?

   ( ) Yes ( ) No

5) At what age do typically developing babies present their first smile as communicative behaviour?

( ) before 3 months ( ) 3 months ( ) 4 months ( ) 5 months

6) At what age is a child expected to make babbling or prattling sounds?

( ) 3 months ( ) 4 months ( ) 5 months ( ) 6 months

7) The appearance of the child's first words comes at what age?

( ) before 6 months ( ) From 6 to 12 months ( ) From 12 to 24 months

( ) More than 24 months

8) With respect to expressive language, it is expected that at 18 months the child:

( ) forms sentences of two words ( ) speaks about 30 single words

( ) speaks about 200 single words ( ) speaks the first words such as: Mom, Dad,

9) For an 18-months old child who does not respond to simple commands, such as "take the bottle", "take the ball and give it to Mummy", you:

( ) believe it to be in accordance with the normal

( ) stay alert and asks the mother to observe

( ) suggest that a hearing assessment be conducted for further investigation

( ) re-assess the child during the next consultation

10) Are you aware that the development of the child's speech may be related to the hearing health that they present? ( ) Yes ( ) No

11) Are you aware that the development of the child's speech may be related to the stimulation the child's speech receives? ( ) Yes ( ) No

12) Do you have knowledge that children with syndromes and preterm babies may have problems in language development and need care in early stimulation programmes?

( ) Yes ( ) No

13) During the routine vaccines, clinical and medical care, clinical care at the dental office, home visits, educational childcare activities, among which you act, do you pay attention to the communicative behaviour of the child? ( ) Yes ( ) No ( ) Sometimes

14) When you suspect that a child has a communication problem, do you discuss with your team the signs observed in order to make a decision for referral and diagnosis?

( ) Yes ( ) No ( ) Sometimes ( )

15) What are some of the signs that you observed? .....

……

……

……

16) During the routine vaccines, clinical and medical care, clinical care at the dental office, home visits, educational childcare activities, among which you operate, do you advise parents to encourage a child's language? ( ) Yes ( ) No ( ) Sometimes ( )

17) Do you think it is relevant to participate in a course or training on Communication Disorders in Infants and Toddlers.? ( ) Yes ( ) No

18) By participating in the course, what would you like to know? Can you elaborate with suggestions and tips? …….

……

……

Thank you very much for your participation and cooperation.

APPENDIX 1V

INTERVIEW QUESTIONS

1. What did you learn about communication milestones?

2. Have you had any CPD training on communication milestones?

3. How best can you identify a child's communication difficulties?

4. Have you ever identified a child with communication difficulties?

5. Do you educate parents about the communication milestones?

6. Would you require further training on communication milestones?

UNIVERSITY OF GHANA

SCHOOL OF BIOMEDICAL AND ALLIED HEALTH SCIENCES

May 16, 2020

Ms. Boison, Rebecca
Department of Speech and Language Therapy
SBAHS, Korle – Bu

Dear Ms. Boison,

ETHICS CLEARANCE

Ethics Identification Number: SBAHS/AA/SLT/10704001/2019-2020

Following a meeting of the Ethics and Protocol Review Committee of the School of Biomedical and Allied Health Sciences held on April 9, 2020, I write on behalf of the Committee to approve your research proposal entitled:

"Knowledge of nurses about communication milestones among young children at the Princess Marie Louis Childrens' Hospital".

This approval 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.

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

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.

This clearance is valid for three years, with effect from the date issued.

Please always quote the ethical identification number in all future correspondence in relation to this protocol.

Thank you.

Yours sincerely,

Jonathan Quartey (PhD)
Chairman, Ethics and Protocol Review Committee
CC: Dean, SBAHS
Head, Dept. of Speech and Language Therapy, SBAHS
School Administrator, SBAHS

COLLEGE OF HEALTH SCIENCES

P. O. Box KB 143, Korle Bu, Accra, Ghana.

Telephone: +233 (0) 302 687 975 • Email: sbahs@chs.ug.edu.gh • Website: www.chs.ug.edu.gh