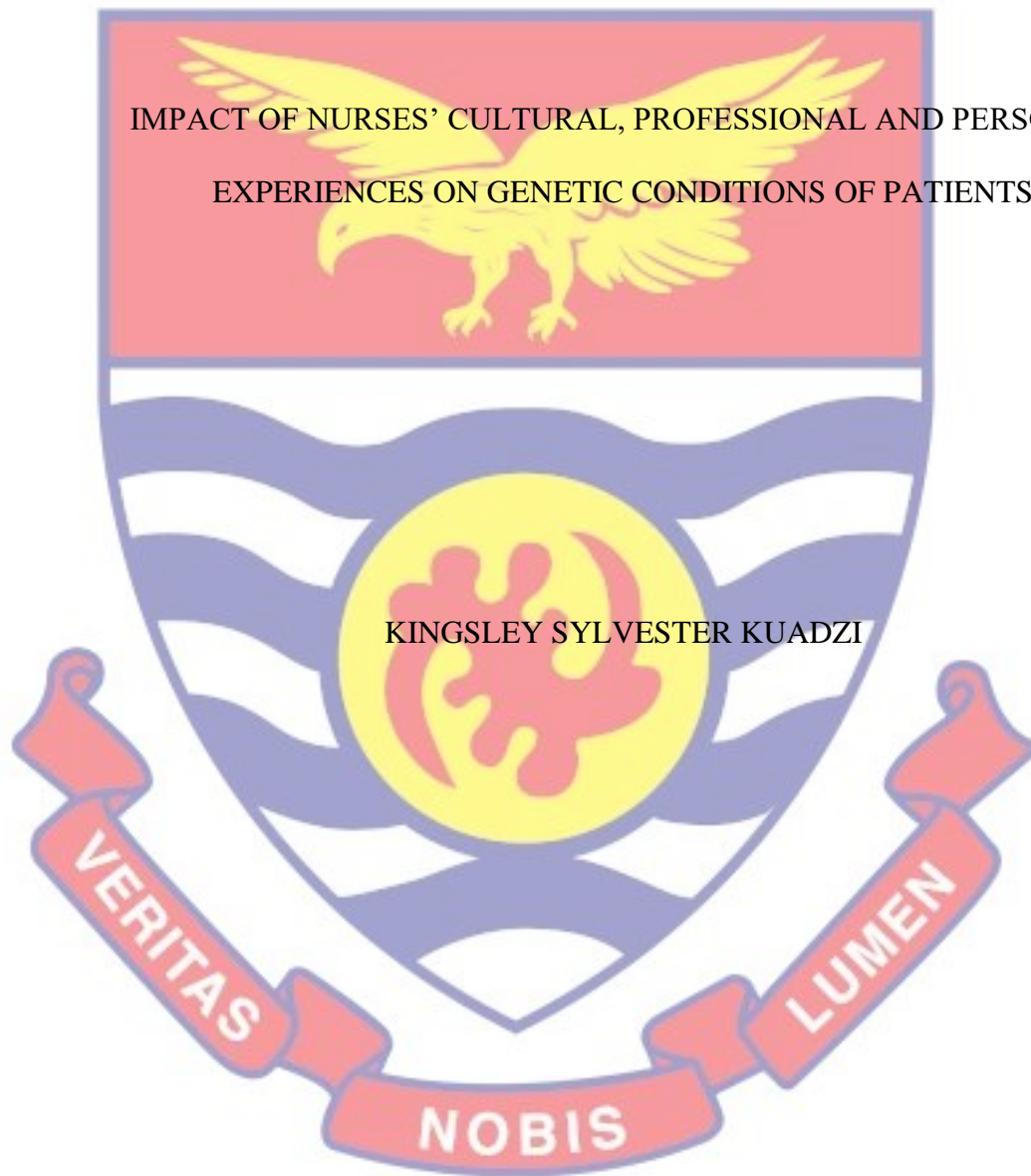


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IMPACT OF NURSES' CULTURAL, PROFESSIONAL AND PERSONAL
EXPERIENCES ON GENETIC CONDITIONS OF PATIENTS

BY

KINGSLEY SYLVESTER KUADZI

This thesis submitted to the Department of Guidance and Counselling of the
Faculty of Educational Foundations, College of Education Studies, University
of Cape Coast in partial fulfilment of the requirements for the award of Master
of Philosophy degree in Guidance and Counselling

JUNE 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree at this University or elsewhere.

Candidate's Signature:..... Date:.....

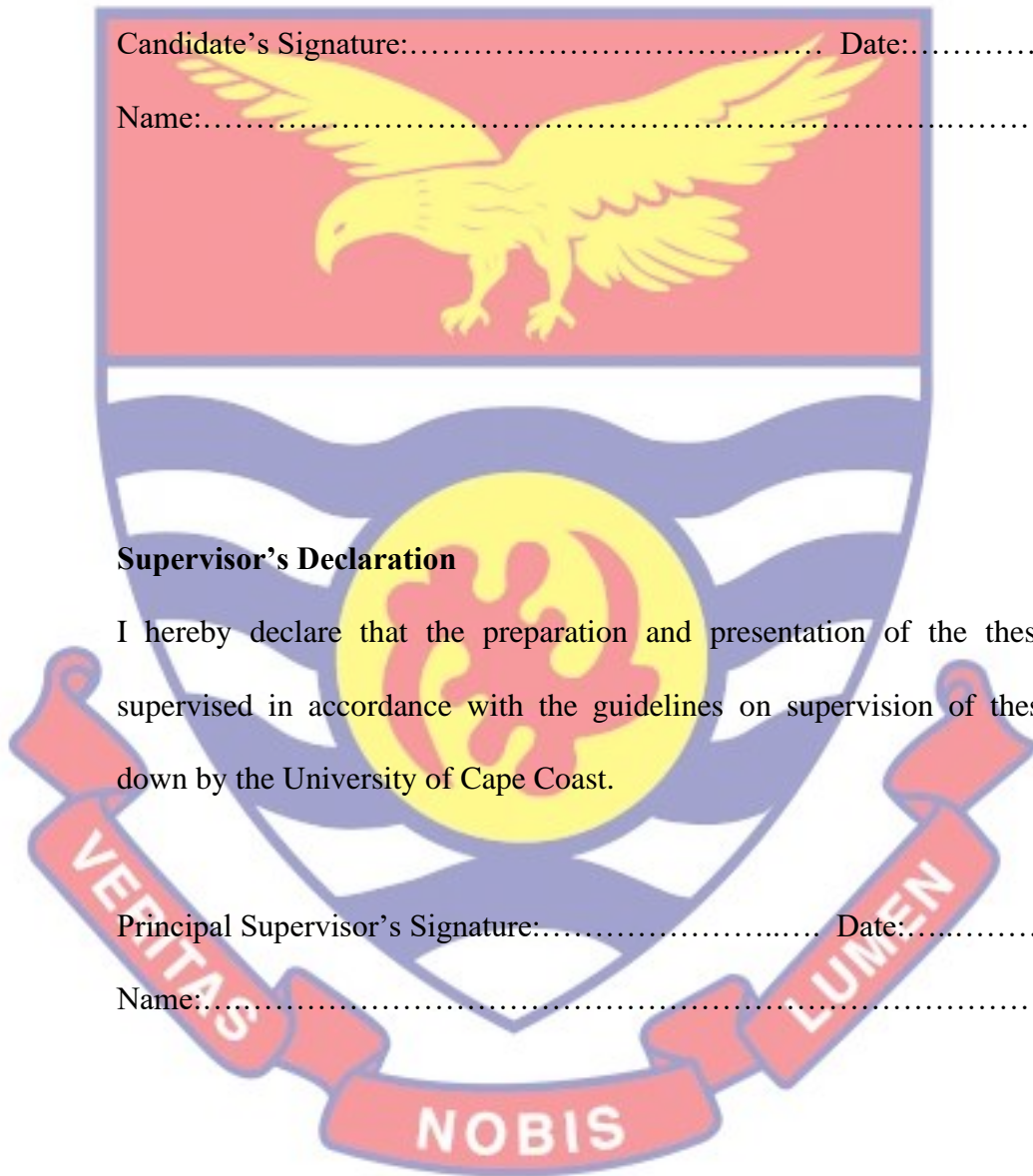
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Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

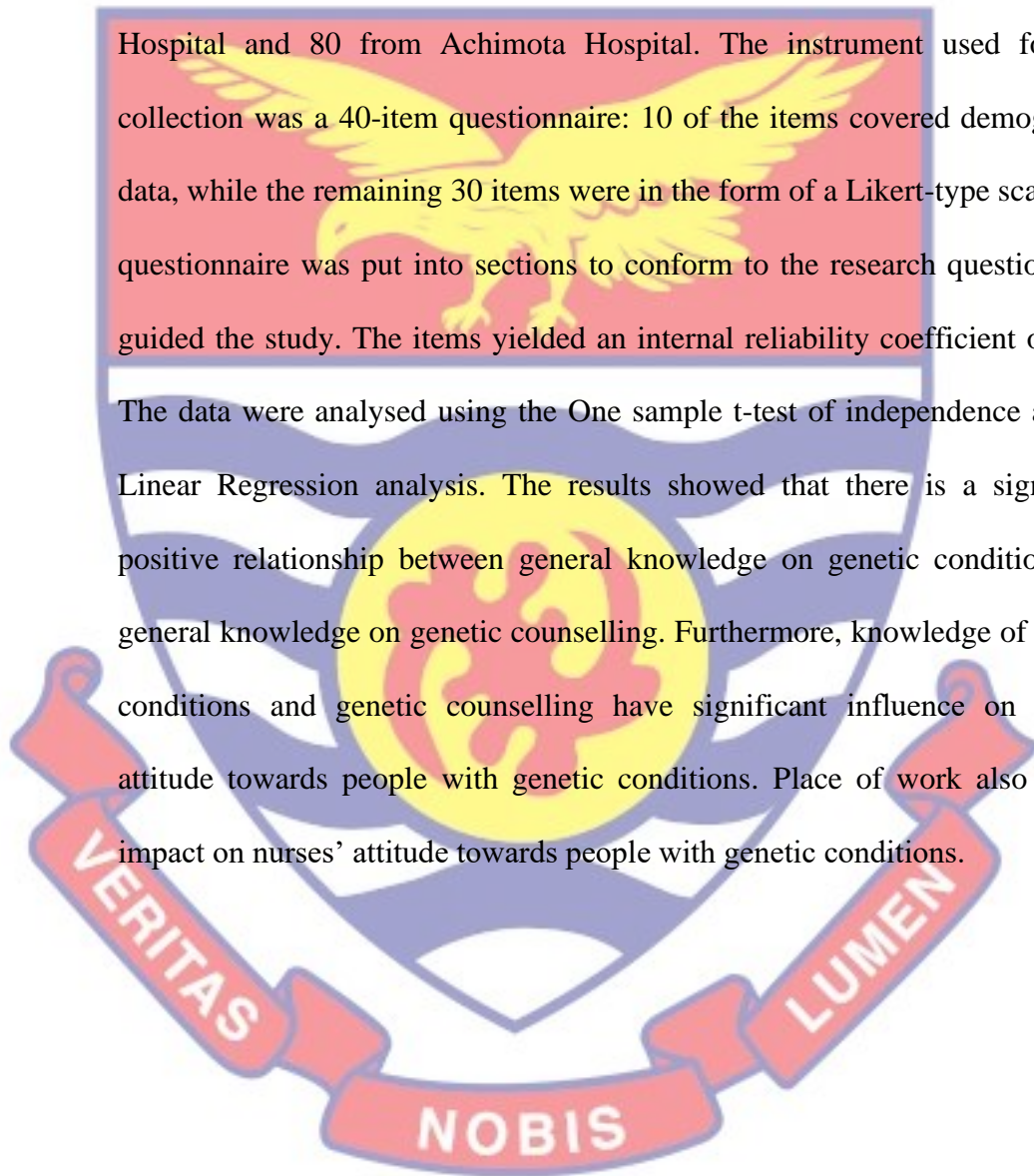
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ABSTRACT

This study is aimed at finding out the impact of nurses' cultural, professional and personal experiences on genetic conditions of patients. Cross-sectional analysis with a quantitative data collection system was used. A total of 170 nurses were selected to participate in the study, with 90 of them from Legon Hospital and 80 from Achimota Hospital. The instrument used for data collection was a 40-item questionnaire: 10 of the items covered demographic data, while the remaining 30 items were in the form of a Likert-type scale. The questionnaire was put into sections to conform to the research questions that guided the study. The items yielded an internal reliability coefficient of .802. The data were analysed using the One sample t-test of independence and the Linear Regression analysis. The results showed that there is a significant positive relationship between general knowledge on genetic conditions and general knowledge on genetic counselling. Furthermore, knowledge of genetic conditions and genetic counselling have significant influence on nurses' attitude towards people with genetic conditions. Place of work also has an impact on nurses' attitude towards people with genetic conditions.



KEYWORDS

Genetics

Genetic counselling

Experiences

Achimota Hospital

University of Ghana Hospital

Genome

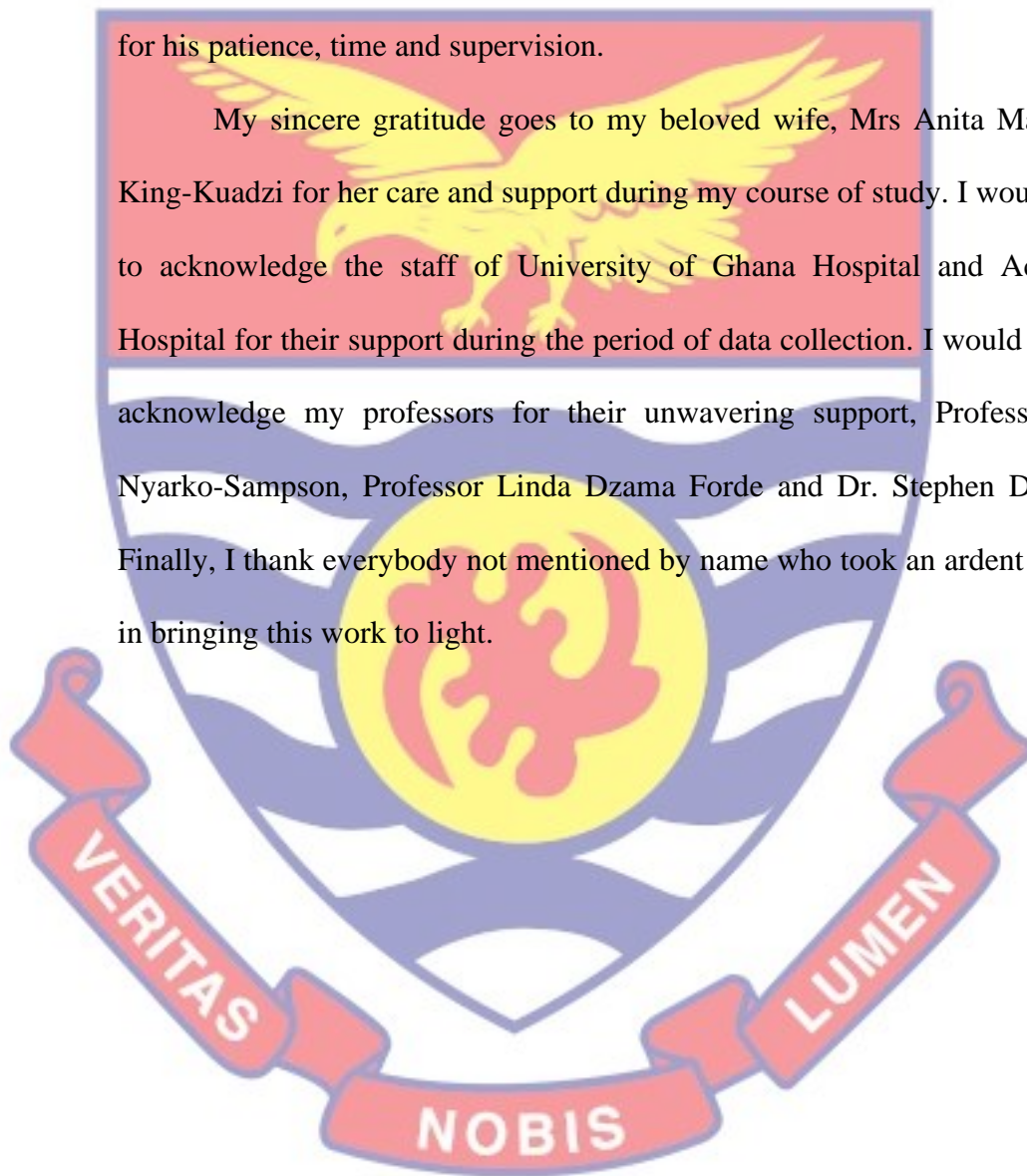
Nurses



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DEDICATION

To my late sister, Sarah Dzifa Kuadzi, and all families with children
who have genetic conditions.



TABLE OF CONTENTS

Content	Page
DECLARATION	ii
ABSTRACT	iii
KEYWORDS	iv
ACKNOWLEDGEMENTS	v
DEDICATION	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF ACRONYMS	xiii
CHAPTER ONE: INTRODUCTION	
Background to the Study	1
Statement of the problem	4
Purpose of the study	5
Research objectives	6
Research Questions	6
Hypotheses	7
Significance of the study	7
Delimitation of the Study	8
Limitations of the Study	8
Definition of terms	8
Organisation of the Study	9
CHAPTER TWO: LITERATURE REVIEW	
Introduction	11

Theoretical framework	11
The Four Levels of Nursing Theories	12
Interaction of nursing discipline with genetics and genomics	18
Theories of Nursing	21
Application of wounded healer theory to Lateral violence in Nursing	23
Implication of wounded healer theory to Lateral Violence in Nursing	25
Theories of Genetic counselling	26
Conceptual Framework	31
Empirical Review	33
Nurses' Culture experience	34
Nurses' Personal experience	37
Nurses' Professional experience	41
Genetic Counselling	43
The role of the genetic counsellor	44
Clinical application to Genetic conditions	46
The role of nurses in counselling	49
Summary	50
CHAPTER THREE: RESEARCH METHODS	
Introduction	52
Research Design	52
Study Area	53
Population	53
Sample and Sampling Procedure	54
Instrument for data collection	55
Validity of the instrument	56

Reliability of the instrument	56
Pilot-Testing of the instrument	57
Data Collection Procedure	58
Ethical Consideration	58
Data Processing and Analysis	58
Summary	59
CHAPTER FOUR: RESULTS AND DISCUSSIONS	
Introduction	61
Analyses of Demographics	61
Results to Research Questions	66
Research Question One	66
Research Question Two	68
Research Question Three	71
Research Question Four	74
Research Question Five	75
Testing of Hypotheses	77
Hypothesis One	77
Hypothesis Two	78
Hypothesis Three	79
Hypothesis Four	80
Hypothesis five	81
Discussions	83
Summary of Results	93

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS

Introduction	94
Summary	94
Conclusions	96
Recommendations	97
Limitations	97
Implication for Counselling	98
Implications for further research	99
REFERENCES	100
APPENDICES	125
APPENDIX A: QUESTIONNAIRE FOR NURSES	126
APPENDIX B: ETHICAL CLEARANCE	131
APPENDIX C: LETTER OF INTRODUCTION FROM UNIVERSITY OF CAPE COAST	132
APPENDIX D: LETTER OF INTRODUCTION FROM GHANA HEALTH SERVICE	133
APPENDIX E: LETTER OF INTRODUCTION FROM ACHIMOTA HOSPITAL	134

LIST OF TABLES

Table	Page
1 Distribution of Demographic Information	62
2 General Knowledge of Genetic Condition	67
3 One Sample t-test for General Knowledge of Genetics Conditions	68
4 General knowledge of genetic counselling	69
5 One-sample t-test for nurses' general knowledge of genetic counselling.	71
6 Nurses' Cultural Experience	72
7 One-Sample t-test for Nurses' Cultural Experience	73
8 Nurses' Personal Experience	74
9 One-Sample Test for Nurses' Personal Experience	75
10 Nurses' Professional Experience	76
11 One Sample t-test for Nurses' Professional Experience	77
12 Linear Regression for relationship between nurses' general knowledge and genetic counselling.	78
13 Linear Regression for relationship between genetic counselling and nurses' cultural experience.	79
14 Linear Regression for relationship between genetic counselling and nurses' professional experience.	80
15 Linear Regression for relationship between genetic counselling and nurses' personal experience	81
16 Independent samples t-test for place of work and attitudes	82

LIST OF FIGURES

Figure		Page
1	Conceptual framework.	33



LIST OF ACRONYMS

AAN	American Academy of Nurses'
AGNC	Association of Genetic Nurses' and Counsellors
ANA	American Nurses' Association
CR	Conditioned Response

CS	Conditioned Stimuli
DNA	Deoxyribonucleic Acid
MNS	Mirror Neuron System
MRI	Magnetic Resonance Imaging
NHS	National School of Healthcare Science
RNA	Ribonucleic Acid
SCD	Sickle Cell Disease
UCR	Unconditioned Response
UCS	Unconditioned Stimuli



CHAPTER ONE

INTRODUCTION

This chapter deals with the introduction of the thesis. It covers the background of the study, the statement of the problem, the purpose of the study, the hypothesis, and the significance of the study, delimitation of the study, limitation of the study, the definition of terms, abbreviations and the organization of the study.

Background to the Study

Genetic counselling is a talking therapy that aims at helping prospective parents understand the risk of a genetic disorder. This has become a very useful way of preventing genetic diseases in the world. Attitudes of nurses regarding genetic conditions are influenced by cultural, professional and personal experiences and the counsellor plays a major role in formulating these attitudes (Holt, Hordy & Bouras, 2008). Ghana has a very poor provision of genetic services; there are no genetic counselling centres, and the country lacks special counsellors with technical knowledge in counselling patients with genetic conditions. Therefore, general paediatricians and clinical psychologists normally perform genetic counselling in most cases.

Several specialist associations are interested in offering genetic therapy programs to people with genetic disorders, including psychiatrists, physical therapists, speech and language therapists, etc. Nurses and genetic counsellors are acknowledged as important in providing genetic disorders to people who work closely with them every day (Holt et al, 2008). In contrast, healthcare providers offer intimate attention and are thus able to establish productive interactions with people with genetic conditions (Holt et al, 2008). Nursing

activities include: promotion, protection, improving the health of patients and abilities, alleviation of pain, recovery and advocacy for the care of patients, families and society as a whole (American Nurses' Association, 2013). According to Rudolfsson and Berggren (2012), nurses should show qualities of reverence, kindness, wisdom, empathy and concern. Caring for patients

with genetic conditions is important in nursing (Gray, 2009). According to Finfgeld-Connett (2008), caring for clients with genetic conditions is an interpersonal method characterized by career care, interpersonal awareness and close links. Care includes the scientific and medical components as well as individual therapeutic aspects. Brilowski and Wendler (2005) recognize the mental and technical dynamics of the care of patients with genetic disabilities. People with hereditary defects, listing attributes to caring for patients with genetic conditions as attitudes, actions, relationship variability and acceptance.

Nursing care is one of the major health care services in Ghana that contributes significantly to the client's healing process in the health care management of patients. Client healing process will be inadequate without appropriate nursing care. In addition to the importance of nursing care in Ghana, there is a growing public uproar towards the bad behaviour of nurses towards clients in health care facilities (Appiah, 2013). Media reports and some studies (Asenso-Okyere, Osei-Akoto, Anum & Adukunu, 1999), indicate that throughout the Ghana, the attitude of nurses is unhealthy. Providing high-quality care to patients with genetic conditions includes doing the best thing at the right time and enhancing patient, family, and societal health results (Uys & Naidoo, 2004). Other researchers have identified discontent among patients with the level of treatment rendered (Uys et al 2004) and nurses who do not

care (Wiman & Wikblad, 2004). Other scientists have found inadequate treatment for particular diseases, such as HIV (Van, 2007) and Hepatitis C (Frazer, Glacken, Coughlan, Staines & Daly, 2010), which they said was related to poor health worker attitudes.

In the 21st century, there is a paradigm shift towards client-centred health care, but the situation is different in Ghanaian health care centres. It is very common to hear nurses shout and humiliate patients of an inherited disorder or caregivers of patients with genetic conditions who seek an explanation of things concerning their health. To avoid these humiliations and discrimination, patients would rather sit at home and self-medicate than go to the hospital. According to Asenso-Okyere, Osei-Akoto, Anum and Adukunu (1999), the attitude of nurses is one of the major factors taken into account by clients when deciding on going to a health care centre. Many Ghanaians, instead of visiting hospitals with their genetic conditions, prefer to visit traditional health care centres because both herbalists and spiritualists devote a significant amount of time and exercise patience to clients (Asenso-Okyere et al 1999). Nurses must have optimistic attitudes toward patients and medical care in order to attract the public's interest.

Attitudes are 'inferred from external observable hints' latent hypothetical features (Ajzen, 2005). The attitude of nurses affects behaviour, quality of care for clients with genetic conditions and the outcome of the health of these patients (Dias, Gama, Cargaleiro & Martins, 2012). Negative attitudes affect the care of all patients (Frazer et al 2010). Apem-Darko (cited in Ghana News Agency, June 22, 2012) argued that professional virtues of empathy, love, affection and innovation among nurses were diminishing, and

these attitudes are believed to be a result of cultural, professional and personal experiences. According to Hagan and Thompson (2014), therapeutic relationships and communication skills are critical components of person-centred mental health practice. It is identified that many of the nurses find it challenging to develop contact and continue a therapeutic relationship with patients with genetic conditions and this makes identifying and meeting the mental health concerns of clients with genetic conditions very difficult for nurses (Goldbart, Chadwick & Buell, 2014). The vision of nursing is to provide optimal service to patients with genetic conditions and the communities with a positive attitude. Unfortunately, this does not always happen. Genetic counsellors have a part to play in changing these attitudes of nurses hence they must be considered in health care management.

Statement of the problem

The development of genetics raises many questions regarding policies for clinical practise, such as who is qualified to handle genetic conditions; hence, several studies have looked at nursing students' perceptions of genetics understanding and attitudes. One of the few studies that examined advanced practice nursing students' knowledge of genetics (Maradiegue, Edwards, Seibert, Macri, and Sitzler, 2005) discovered that the majority of the nursing students surveyed had little knowledge of medical genetics, but there have been no studies on the effect of nurses' cultural, professional, and personal perspectives on patients' genetic disorders and the counsellor's role.

Though there have been various concerns about the attitude and behaviour of nurses and the need for change, most studies only investigated the prevalence of the unhealthy attitude and whether the attitudes have

changed over time (Asenso-Okyere et al., 1999; Appiah, 2013). In altering these attitudes to enable nurses to help their clients, genetic counsellors must take the centre stage to help nurses understand their role and its implications on health care delivery. As a counselling psychologist i attend to clients who visit the hospital with children with genetic conditions and they complain bitterly about the attitude of the nurses towards patients with genetic conditions, Asare-Allotey observed that the way nurses receive their clients had about 60% healing on them and implored nurses to join hands with their professional bodies and genetic counsellors to deal with the negative attitudes they portray in doing their work (Appiah, 2013). Even with all these observations, there has not been any systematic and pragmatic intervention to deal with the situation in Ghana. The code of ethics for the Ghana Health Service provided for client-centred health care in the country, but the opposite is what is happening. The situation is worsening day after day. It is believed that the impact of a nurse's cultural, professional and personal experiences on the genetic conditions of patients cannot be handled by the professional bodies without the input of the genetic counsellor.

Purpose of the study

The goal of the study is to determine how attitudes of nurses affect the behaviour of nurses towards people with genetic conditions and how their cultural, professional and personal experiences influence the attitude towards patients with genetic conditions and the role the counsellor plays in formulating these experiences. Patients in Ghana have often complained about the behaviour of nurses, especially nurses who take care of patients with genetic disorders and patients believe that these nurses tend to aggravate their

condition through their behaviour. Nurses are the cornerstone of the health-care industry, making up the largest health profession in all countries. This research aims to explain the impact they make on genetic conditions through their culture, personal and professional experiences and the role of the counsellor in formulating these attitudes and how the counsellor can help

patients deal with genetic conditions.

Research objectives

The objectives of this study are:

1. To establish the relationship between the general knowledge of nurses about the genetic condition and genetic counselling.
2. To determine the relationship between genetic counselling and nurses' cultural, personal and professional experiences.
3. To ascertain the relationship between the place of work and attitudes towards people with genetic conditions.

Research Questions

The following research questions guided the study.

1. What is nurses' general knowledge of genetic conditions?
2. What is nurses' general knowledge of genetic counselling?
3. What are the nurses' cultural experiences?
4. What are the nurses' personal experiences?
5. What are the nurses' professional experiences?
6. What is the attitude of nurses at their place of work?

Hypotheses

The following hypotheses were formulated to guide the study.

1. There is a significant positive relationship between nurses' general knowledge of genetic condition and genetic counselling.
2. There is a significant positive relationship between genetic counselling and nurses' cultural experiences.
3. There is a significant positive relationship between genetic counselling and nurses' professional experiences.
4. There is significant positive relationship between genetic counselling and nurses' personal experiences.
5. There is a difference between the place of work and attitude towards people with genetic conditions.

Significance of the study

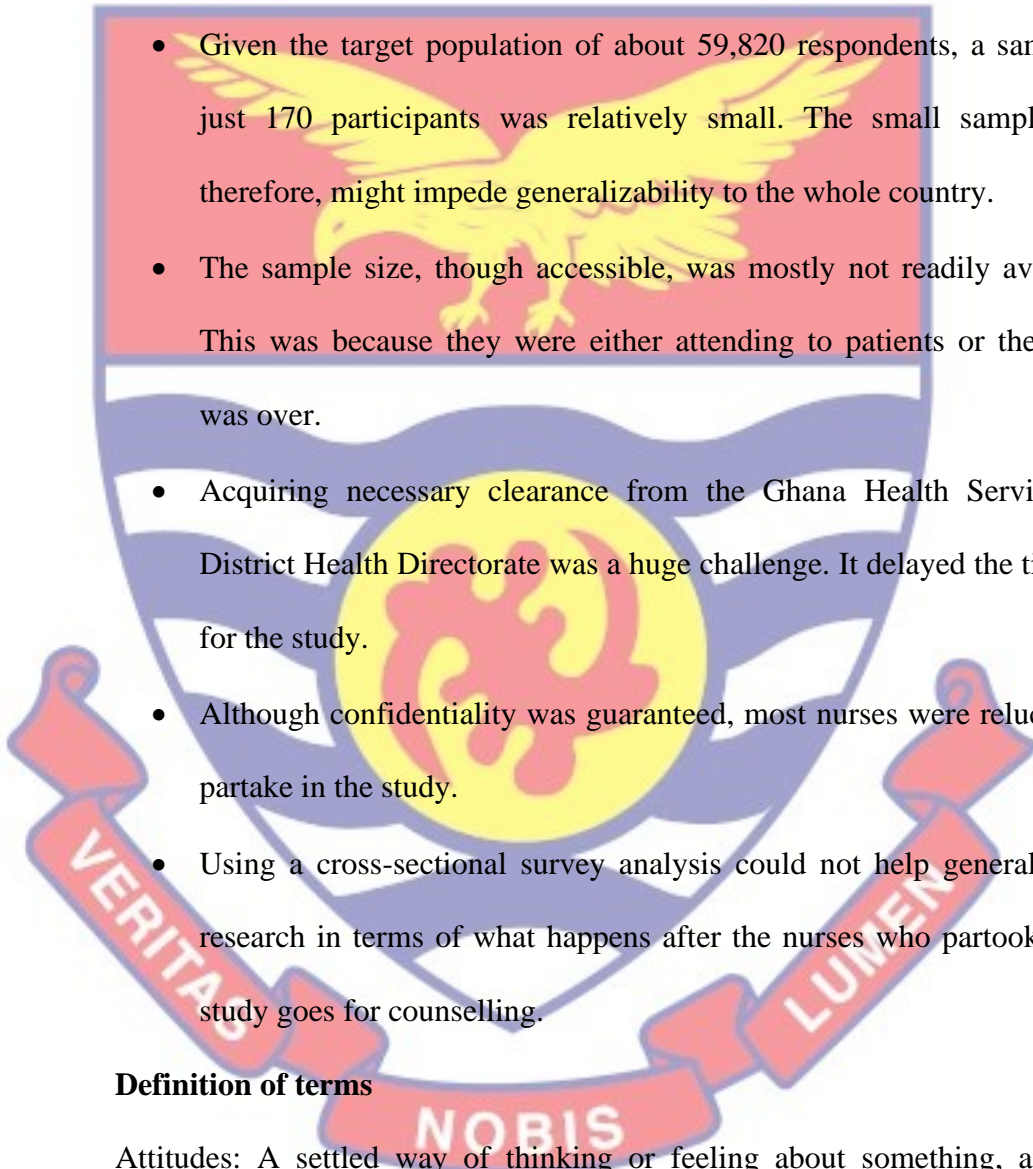
The need for understanding genetic conditions and how nurses' cultural, professional and personal experiences impact attitudes towards genetic conditions and the role the counsellor plays has become very relevant.

Understanding how these attitudes are formulated will help strengthen health systems and nurses' development, including communications and counselling skills of genetic counsellors in hospitals. When it is established that cultural, personal and professional factors impact the formulation of attitudes towards genetic conditions, it will go a long way to benefit health care institutions and inform genetic counsellors about the attitudes of nurses toward genetic conditions of patients. These will help hospitals improve or enhance mental health education.

Delimitation of the Study

The study is delimited to One hundred and seventy nurses and staff nurses at the University of Ghana Hospital and Achimota District Hospital in Accra, Ghana's Greater Accra Region.

Limitations of the Study

- 
- Given the target population of about 59,820 respondents, a sample of just 170 participants was relatively small. The small sample size, therefore, might impede generalizability to the whole country.
 - The sample size, though accessible, was mostly not readily available. This was because they were either attending to patients or their shift was over.
 - Acquiring necessary clearance from the Ghana Health Service and District Health Directorate was a huge challenge. It delayed the timeline for the study.
 - Although confidentiality was guaranteed, most nurses were reluctant to partake in the study.
 - Using a cross-sectional survey analysis could not help generalize the research in terms of what happens after the nurses who partook in the study goes for counselling.

Definition of terms

Attitudes: A settled way of thinking or feeling about something, attitudes include cultural, professional and personal experiences.

Cultural: A set of emotions, convictions, and behaviour towards a specific object or person.

Experience: A mastery of an event acquired by participation in or exposure to, which has an effect on someone.

Cultural experience: The set of shared attitudes, values, goals and practices that characterizes a group, institution or a country.

Personal experience: Attitudes formed from sensory perception of internal and external events in the present moment, or a set of experiences that form an empirical unity, such as a span of existence.

Professional experience: Attitudes formed from experience that is earned by being in a particular profession.

Genetic conditions: A problem caused by one or more abnormalities formed in the complete set of genes present in an organism.

Counselling: A relationship between a counsellee who needs help and counsellor who is well trained to render help.

Genetic counselling: The process of investigating individuals and families affected by or at risk of genetic disorder to help them make informed choices.

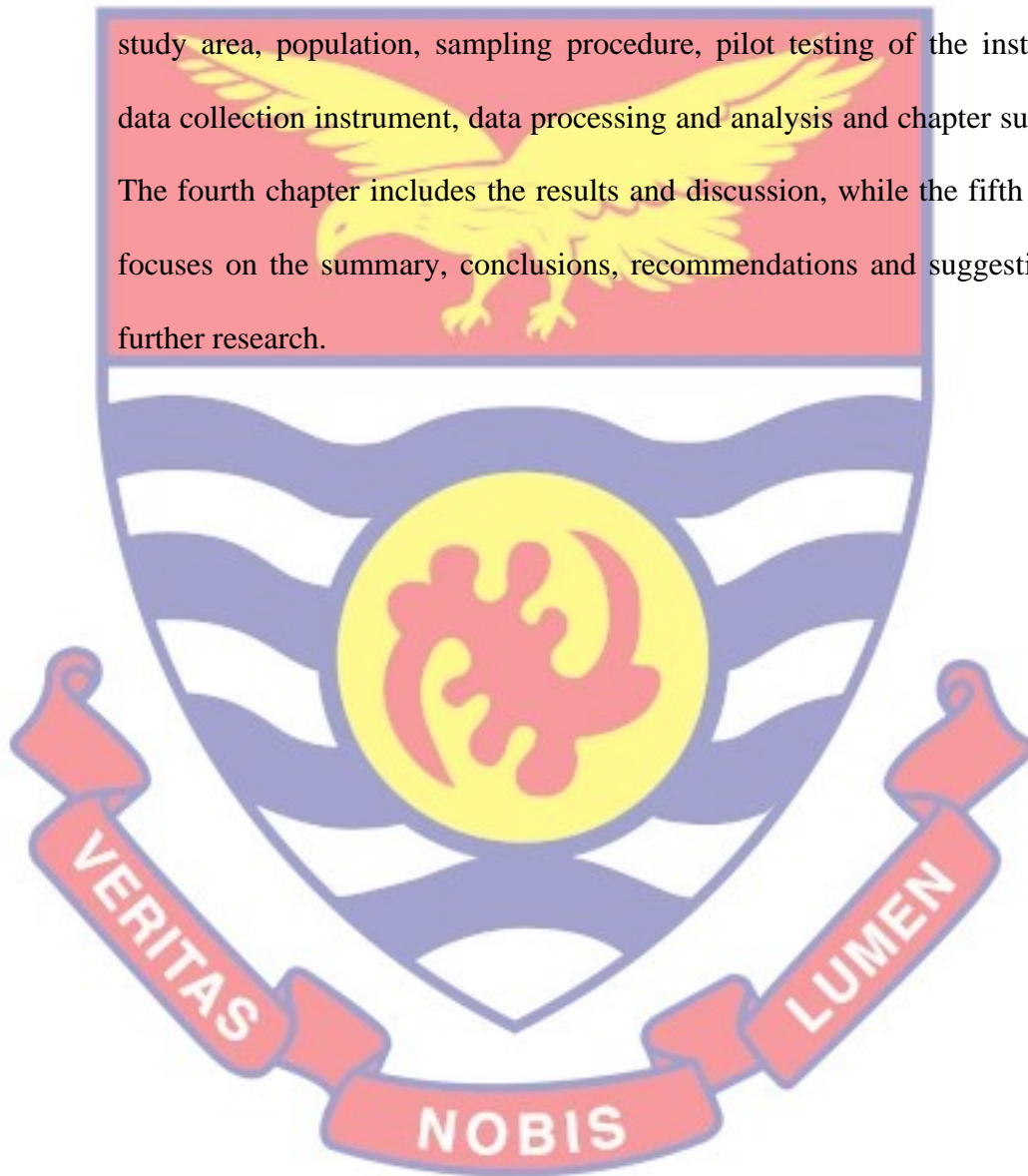
Genome: The entire collection of genes or genetic material found in a cell or organism.

Organisation of the Study

The study is comprised of five chapters. Chapter one of the study deals with the introduction to the study, which includes topics such as the background of the study, statements of the problem, purpose of the study, research objectives, research questions, hypothesis, significance of the study, organisation of the study, definition of terms and abbreviations. The rest of the study is comprised of four chapters in which chapter two deals with the review of related literature. Topics such as Theoretical framework, theories of genetic

counselling, conceptual and empirical basis of the study, Nurses' cultural experience, Nurses' Personal Experience, Nurses' professional experience of genetic conditions, the role of the genetic counsellor, clinical application to genetic conditions and the role of nurses' in counselling were captured.

Chapter three addresses the methodology, which includes research design, study area, population, sampling procedure, pilot testing of the instrument, data collection instrument, data processing and analysis and chapter summary. The fourth chapter includes the results and discussion, while the fifth chapter focuses on the summary, conclusions, recommendations and suggestions for further research.



CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter is devoted to the literature review for the study; it covers the theoretical framework, the conceptual framework and some empirical studies.

Genetic counselling is a fast-growing field in the area of counselling psychology. Its practice raises many questions concerning policies such as who is qualified to offer genetic counselling, discussions about the attitude of nurses based on the impact of cultural, professional and personal experiences in formulating attitudes towards genetic conditions have become relevant.

Despite the fact that a variety of specialists, including physicians, social psychologists and others, are involved in assisting people with genetic disorders, the functions of counsellors and nurses are regarded as the most important.

Genetic conditions are very common and more than 7 million children with genetic abnormalities are born every year. Among the genetic disorders in Ghana, the most common is sickle cell disease (Modell, & Darlison, 2008).

Theoretical framework

In nursing, theoretical levels are divided into four categories: Meta theory, Grand theory, Middle Range theory, and Micro Range theory. For this study, the definition and theories of attitudes and how cultural, professional and personal experience impact on the formulation of attitudes about genetic conditions of patients and their implications for nurses' are explained. It also looks at the role the counsellor plays within the conceptual framework. Guiding the study is the belief that behaviour about genetic conditions by

nurses can be predicted from knowledge of how their cultural, professional and personal experiences impact on the formulation of these attitudes and the effect genetic counselling can have on these. The Theoretical perspective of attitude formation can be explained by theories that underpinned the study,

The Four Levels of Nursing Theories

In nursing, there are four levels of theories, which are Meta theory, grand theory, middle-range theory and micro range theory (Walker & Avant, 1995).

Meta theory: This philosophy deals with questions concerning the conduct of inquiry. Meta theory, also known as philosophic investigation, examines the course, methodology, and principles of inquiry using logic and analytic reasoning and this makes it different from grand theory, middle-range theory and micro range theory, rather than a particular analytical structure that describes the scientific universe (Higgins & Shirley, 2000). The philosophy of science is a Meta theoretical inquiry relevant to scientific questions that concentrates on a rigorous study of technology, its methods, and its outcomes. Meta theoretical inquiry is used by both scientists and physicians. It frequently answers issues that science cannot explain: For example, when it comes to death and dying, scientific investigation seeks to address concerns regarding physiologic alterations that lead to death. However, philosophical research is required to respond to the query, "Is death better interpreted as a mechanism or a product?" (Higgins & Shirley, 2000, p. 122). As a result, understanding Meta's analytical thinking is essential to both nursing science and practice.

Meta theory is the most well-established of the four levels of theories. A sample list of questions raised by this line of investigation reveals the meaning and function of meta theoretical knowledge in nursing:

1. Describe the interaction between nursing theory and experience.
2. Nursing theory concept, growth, and testing.
3. The establishment of nursing as an independent specialty and
4. Examine and interpret basic philosophical viewpoints as well as relevance to nursing research.

The lengthy list of outstanding inquiry scholarly work that reflects these four divisions of Philosophical investigation in nursing is well illustrated in anthologies like the one published by Nicoll (Nicoll, 1997), however, one example highlights the importance of the discipline's Meta theoretical thinking. Carper's seminal paper on the underlying trends of knowing in nursing, written in 1978, sparked a lively debate in schools, and work place around the world (Carper, 1999).

Grand theory: The global paradigms in nursing research are grand theories (Whall, 1996). They are organized, purely complex theoretical frameworks that serve as the foundation for our academic understanding inside the framework of nursing principles; their meanings and suggestions extend beyond unique occasions and target groups. The extensive body of structural and philosophical justification that has arisen from grand theory offers scholarship that separates nursing from other closely connected professions and validates its presence within academic disciplines (Fawcett, 1995). This means that the greatest contribution of theory to nursing is the formation and

confirmation of the identification and limits of the discipline (Higgins & Shirley, 2000).

Grand theories, due to their abstract nature, offer universal interpretation and definition of nursing but not the specifics needed for observational research. They therefore have no analytical capacity. Many grand theories often use vocabulary that is complex for beginning students to understand and unknown to many prospective users. However, they have greatly affected awareness creation within the profession, and there are many examples of their application in directing nursing science, practice, and schooling (Higgins & Shirley, 2000). Grand theories further contribute to nursing literature by representing the period of time and setting in which the scholars formulate their philosophical underpinnings, as well as their ideas and educational and experience viewpoints. In terms of charting the development of the discipline, Nightingale is known as the first great thinker, and her “Notes on Nursing” are regarded as the original model of modern nursing (Nightingale, 1859).

There is disagreement on the main theory and, therefore, which studies of nursing scholars should be categorized as such. For instance, is ideology and care science of Watson (1979), more correctly categorised as a philosophy or a major theory of nursing? Would cultural treatment for Madeleine Leininger (Leininger, 1979) be a large or mid-range theory of diversity and universality? This method of discussion is considered by other researchers to advance nursing knowledge. Although we may never agree on such topics, this does not mean that our external frontiers are properly

established and our energies can now be redirected to differentiate the inner content and structure of our understanding by creating middle-range theories.

Middle-range theory: The middle-range hypothesis is a relative newcomer to nursing science in terms of growth over time. The philosophical field of nursing is discussed in middle range theory, although it is more specific and less formal than grand theory; for example, the philosophic origins and assumptions of the middle range theorist may be more complex than concrete theory, as the name implies, any definition of middle-range theory must include a discussion of "what it is" as well as "what comes before and after in its range." Chinn and Kramer (1999, p. 128) were among the first to explain and describe middle range theory in nursing research, by using Merton's study of sociologic thought. Merton and Merton, 1968; Suppe, 1993 offered three guidelines for separating middle-range theory from grand theory. These three guidelines are generally accepted: scope, degree of abstraction, and testability. (Good & More, 1996; Lenz, Suppe, Gift, Pugh & Milligan, 1995).

In terms of scope and abstraction degree, Lenz et al. (1995, p. 18) explained that "middle-range theories are those that are sufficiently precise to direct study and procedure, but sufficiently common to cross many clinical communities and include related phenomena." According to Lenz et al, the study and implementation recommendations are far more precise than that given by grand theory; therefore, middle-range theory can be evaluated empirically. The principles or interesting occurrences may be scientifically coded (mostly through qualitative or quantitative methods), and it has the

capacity to postulate a measurable connection between the phenomena; therefore, it distinguishes itself in terms of time relativity (Suppe, 1993).

The Middle-range theory's generalizability is further established by limits that restrict the calculation of the person-environment relationship. While testable through a variety of patient populations and contexts, a specific middle range theory would not answer all patients in all settings. According to (Good and Moores, 1996), pain control philosophy refers only to adults undergoing acute surgical discomfort and is properly assessed only for the first few days after surgery. Because of the above properties, the typology of the middle-range theory is not as restricted as that of the grand theory, and it can be categorized as either explanatory or predictive. Middle-range theory plays an important role in defining or refining the substantive substance of nursing research and practice, and it should be a priority for all nurse researchers and clinicians while we strive to develop expertise for discipline (Higgins & Shirley, 2000).

Micro-range theory: Micro-range theory is the least formal and most preliminary of the theoretical levels explored so far; it is therefore the most limited in terms of time, scale, and implementation. Its special methodology, on the other hand, is useful for scientists and clinicians working to explain, coordinate, and evaluate their theories. The Micro-range theory was proposed in two stages. At a higher level, Micro-range theory is similar to middle-range theory, but it is composed of one or two main principles and its implementation is often restricted to a specific case, such as theories relating to decubitus or catheter treatment (Whall, 1996).

Micro-range theory is described at a lower level as a set of established theory or propositions (Kim, 1993). These working hypotheses are used by scientists and practitioners to classify, describe, or examine health-related experiences between people and their surroundings. As a result, they are not coded or incorporated into a formal theoretical context, but two examples demonstrate their importance to science and practice. In the first example, a scientist interested in constructing and evaluating broader theoretical constructs isolates and organizes proposed philosophical relationships into propositions. The scientific literature is then used to analyse the propositions' relationship and, if support for the truth of the relationship exists, to establish conceptual analytical correspondence.

In the second scenario, clinicians often use theories to describe, explain, and organize the conceptual working arrangement in reality (Higgins & Shirley, 2000). The inquiry, though similar in procedure to the scientist's, varies in complexity and generalizability; that is, practitioners examine the more specific and immediate relationship in a smaller community of people or, more frequently, a single individual. For example, a nurse in a general medical unit may be tasked with admitting an elderly patient with chronic obstructive pulmonary disease. Before seeing the patient, the nurse hypothesizes a series of potential mental relationships in an effort to coordinate information. For example, the physical state of the client. The nurse then assesses the working theory and works to specifically alter the concepts' relationship by changing the person-environment interaction (Higgins & Shirley, 2000). Any discussion of this theory must include 'practice theory'. To understand practice theory, one must first understand what it is, keeping in mind that there are various

definitions and that many authors regard micro theory as the most specific and relevant of all theoretical levels, which can also be used as a descriptive term for practice theory (Walker & Avant, 1995; Nicoll, 1997). This classification is thought to limit appreciation of critical thinking in nursing, and a broader concept of practice theory would be more useful. Others agree that all nursing theory, regardless of degree, is practical theory (Ellis, 1969; Ellis, 1971).

Using a bidirectional approach, this study explains a theoretical structure for understanding the relationship of nursing discipline with genetics and genomics. By adding a new specialty, a new technology, and a new lens, the method applies genetic and genomics science to the nursing discipline (Ellis, 1969; Ellis, 1971).

Interaction of nursing discipline with genetics and genomics

Genetic as a new specialty: Over time, nurses have received training to work as genetic nurses and to specialise in treatment for those with inherited disorders (Skirton, 2017). These nurses specialise in the treatment of patients with genetic disorders, including testing, diagnosis, and management. Some of the genetic conditions they take care of are birth defects, chromosomal abnormalities, single-gene disorder and hereditary cancers (Kerber & Ledbetter, 2017). However, as genetics becomes more important in health care and nurses specialize in it (Umberger, Holston, Hutson, & Pierce, 2013), it should be viewed as a new technology for all nurses to learn as a fundamental course in the future.

Genetic as a new technology: Genetics has made an enormous contribution to healthcare over the years and has incorporated new scientific innovations, similar to mobile devices and computer science (Chuang, Hsieh,

& Charles, 2013). Taking a family history, evaluating environmental factors affecting gene declaration, evaluating signs, laboratory results, and symptoms caused by genetic disorders, and eliciting information from individuals and their families about what they know and want to know about the genomic dimensions of their illnesses are some of the things nurses may look at if they incorporate genetic into their assessment are some of the things nurses may look at if they incorporate genetic into their assessment. On the basis of a more detailed evaluation, nurses may make a more customized treatment plan customized to each patient's requirements. The clinical practice schedule can also be implemented based on the genetic circumstances of the situation. The care plan may include informing patients about genomic factors related to their conditions and other pertinent details, as well as telling the person about risk factors for health conditions based on family history, available genetic testing and treatment options and helping with genetic referrals (Pestka et al., 2008; Pestka et al., 2010).

Genetic and genomics as a new lens: Genetics and genomics science have introduced a new lens to nursing, which is evident in the way nurses treat their clients, including assessment, diagnoses, interventions, and health promotion (Calzone, Cashion, Feetham, Jenkins, Prows, Williams, & Wung, 2010). With the completion of the Human Genome Project, numerous genetic variations or modifications have been found to be correlated with the occurrence of all common diseases (Bancroft, 2013). Identifying the existence of genetic and genomic variants could cause nurses to classify patients into various genetic levels of disease groups from which preventive or treatment approaches may be provided accordingly (Bancroft). One example is that

certain types of diabetes are linked to a single gene shift (Amed & Oram, 2016).

Patients with type 1 diabetes will also be tested for one of the monogenic diabetes. Insulin injections are the first line of treatment for these patients, but with genetic as a new lens, oral sulfonylureas are a better option (Amed & Oram). Since genetics has made it simple to recognise that a significant proportion of variance in drug reaction is determined genetically (Munro, 2015), pharmacogenomics has been developed, and the aim is personalised medicine, which aids in the detailed identification of genetic differences among patients and the correlation of relevant genetic features or combinations of genetic features that are associated with a higher risk of human disease or the effectiveness of certain therapeutic interventions (Lee & Morton, 2008). Tricyclic antidepressants, for example, are metabolised by the Cytochrome enzyme. A woman with a mutation in the gene that codes for the enzyme that makes her a weak metabolizer can have hazardous plasma concentrations and experience side effects such as hypotension, sedation, dry mouth, tremor, and incident cardiotoxicity. Individual genetic and genomic profiles are being used to not only direct nurses' assessments, tracking, and evaluation before, during, and after drug usage, but also to provide nurses with instructions about how to use this knowledge to personalize nursing strategies (Hu, Yu, Modanloo, Zhou, & Yang, 2018).

Nursing could contribute to the progress of genetics and genomics by adding worldviews and diverse viewpoints to coping with individual responses and campaigning for patient rights in the genetic and genomic period. Furthermore, the nursing profession advocates for people and communities to

understand and resolve personal, educational, ethical, and legal questions relating to genetics and genomics (Hu et al., 2018).

The continuous bidirectional association of the nursing discipline with genetics and genomics has the potential to cause a paradigm shift in nursing research. The science revolution, on the other hand, is a far-reaching and long-term goal, and the paradigm shift phase can be uncomfortable. The translation of genetics and genomics into nursing is a difficult and time-consuming task; as a result, information translation activities are required to guide the process; additionally, evidence-based innovation, potential adopters, and the practice climate must all be considered when developing implementation strategies (Hu et al., 2018).

Theories of Nursing

The theory of the nurse as wounded healer: Nursing is a profession in which people who want to help others address the needs of those in need. According to Conti-O'Hare (2002), people are frequently attracted to particular occupations such as nursing through an urge to ease the pain of others after undergoing or seeing painful experiences in their own lives.

Overview of the theory of the nurse as a wounded healer: Individuals' coping mechanisms are either effective or inefficient after experiencing personal trauma. When a person's coping is unsuccessful, the trauma's influence goes unnoticed and the suffering goes unsolved. These people then act like wandering wounded healers and have difficulties with their public, personal, and professional relationships. These individuals project their wounds onto both patients and peers by ignoring their conflicts and shortcomings, believing they are unharmed while being less able to empathize

with others (Zerubavel & Wright, 2012). The pain is consciously recognized, transformed, and transcended into healing as trauma is successfully treated. Regardless of whether an accident occurred, the wounds would have been properly understood and processed so that finding medical help would not be hampered (Zerubavel & Wright, 2012). Despite the scar, this processing

eventually leads to healing. This survival journey teaches the nurse to be a wounded healer and to rely on her wounds to provide healing treatment. Centred on these principles, Conti-O'Hare developed a nurse's philosophy as a wounded healer to investigate a nurse's capacity to overcome emotional pain and distress in order to create a stronger therapeutic connection with others.

Carl Jung's metaphysical work was founded on the concept of the wounded healer (Jung, 1953). One of Jung's core beliefs is that everyone has experienced some kind of pain in their lives. Both conscious and unconscious stimuli resulting from personal experiences influence human behaviour, and everyone is affected. These variables must be viewed as co-existing rather than dichotomous. Recognizing this duality and seeing all of its components as a whole is the act of transcendence. It encourages us to expand our selves beyond the boundaries of our daily lives. In order to achieve wholeness and make sense of, explain, and explore the intent of the world around her, humanity seeks experiences, ties, partnerships, and integrations with the world around her (Boeree, 2006).

Jung claims that nurses and other health practitioners are just as vulnerable as the rest of us when it comes to encouraging healing, and that they should aim for wholeness rather than clean hand perfection (Jung, 1953). The countertransference theory, suggested by Jung, explains a wounded

healer's entire conscious and unconscious response to a patient. He came to the conclusion that using countertransference by a properly healed wounded healer would benefit the patient by fostering empathetic dialogue and informing the healing process constructively. According to Fordham (1970), the wounded healer may use his or her past experiences to help others in similar situations. However, if the healer's broken parts are not adequately fixed and the underlying pains continue, both the practitioner and the patient can experience detrimental effects (Fordham).

Application of wounded healer theory to Lateral violence in Nursing

Nurses' jobs are so exhausting that they need an outlet for their negative feelings and thoughts. Unfortunately, marginalised classmates and co-workers are often used as this outlet, making them casualties of lateral abuse (Johnson & Rea 2009). Young recruits in need of mentoring, new nurses unfamiliar with the unit to which they have been assigned, and night shift nurses, who are considered to be less hard working than those on other hours, are the most common targets (White 2006). Unfortunately, these victims become the walking wounded, reinforcing the lateral violence loop. If the injury is caused by personal stress or working problems, isolated lateral violence episodes may start with passive aggression or mild intimidation directed at those considered to be less or weaker (Hutchinson et al., 2006). While an apology can initially appease the behaviour, it may quickly intensify into verbal harassment and other disruptive behaviours, spreading negativity and creating a toxic work atmosphere. If the attacks proceed, this form of action could become the standard. As lateral violence is seen or found every day in the unit, and the numerous effects of lateral violence consume the

nursing staff, the environment may be overwhelmed by walking wounded. According to his philosophy, each nurse must first understand and improve its own anxiety and pain, in order to resolve the wounded healer and proceed along the route (Conti-O'Hare, 2002) to become a wounded healer. This is addressed in three phases: awareness, change and transcendence.

The trauma and its effects are recognized, and the components are thoroughly examined and disseminated. The process of acknowledgement starts with the infant asking and answering the following questions.

1. What happened?
2. What could change?
3. How should it have been handled?

After working through recognition, the nurse can focus on transformation; the nurse can turn the discomfort into an appropriate and manageable perception, by answering questions,

1. What can be learned from the incident?
2. Has this changed me or the people I care about?
3. How can this be used to make things better?

After the previous two stages have been completed, the third level, transcendence, is reached; transcending the pain allows for understanding and learning of previous experiences that can be used to support those who are in pain and suffering. The nurse has the option to say something at this point

1. I understand your pain.
2. How can I make things better for you?

After completing the three steps, the walking wounded transforms into the wounded saviour, with a greater capacity to comprehend and empathise

with others' suffering (Conti-O'Hare, 2002). Professional partnerships strengthen, creating a more supportive work climate and improving the quality of patient care. If nurses are exposed to personal trauma or lateral abuse again, they must go through the process of identification, transformation, and transcendence again in order to recover their wounded healer status.

Implication of wounded healer theory to Lateral Violence in Nursing

As soon as lateral abuse begins, administrators can direct workers to workers assistance programmes (EAP) or Human Resources (HR) Departments, requesting that they give resources for employees who are experiencing personal or occupational traumas. Such referrals, though, need not be the result of the manager's interventions (Conti-O'Hare, 2002). They should also make themselves available to staff for any matters that could interfere with their ability to collaborate with others or care for patients. Managers should serve as a trigger to help the nurse take the first step toward becoming a wounded healer, namely the step of acknowledgment (Conti-O'Hare, 2002). Other staff members should be aware if a fellow nurse shows destructive, maladaptive, or unstable behaviour, especially when a patient's safety is at stake. Employers should be willing to listen to employee reports on peer problems when a colleague isn't the right person to solve the problem. Peers may also provide guidance and mentorship to newly trained or newly hired nurses who are dealing with the difficulty of starting work in a new setting. If the situation worsens, a hospital counselling psychologist should be consulted (Conti-O'Hare, 2002).

Since the consequences of lateral aggression can be highly debilitating, in order to formulate the methods described above, psychologists

should use the theory of injured healers and the related steps. Following the paradigm, people in positions of leadership should first empower employees to understand that lateral violence is happening, that it is stressful, and that it is having a negative effect on the workplace. This can be done one-on-one or in a group environment (Conti-O'Hare, 2002). It is important for workers to

assess not just the personal consequences of lateral violence, but also the consequences for others and the community as a whole. Following acknowledgment, workers will continue to discuss what was learnt from the encounters, both personally and together. By turning the agony of their meetings into insight and knowledge, they will overcome it and become wounded healers.

Theories of Genetic counselling

Decision Science theory: Genetic counsellors use decision science to direct the mechanisms and effects of health-related decision making. Making it easier to make decisions is an example of decision making psychology; whether to do genetic testing or not is an important part of genetic counselling (Resta et al., 2006). Decision theory may help hereditary counsellors who use a psychotherapeutic technique to facilitate decision making. Genetic counsellors assist people in making rational decisions that are consistent with their ideals and convictions (Michie, Dormandy & Marteau, 2002). An informed decision was described as one that is based on enough information and complements our attitudes towards the decision-making subject; our attitudes are impacted by values and convictions. This definition corresponds to decision-making psychology, which has shown that decision-making is more than just abstract thinking (Ariely, 2010). According to

Gigerenzer and Selten (2001), logical thought is interconnected with emotions, individuals' characteristics, and the sense of actions that contribute to bounded logical reasoning. To elaborate, the Gain-loss studies shown that there are commonalities in how people make choices and that we can always forecast their preference (Kahneman & Tversky, 1984). Understanding the gain-loss experiments helps genetic counsellors to determine if they are giving their patients choices as potential loss or gains, as genetic counsellors support clients by framing their options. Thaler & Sunstein (2009) proposed in their book, *Nudge*, that the way genetic counsellors introduce alternatives to clients may result in an unexpected contribution to the outcome. An experimental study of panel testing with different numbers of genes discovered that test selection varied depending on the number of genes on the panel (Barr, 2015).

Fuzzy trace theory: Fuzzy trace theory is a decision-making theory used by genetic counsellors; it has a dual function centred on two conceptual mechanisms involved in decision making: gist and verbatim (Reyna, 2008). Gist traces are fuzzy representations while verbatim traces are a detailed representation of events. Data shows that when making decisions, patients often use gist traces rather than verbatim reasoning, according to Reyna (2008). As patients perceive probabilities, their decision is often controlled by the information's bottom-line sense (e.g., a belief that "the risk is high" or "the risk is low"; "the outcome is bad" or "the outcome is good") rather than the real risk (Austin, Hippman & Honer, 2012). A study of the role of gist traces of breast cancer risk in decision-making outcomes revealed their significance (Lloyd Reyna & Whalen, 2001). Because the client can communicate the knowledge and value of the information, a genetic counsellor who uses a

psychotherapeutic approach to decision-making may choose to help clients use the basic sense of the gist of information on the real understanding of risks. Applying fluid trace theory to genetic counselling, customers will make an informed and less regrettable decision based on gist.

When counselling patients about genetic disorders, the client's decision could be based on personal opinion or medical advice. In the absence of evidence that one option is significantly superior to another, and when such options are based on beliefs and convictions, preference-based decisions are made. This is distinct from a medically recommended decision in which there is proof of clinical gain in taking a course of action, such as screening for women with a pathogenic mutation in the (BRCA1) "BREast CAncer gene." If the client meets clinical recommendations, their risk of dying from cancer is reduced. Values and convictions play a significant role in preference-based decisions. Prenatal genetic counselling provides classic examples of preference-based decisions. A genetic counsellor's goal in the prenatal environment is to foster client-centred decisions. Decisions on whether to follow through with a prescribed plan of action can be difficult and they can require several steps, such as undertaking recurrent screening. People use joint decision making to make all forms of decisions by collective deliberation (Elwyn et al., 2014). When clients identify the options clearly and when clients are to consider their personal and social interests in shared decision-making, there must be coordination with clients and healthcare providers to address the alternative course of action (Elwyn et al., 2014).

Curiosity, respect, and empathy are three fundamental elements of shared decision making; these three elements form a working relationship, a

social factor that is thought to play a role in predicting effective psychotherapy findings (Horvath & Symonds, 1991). Professional intuition drives genetic counsellors to understand what their clients are wondering while expressing profound appreciation and consideration for the condition in which they are making a decision. Shared decision sharing identifies appropriate and possible courses of action, advising patients about what they should be mindful of and what will materialize if they do not adhere to each option. This plan of communication uses the therapeutic partnership to compare the potential paths and their consequences and to express desires for a particular course of action, and to contextualise a psychotherapy form of counselling. The technique of taking shared decisions in genetic counselling (Elwyn et al., 2000; Sivell et al., 2008), is especially important when integrating decision making theory such as the fuzzy trace theory.

Unlike a theoretical structure (e.g., fuzzy trace theory), our clients' personal tools and the context in which they make a decision are the practice paradigm (e.g., mutual engagement) and decision approach (e.g., shared decision making). Decision making is greatly affected by cognitive and emotional load. Struggling to understand risk information can result in cognitive load. "Numeracy" refers to our convenience and capacity to handle numbers (Peters, Hibbard, Slovic & Dieckmann, 2007; Portnoy, Roter & Erby, 2010). Many citizens still possess poor digital skills. Genetic consultants may decide that the presentation of risk information and explanation of numbers is sufficient to appreciate and use the information in a variety of formats. Patients with poor numeracy skills and those with abstract probability will not be able to do this (Reyna et al., 2009). In these circumstances, the gist of a

health risk may trump all other considerations. Similarly, clients who lack comprehension, or the capacity to comprehend spoken and written language, may be unable to derive meaningful information from hearing genetic information. Patients who are often educated can also have poor literacy or inherited literacy. There is a lot of evidence that genetic counsellors use complicated words during genetic therapy, which can make information more difficult for clients to understand (Ashtiani, Makela, Carrion & Austin., 2014; Roter et al., 2009).

Decision making is particularly difficult when it comes to life-changing problems. There is limited time to consider certain choices, which can be emotionally taxing. Genetic counsellors support clients in prenatal treatment by encouraging tough decisions. Choices like whether to maintain a pregnancy when the foetus has a disease are often influenced by feelings rather than logic. Genetic counsellors can assist clients in recognising and managing their emotional burdens, as well as in speaking about their morals and beliefs that are important to the decision. With this in mind, the pre-test prenatal session's strategy of the genetic counsellor should involve the expectation of the probability of affecting their foetus but in an atmosphere that is less stressful and time limited.

Cognitive behaviour theory: According to cognitive behaviour analysis, there is an intrinsic connection between our feelings, behaviour and emotions (Dattilio, Carlson & Sperry 2000). In considering the application of cognitive behaviour therapy, one must note that the target is not knowledge but the cognition of the client, since cognitive conduct counselling helps counsellors concentrate on what the client feels and thinks, since the thoughts

of the client shape his emotional experience but not to concentrate on his knowledge of the genetic state of the client. For the genetic counsellor to help clients cope with the genetic information, they must recognise delusional thoughts and unfounded views and question them. These are ideas and thoughts that differ from reality and are experienced by all. Such thoughts, if not controlled, are the source of distress or maladaptive behaviour. Helping change these behaviours can lead to improved emotional and behavioural outcomes.

Conceptual Framework

In this study, three independent variables have been identified as attitudes. The attitudes are cultural, professional and personal experiences. Nurses acquire how they relate with patients who visit the hospital from the community they live, from working with such conditions and from living with such conditions themselves. The influence or impact of these factors on how nurses' behave towards patients with genetic conditions can be either positive or negative. The relationship between the various variables calls for genetic counselling.

According to Austin and colleagues, genetic counselling is placed under the umbrella of psychotherapy (Austin, Semaka & Hadjipavlou, 2014). Psychotherapy is defined as “the informed and intentional application of clinical methods and interpersonal stances derived from established psychological principles to assist people to modify their behaviours, cognitions, emotions and/or other personal characteristics in the direction that the participants deem desirable” (Zeig & Munion, 1990). However, the National Society of Genetic Counsellors (NSGC) defined genetic counselling

as the process of “helping people to understand and adapt to the medical, psychological and familial implications of genetic contributions to a disease”. This definition can be said to be compatible with that of psychotherapy (Kessler, 1979; Resta et al., 2006). Psychotherapeutic genetic counselling is an increasingly relevant practice and yet it may be difficult for genetic counsellors to classify their work as psychotherapy.

The Practical Competences established by the Accreditation Council of Genetic Counselling (ACGC) include active listening skills and interviews to estimate, classify and answer the questions of those seeking guidance on genetic counselling. These skills are used to make informed decisions and adapt to genetic risk conditions (Shelton & Whitcomb, 2015). The cores of genetic counselling skills are psychotherapeutically oriented. Genetic counselling is psychotherapeutic because it encourages patients to speak about their feelings, show empathy and avoid verbal dominance. These help clients to have a higher level of satisfaction, better results and better cognitive results (Edward et al., 2008; Ellington, Kelly, Reblin, Latimer, & Roter, 2011; Meiser Irle, Lobb & Barlow-Stewart, 2008).

Among all the health professionals in Ghana, it is arguably lucid that nurses have by far the most patient contact. Nurses are the most criticized in respect to their treatment of patients with genetic conditions. This study attempts to provide answers to why nurses hold certain attitudes towards patients with genetic conditions and how these attitudes (cultural, personal and professional experiences) are influenced by genetic counselling. The study also seeks to provide answers to the relationship between genetic counselling and nurse’s general knowledge; genetic counselling can help nurses gain more

knowledge about genetics and how to treat patients with such conditions. Finally the study seeks to ascertain the influence of place of work on the attitudes of nurses towards people with genetic conditions.

This situation or condition is what has been captured in figure 1.

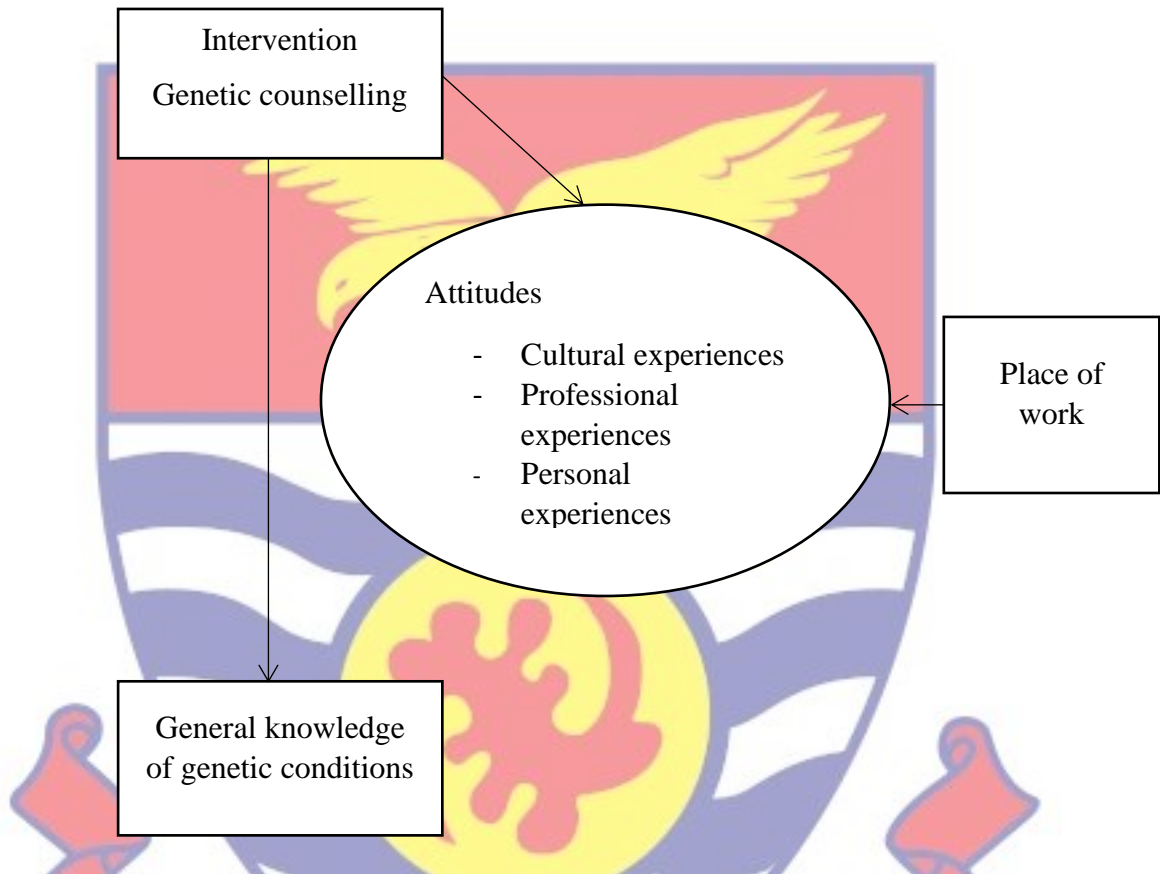


Figure 1: Conceptual framework.

Empirical Review

Green (1953) defines attitude as a conceptual or latent variable rather than a directly measurable variable. In other words, attitudes are described as a learned proclivity to evaluate things in a certain way. These evaluations may be positive or negative, but they are also vague. You might, for example, have conflicting feelings about a particular person or problem (Green, 1953).

Nurses' Culture experience

Culture is a collection of feelings, values, and behaviours toward a specific object or individual. The values and norms also help form our attitudes. People tend to have positive attitudes about things that are accepted in a particular culture. In the same way, if our culture does not accept certain things, we tend to form a negative attitude about these things. Anthropologists describe culture as the sum of our values, customs, and opinions on how we work, including other products of human labour and thoughts unique to members of an intergenerational group, a society, or a population (Slaughter-Defoe, Naka, Takanishi & Johnson, 1990).

Another concept of culture is that it encapsulates people's life experiences, including variation by type of class, location, religion and time that can be equated to the heritage of the larger community, whether the group is a nation, a region or a tribe (Mead, 1955). Aranda and Knight (1997, p. 342) describe culture as "a collective way of life: the beliefs, rituals, principles, language, symbols, and social organisation that become meaningful to the group members." Cultural values and behaviours, according to Benja (1996), distinguish these community members or social classes from one another. Cultures are formed and preserved by the transfer of values and behaviours from parents to children (Cintas, 1995). When incorporating genetics into an educational programme, the cultural background must be understood. As a result, it is important to investigate nurses' genetics awareness in various countries (Skirton, Barnoy, & Erdem, 2012).

Congruent care, as defined by Leininger (1995), is cognitively based assistance, support, encouragement, or facilitation of acts or decisions that are

often tailored to meet individual community or institutional values, beliefs, and lives. The process by which a health care professional often seeks to attain capacity and ability to work efficiently within the cultural context of a clientele is cultural competence, according to Campinha-Bacote (2002). Garity (2000) defined cultural skills as sensitivity to different groups, suggesting the need for the production of culturally skilled nurses sensitive to culture. As a result, cultural competence ensures that the provider has a fundamental understanding of and special attitudes towards the principles and practises of medical care (Spector, 2004). Starr & Wallace (2009) examined the self-reported cultural skills of 31 health workers in a public health department in the south-eastern USA. They concluded that “the nurses possessed cultural skills and behaviours but were unable to apply them thoroughly and consistently in practice” (Starr & Wallace 2009, p. 48). Subsequently, the eight care providers working in Australia were interviewed by Cioffi (2006) and concluded that their encounters with culturally diverse patients were tense and distant.

Richardson reports that senior nurses in New Zealand recognised cultural safety and the connection between cultural safety and the output of the patient, but found it hard to integrate cultural practises as patient interaction was restricted because of the increasing complexity of patient attention and workload, according to Richardson, William, Finlay and Farrell (2009). The method of cultural interactions to avoid conflicts and encourage respect of cultural differences, as defined by Arias-Murcia and Lopez Diaz (2013), provides for proper interactions. Another research on the cultural experiences of nurses has identified language as a barrier and as a kind of cultural

intermediary. Waite, Nardi and Killian (2014) observed that while health workers know the culture of a patient or client, they also need to be aware of these differences and are keen to learn. They also emphasise the importance of cultural skills in basic treatment. Nurses who hold ethnocentric views, according to Parfitt (1998, p 52), will be unable to properly interpret their patients' or clients' behaviour because they will assess it based on expectations of their own behaviour. Competent nurses are culturally aware and knowledgeable in recognising specific cultural trends in order to develop an individualised care plan that will aid in meeting the patient's defined healthcare goals (Gustafson, 2005). Giger and Davidhizar (2004) argued that it is critical for a nurse who is entrusted with the care of service users to provide culturally relevant attention.

The recognition of cultural influences on health attitudes and behaviours, according to Yuen and Yau (1999), gives clients or patients a better insight into their perception and behaviour and improves their medical judgement, Yuen and Yau (1999). Iwama (2003) says that western-trained healthcare practitioners are lacking critical thinking on basic principles of the university's healthcare system, so that occupations appear to be ethnocentric systems that favour western and European societal backgrounds and ways of experiencing. Similarly, Darnell (2002) accuses Western-trained experts of taking an established set of guidelines that their clients frequently fail to share, which can lead to discomfort, misunderstanding and even marginalisation as a matter of course.

Nurses' Personal experience

Other life experiences, as well as specific therapeutic interactions and clinical environments, contextualised the nurse's familiarity with genetic conditions. Previous observational findings have shown that nurses cite prior familiarity of hereditary disorders as a motivator and part of their identity.

Integration of practice has become an increasingly important element in the design and implementation of nursing services (Perkins, Rinaldi & Hardisty, 2010, Gillard & Holley, 2014). It has typically been sought from clients who either consult the nurses or, more recently, create unique positions of staff in support, where service users are expected to express themselves in accordance with a recovery-focal approach to their own interactions with genetic conditions in their workplace (Gillard, Edwards, Gibson, Owen & Wright 2013; Gillard & Holley, 2014). While increased support from peers and the use of experts by experience reflects the recognition of the value of living experiences in genetic conditions, the scale of no recognition or unknown expertise by health professionals has not been determined even though there is increasing evidence in first-person reports (MacCulloch & Shattell 2009) and quaa (Goldberg, Hadas-Lidor & Karnieli-Miller, 2015; Richards, Holttum & Springham, 2016).

In this study, nurses with personal genetic experience have been asked how their personal experience of genetic conditions influenced and affected their care work. In previous studies, when the impact of the genetic condition of a person on his or her work is examined, common pictures are either of the impaired person or the wounded person. Whereas the injured healer is an archetypal image of an assistant who gives him/her the ability to

cure and inspire other people (MacCulloch & Shattell, 2009; Zerubavel & Wright, 2012; Conchar & Repper, 2014), disabled people are seen as putting service users and clients at risk (Telepak, 2010). They make negative inferences about their experiences. A comprehensive analysis of the literature on the effects of nurses' and other professions' involvement found that it had a negative impact on engagement and caused stigma and censure from their employers and superiors (Telepak, 2010). A systematic analysis of the literature on the effect of nurses' and other professionals' psychological ill-health on their work frames health professionals' psychological ill-health in terms of service user safety and service user experience quality. The wounded healer picture, on the other hand, has a positive connotation because the wounded healer is seen as drawing knowledge and understanding from their experience. The picture of an impaired nurse does not have a positive connotation.

The experience of psychological ill-health pervaded psychological health work in Molls (2010) recent ethnographic analysis of 32 participants from one Canadian health institution's experience of psychological ill-health. The employees, on the other hand, were not permitted to discuss it openly. Moll's participants spoke about how their personal experience was strategically exposed and consciously hidden, in comparison to the official messaging inside the organisation, to be accessible and to speak about their psychiatric ill-health. In ethnographic research, Kidds (Kidd, 2008; Kidd & Finlayson, 2010; Joyce, Hazelton & McMillan, 2007; Joyce, McMillan & Hazelton, 2009) participants discussed their experiences with mental illness.

For some of Kidd's 18 participants, nursing was seen as causing mental illness or exacerbating pre-existing weaknesses.

Others had a different experience with mental illness than their profession, but it still influenced their nursing practice (Joyce et al., 2007; Joyce et al., 2009). Twenty-nine nurses with psychiatric illness crossed a line because they were both a nurse and a service user. This research focused on the impact of mental health workers' psychological distress on their relationships with co-workers and nurses' perceptions of their employment (Joyce., et al). In this present study, the aim is to investigate the impact of nurses' personal experience of genetic conditions and how this informs their nursing practice with particular reference to how they will treat clients with genetic conditions.

A nurse means taking care of clients or patients. Paley (2001) stated that the existing nurse care literature did not provide the basis for awareness of nursing care, but is a continual accumulation, continuous confirmation and constant recurrence. According to Paley (2001), many nursing studies have failed to distinguish the narrative from the actual behaviour of the nurse in her care. However, Woodward (1998) suggested that the kind of attention and care a nurse gives to patients is related to the patient's characteristics.

Our interactions with people around us influence our attitude and subsequently influence our behaviour. We form a positive attitude to the things we like when we encounter them. If we experience anything that makes us feel good, we tend to form a positive attitude towards it and, in the same way; our bad experiences with objects may lead us to form a negative attitude about these things. The helper therapy theory (Riessman, 1965) can account

for the increased self-esteem found in peer support staff because supporting others may be particularly rewarding and result in an increased sense of interpersonal competence. According to Bracke, Christiaens, and Verhaeghe (2008), giving peer reinforcement is more effective than getting it in terms of self-esteem empowerment, and so on. This may be attributed to evidence that peer service nurses understood that by participating in peer support, they were changing views about mental illness and, as a result, breaking down stereotypes and promoting hope in the people they worked with (Mowbray, Moxley & Collins 1998).

According to the Centres for Disease Control and Prevention and the Council on Children with Disabilities, the prevalence of genetic disorders in North America in 2002 was estimated to be around 1 in 150 children (Centres for Disease Control and Prevention, 2007; Johnson & Myers, 2007). Since 1980, according to data, these rates have continued to increase at unforgettable rates (Blaxill, 2004; Fombonne, 2003; Newschaffer, Falb & Gurney, 2005). With the increase in genetic disorders, nurses and other health care professionals are attempting to learn more about the disorder's aetiology, and it has been discovered that males are four times more likely than females to be diagnosed with the genetic condition (Centre for Disease Control and Prevention, 2007). Biological and environmental causes, the nature of which is unknown, are thought to play a role. The first point of diagnosis normally starts with the paediatric nurse; the nurse administers screening tools and developmental questionnaires along with addressing concerns from parents. Neurologists, counsellors, psychiatrists and children's nurses are professionals that become children's health care professionals. Children with genetic

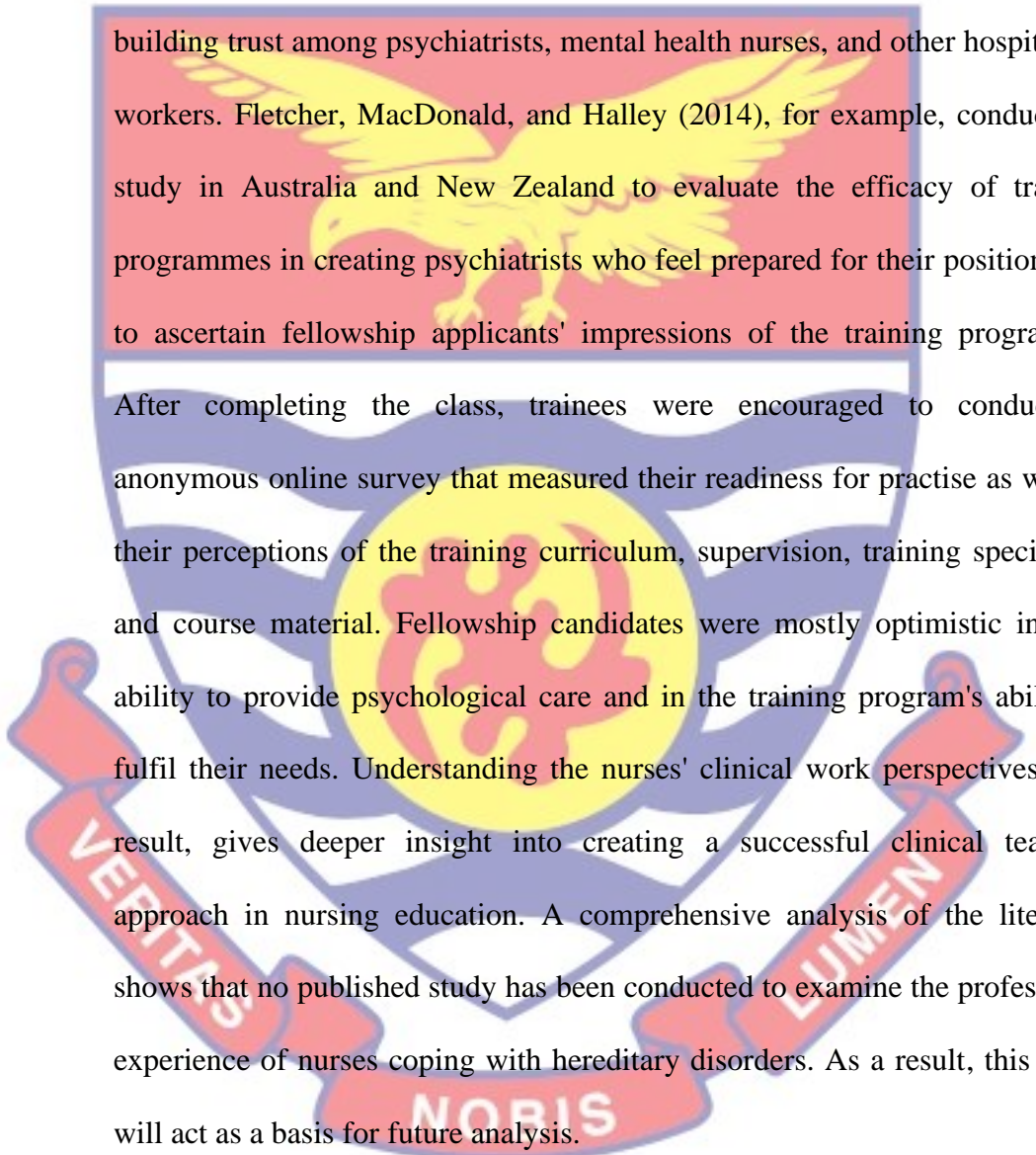
conditions interface with the health care field many times in the early years (Myers, 2009).

Nurses' Professional experience

Several studies have been conducted to investigate and quantify nursing clinical or professional experience. In Australia, for example, Happell (2008) conducted a study to investigate nurses' attitudes toward mental illness before and after clinical practise, and the findings showed that after training as mental health nurses', the nurses' retained optimistic attitudes about the experience and intended to work as mental health nurses'. In addition, nurses who received preclinical theoretical training reported being pleased with their clinical experience. The result of this study was supported by Henderson, Happell, & Martin (2007). Furthermore, Mabuda, Potgieter, and Alberts (2008) conducted a qualitative, descriptive, exploratory, and contextual analysis to investigate nurses' experiences at a nursing college in Limpopo Province. Phenomenological interviews were conducted with 11 final-year nurses. The results revealed that there are factors that have a negative effect on nurses' clinical experience, such as a lack of learning opportunities, a lack of learning and instructional resources, a lack of theory-practice alignment, and a lack of interpersonal relationships between nurses, tutors, and other health professionals. Recommendations were made to develop nurses' clinical learning experiences.

Watson et al., (2009) investigated stressors in the clinical or hospital setting that could have a detrimental impact on nurse experience in the United Kingdom. According to the report, there are several factors related to the hospital or clinical setting that can trigger stress and anxiety in nurses. Those

factors were identified as lack of knowledge; nurses' perceiving themselves as inferior to doctors and having a poor relationship with doctors. Furthermore, several reports have shown that nurses have failed to work with uncooperative health workers and have also felt neglected by them (Melincavage, 2008). Preparation for preclinical training was found to be extremely beneficial in



building trust among psychiatrists, mental health nurses, and other hospital co-workers. Fletcher, MacDonald, and Halley (2014), for example, conducted a study in Australia and New Zealand to evaluate the efficacy of training programmes in creating psychiatrists who feel prepared for their positions and to ascertain fellowship applicants' impressions of the training programme. After completing the class, trainees were encouraged to conduct an anonymous online survey that measured their readiness for practise as well as their perceptions of the training curriculum, supervision, training specialties, and course material. Fellowship candidates were mostly optimistic in their ability to provide psychological care and in the training program's ability to fulfil their needs. Understanding the nurses' clinical work perspectives, as a result, gives deeper insight into creating a successful clinical teaching approach in nursing education. A comprehensive analysis of the literature shows that no published study has been conducted to examine the professional experience of nurses coping with hereditary disorders. As a result, this thesis will act as a basis for future analysis.

The knowledge of genetics can help form an attitude about it. Attitudes are formed based on what we know about a particular object. When we interact with people with genetic conditions and know the merits and demerits of these conditions, we can shape our attitude towards these

conditions. If we have negative experiences with genetic conditions as a result of our professional encounters with them, we will develop a negative attitude toward these conditions. Similarly, if we work with people with genetic conditions, we get positive feedback or pleasant experiences; it will help us get positive experiences. A systematic analysis of the genetic skills of nurses has shown that the genetics of nurses are usually poor (Godino & Skirton, 2012). Furthermore, many nursing programmes are deficient in genetic material (Skirton et al., 2012). On the plus hand, the findings show that nurses are receptive to genetic education. Many factors contribute to our institution's lack of success in incorporating genetics or genomics into nursing education, according to Godino and Skirton (2012), including a scarcity of nursing facilities equipped to teach genetics and its consequences, as well as a reluctance to understand the importance of genetics in nursing practice (Umberger, Holston, & Pierce, 2013).

Several studies from various countries have attributed a shortage of genetics education in nursing programmes to the challenges these practitioners face when providing genomics-based health care (Kim, 2003; Tomatir, Sorkun, Demirhan & Akdag, 2006). To resolve the shortfall, more genetic information, practical expertise in genetics, and guidance related to genetics education are needed (Pestka, Meiers, Shah, Junglen & Delgado, 2013).

Genetic Counselling

Genetic counselling is regarded as an effective communication tool for assessing the repeated risks of any type of genetic disorder (Horvitz, Ardozo, Llerena & Mattos, 2006). To discuss family health needs and provide guidance on risk assessments, prognosis, and preventive options, genetic

counselling necessitates specialised expertise. Most practitioners have never preferred advice and counselling, and they are unfamiliar with these techniques and do not feel qualified to evaluate clinical genetic cases. Genetic counselling is not just a means of disseminating information; it is also required because it assists individuals in understanding and adapting to the medical, psychological, and familial consequences of a genetic disorder (Resta, Biesecker & Bennett, 2006; Skirton, Cordier, Ingvaldstad, Taris & Benjamin, 2015).

A survey of Italian nurses' awareness and attitudes toward genomics-based health care found that nurses have little knowledge of genetics, which appears to be a global issue (Godino, Turchetti, & Skirton, 2013). It is important counsellors take the centre stage to help both nurses and individuals. In Ghana, almost all patients, including their families, who are affected by any type of genetic condition, are largely unaware of their clinical conditions and blame them on witches and wizards whom they believe exist among them. The Ghana National Health Insurance must cover all forms of genetic conditions.

The government must provide financial resources for the inclusion and expansion of genetic counselling programmes into primary health care so that counsellors can handle all cases of genetic counselling.

The role of the genetic counsellor

Genetic counsellors are widely recognised as healthcare practitioners with specialised experience in genetic and genomic disorders (Middleton, Hall & Patch, 2015). Genetic counsellors are important members of the medical team as well as members of the multidisciplinary team who enable genetic knowledge produced to be properly relayed in order to provide information

and assist patients and families with genetic conditions in attempting to understand and adapt to the type of these conditions (Paneque, Molvan & Cordier, 2016). Genetic counsellors use a unique set of skills, training, experience, and knowledge to assist patients in understanding genetic disorders, and they do so by:

1. Helping patients understand genetic conditions and how they affect their overall future healthcare.
2. Helping patients who are at risk or have any form of genetic conditions deal with practical and psychosocial effects.
3. Help clients and nurses understand ethical challenges surrounding the disclosure and sharing of confidential information about their conditions.
4. Explaining and interpreting complex incidental genetic information.
5. Educating nurses on the clinical application of genetic conditions of patients (Middleton, Marks, Bruce, Protheroe-Davies, King, Claber & Boyes, 2017).

The United Kingdom has played a leading role in developing the genetic counselling profession, setting the gold standard for counselling and leading other European countries to follow suit (Paneque et al., 2016). In Ghana, the current status of the mental health board is encouraging psychologists and counsellors to take up the challenge and make them relevant in the field of counselling. In 2016, the first NHS (National School of Healthcare Science) training programme in genetic counselling began in England. Furthermore, genetic counsellors are expected to be included in the United Kingdom healthcare workforce planning for the first time, with the

goal of ensuring that there are enough counsellors who understand genetics and genetic conditions in the United Kingdom to meet the growing demand for genomic healthcare.

Genetic counsellors in Ghana are few and issues of genetics are handled by scientists, medical doctors and nurses who are not counsellors since there is no model of practice for genetic counsellors in Ghana.

Clinical application to Genetic conditions

Aphasia: Bandura's and others' observation theory is used to treat aphasic patients. In these types of patients, the inability to recognise words is one of the most common signs of language breakdown, and gestures interfere with speech output, improving word retrieval in both normal and brain-damaged subjects (Hadar & Butterworth, 1997). Various rehabilitation therapies focused on either the direct use of gestures (Hanion, Brown, & Gerstman, 1990) or gestures with verbal production have been suggested to support this theory (Rose, Douglas & Matyas, 2002).

Monrangolo, Bonifazi, Tomaiuolo, Craighero, and Coccia (2010) investigated whether seeing or doing semantically congruent acts would improve aphasic patients' verb locating difficulties. Their findings showed a significant improvement in verb retrieval with only congruent action observation and with both congruent action observation and execution, which lasted for two months after the two treatments were completed. The monitoring state, in which patients first witnessed the motion and then had to perform a pointless movement, had no noticeable consequences. The results clearly suggested that simply witnessing a semantically congruent action aided verb retrieval in the same way that performing the action aided verb retrieval.

Parkinson disease: Rehabilitation for motor impairments such as gait disorder, Bradykinesia, and equilibrium disruption is an essential supplement to pharmacological therapies in Parkinson's disease. It is well established that if adequate cues are given, gait disruption, especially short ambulatory stride duration, can be improved (Lee, Fowler, Rodney, Cherney & Small, 2010). The most powerful visual cue is one that is perpendicular to the direction of walking and about one step long (Martin, 1967). Auditory prompts (McIntosh, Brown, Rice, & Thaut, 1997) and verbal instructions (Behrman, Teitelbaum, & Cauraugh, 1998) are also useful. Given that visual input can increase decreased stride duration in Parkinson's disease, watching other people's behaviours can help with certain motor impairments.

Sickle cell disease: Sickle cell disease is a major concern for most public health units in Ghana and Africa as a whole. It is estimated that there are over 200,000 babies each year with sickle cell disease (Diallo & Tchernia, 2002). 80% of children born with sickle cell disease are in sub-Saharan Africa (Modell & Darlison, 2008; Rees, Williams & Gladwin, 2010; Diallo & Tchernia, 2002; Piel Hay, Gupta, Weatherall & William, 2013). In Ghana, it is estimated that 15000, representing 2% of babies, have sickle cell disease with 55% having the homozygous form (Ohene-Frimpong, Oduro, Tetteh & Nkrumah, 2008). The genetic condition is characterised by the inheritance of 2 abnormal haemoglobins of which one or both are haemoglobin S.

The sickle cell disease patients experience acute pain episodes, anaemia, chronic end-organ damage and recurrent infections (Williams, Uyoga & Macharia, 2009; Scott, Berkley & Mwangi, 2011). Children born with sickle cell disease are seen to improve survival when the disease is

diagnosed early and comprehensive care is given since the SCD has a high mortality rate in the few years of their life (Wang, Kavanagh, Little, Holliman & Sprinz, 2011). This can be achieved if they seek professional help from a counsellor who will help them understand the disease. Quinn, Rogers, McCavit and Buchanam (2010) announced that the American SCD population had increased life expectancy by more than 90% of the full-adult population. Despite its high SCD prevalence in Ghana, the occurrence of the disease is still uncovered in Ghanaian adults and Ghanaian sickle cell patients' life expectancy is uncertain. It is also commonly recognised that more children living with the disease are adults (Asare et al., 2018). In the US, many of the latest modalities of treatment, including hydroxyurea, are not widely used as they are in the European sickle cell patient population (Asare et al., 2018). In 1974, the Ghana Institute of Clinical Genetics was established in Korle-bu, and it now provides comprehensive outpatient care to both adolescents and adults with sickle cell disease. In addition, the institute is in charge of community education and science (Asare et al., 2018).

Complications of sickle cell disease: SCD is a genetic disease that does not only affect red blood cells but affects almost every organ in the body due to the decreased supply of oxygen (Costa and Fertrin, 2016). We have several forms of complications, and according to Steinberg (2008), sickle vaso occlusion is when normal tissue gets interrupted by erythrocytes that are sickled and this causes hospitalization. Red cells of SCD patients may block circulation and this may result in reduced blood flow to vital organs which may cause hypoxia, acute painful episodes and possibly non-psychotic disorder. The back, abdomen, chest and head, etc. may be affected (Almeida et

al., 2005). Red blood cells have a lifespan of 21 days and they are produced by the bone marrow, but in sickle cell patients, the average lifespan of the red cells is between 10 to 20 days. There is damage to the red cell membrane which can lead to the breakdown of the red cells called haemolysis, thus leading to anaemia in sickle cell patients (Almeida & Roberts, 2005). One

other complication among sickle cell patients is the increase of infection; individuals with SCD are susceptible to infections which result in acute chest pain, painful episodes and sometimes hyper haemolytic conditions (Ansong, Akoto, Ocloo & Ohene-Frempong, 2013). When there is reduced oxygen circulation to vital tissues, it may result in organ damage. These organs may include the spleen, the kidney, the eyes and the brain (Kanter & Kruse-Jarres, 2013).

The role of nurses in counselling

Nurses play a vital part in the treatment of people who have a genetic predisposition or illness. To be successful in these positions, nurses must recognise hereditary, familial, behavioural, and environmental factors that raise the likelihood of genetic disorders in individuals and family members.

Secondly, nurses must help facilitate informed decision making on the part of their patients and must help promote behaviours that will facilitate surveillance and reduce the chances or risk of getting the disease (Baltimore, 2002). Counsellors must support nurses in recognising, referring, and recommending effective disease control techniques, as well as lobby socially and politically for optimal health care, particularly genetic health care, for those that need it (Baltimore et al., 2002). Nurses began researching genetic health care practitioners' abilities in the 1980s (Tinley, 1987). This debate

raged on into the late 1990s, when Dialay, Pagnotto, Bitton, and Brewster (1995) researched the role of genetic counsellors and called for further training in order to provide better health care for genetic conditions. The greatest obstacle for nursing, according to Jenkins, Diamond, and Steinberg (2001); and Monsen (2009), is inadequate training of health care professionals to use genetic technology efficiently in order to deliver exceptional health care to patients with genetic conditions. Essential nursing competencies and curricula standards were developed in response to nurses' desire to increase their genetic competency level (Monsen & American Nurses Association., 2009). Furthermore, hereditary competencies must be integrated into nursing school for graduates (Greco, Tinley & Seibert, 2012).

In nursing, the 1990s saw a significant change in terms of ethnic inequality (Scanlon & Fibison, 1995). These worries persisted a decade later, as Giarelli and Jacobs (2000) noted that labelling people based on their genetic make-up could lead to oppression, racism, and a lack of access to health care. Almost a decade later, William (2009) announced that not only healthcare providers, but also family members, were concerned about genetic discrimination.

Summary

Chapter two covers the theoretical framework, the conceptual framework and some empirical studies. The theoretical framework talks about the four levels of nursing, Meta theory, Grand theory, Middle range theory and Micro-range theory. The chapter then discusses some nursing theories, specifically the theory of the wounded healer, as well as three genetic counselling theories, decision science theory, fuzzy trace theory, and cognitive

behaviour theory. The conceptual framework illustrated the relationship between the independent variable and the dependent variable, as well as the intervention of genetic counselling.



CHAPTER THREE

RESEARCH METHODS

Introduction

The purpose of the study was to determine the impact of nurses' cultural, professional and personal experiences on genetic conditions of patients and the role of the counsellor at the University of Ghana Hospital and Achimota District Hospital, all in the Greater Accra Region of Ghana. This chapter focuses on the methods used to conduct the study and includes research design, study area, population, sampling procedure, data collection instrument, data collection procedures, data processing and analysis.

Research Design

This was a cross-sectional analysis with a quantitative data collection system. It can be applied to a variety of research goals and is also appropriate for large-scale population studies. Cross-sectional studies seek to collect accurate data that allows for the generation of a sound conclusion and the creation of a new theory that can be tested with additional analysis. The cross-sectional analysis has the benefit of allowing the researcher to observe the phenomenon being studied directly, of collecting information in a limited period of time without the need for participant follow-up, and of producing quicker results, thus at a lower cost than the other designs (Kramer, 1988). Cross sectional analysis was used because the researcher wanted to analyse nurses' attitude at a specific time. Cross-sectional studies are particularly useful for analysing nurses' attitudes because of these characteristics. Aside from describing phenomena, the cross-sectional design is often useful in studies that explore causal and effect relationships, attempting to analyse the

relationship between risk factors, determinants, and what are assumed to be their consequences or effects (Porta, 2008).

Study Area

The research was carried out at the University of Ghana Hospital and the Achimota Hospital, all in the Greater Accra Region of Ghana. Both hospitals have specialized units that offer integrated services in the management of patients with genetic conditions. Major health care services include reproductive and child health care, family planning, nutrition rehabilitation clinics, dental services, ear, eye, nose, throat and sickle cell clinic. Departmental units include out and in-patient department, dispensary, laboratory, medical records, catering, public health, physiotherapy, mortuary, nurse and general administration.

Population

All nurses', State Registered Nurses' (SRN), Enrolled Nurses' (EN) and Nursing Officers (NO) at the University of Ghana Hospital and Achimota Hospital were used as the population for this study because most of the clients who visit the counselling centre are from these two facilities. Total population was 317 nurses, the University of Ghana Hospital has 215 nurses, between the ages of 25 and 55 years, of which 201 are females and 14 are males, while the Achimota Hospital has 102 nurses between the ages of 28 and 58, with 82 of them being females and 20 males. Nurses from both hospitals have different levels of education, from certificates to master's degrees in Nursing from accredited institutions.

Sample and Sampling Procedure

Purposive sampling of non-probability samples was used to select the subjects for the study. The nurses were chosen because they are knowledgeable about genetic conditions. In a hospital setting nurses' are put on duty for a specific duty, the researcher was interested in nurses who handle cases of patients with genetic conditions. The questionnaire was given to the matron of Achimota hospital to distribute to the nurses while at Legon hospital the questionnaire was given to the nurses in charge of the various wards for distribution. Not all nurses handle cases related to genetic conditions. One hundred and seventy (170) nurses were selected to partake in the study. To have a sample that represents the population, ninety (90) nurses from Legon Hospital and eighty (80) nurses from Achimota hospital were selected. This is because the University of Ghana hospital has more nurses than the Achimota hospital. The sample size for the study was obtained using the total number of staff at both hospitals. The sample size was determined to obtain a percentage of all staff by using a simple statistical formula for minimum sample size calculation. (Yamane, 1967).

$$n = \frac{N}{1 + N(e)^2}$$

n is a minimum sample size,

N is the sampling frame (i.e. the total number of nurses' who are a staff of the hospital

e is the margin of error. Using 8% (0.08) margin of error.

A sample size of 88 was obtained from a population of 201 nurses at the University of Ghana hospital. The sample size was rounded up to 90 to make room for uncompleted questionnaires.

A sample size of 77 was also obtained from Achimota hospital of 150 nurses and rounded up to 80 to also make room for uncompleted questionnaires. In total, 170 questionnaires were distributed.

Instrument for data collection

The Attitudes Scale for Mental Illness (ASMI) was adapted and used for this study. The second part of the questionnaire, Sections B, C, D, E, and F, comprised the Attitude Scale for Mental Illness (ASMI). The ASMI with 34 items is a modified version of the questionnaire, "Opinions about Mental Illness in the Chinese Community" (OMICC), used by Ng & Chan (2000). The OMICC comprised 34 items by Lauder, Reynolds, Reilly, & Angus (2000). In the current study, the ASMI was adapted and utilized to measure the general knowledge of genetic conditions, cultural experience, personal experience, professional experience, and general knowledge of genetic counselling. In the current study, respondents were given the choice of four response categories based on their attitudes towards patients with genetic conditions, with these categories ranging from "strongly disagree" to "strongly agree" (strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4). To ensure validity of the instrument, the questionnaire that was used in the current study was adapted from the one used by Hahn (2001) in a similar study which explored the attitudes of professional nurses towards the mentally ill. The instrument comprised of forty (40) main items. Ten (10) of the items covered demographic data, thirty (30) of the items on the questionnaire were in the

form of Even Likert scale. The questionnaire was created by the researcher for the intended purpose. The questionnaire was put into sections to conform to the research questions that guided the study.

The ASMI scale used in Hahn's study yielded a Cronbach's Alpha of 0.87, indicating high internal consistency. The ASMI items in the current study were categorised into five conceptual factors, with each category measuring the following towards the genetic conditions: (1): general knowledge of genetic conditions (items 1 to 7); (2) nurses' cultural experience (items 8 to 16); (3) nurses' personal experience (items 17 to 22); (4) nurses' professional experience (items 23 to 29); (5) genetic counselling (items 30 to 40). For the questionnaire, a high score on the positive items represented more positive attitudes toward patients with genetic conditions, and a high score on the negative items represented more negative attitudes towards patients with genetic conditions.

Validity of the instrument

Validity refers to whether or not an instrument measures what it claims to measure. Validity has many different elements and evaluation methods. Construct validity portrays reality accurately, convergent validity correlates several measures of the same construct, and internal validity measures causal linkages. The application of external validity allows conclusions to be generalized. To ensure validity, the ASMI utilized in this investigation was derived from one used by Hahn (2001) in a comparable study.

Reliability of the instrument

A measure's reliability refers to high-quality measurements that produce consistent results regardless of who is performing the measurement.

A scale is considered dependable if it consistently produces the same reading when measuring the same objects (Graziano & Raulin, 2004). The Cronbach's Alpha for the OMICC scale used in Hahn's study was 0.87; showing strong internal consistency among scale items (Hahn, 2001).

Pilot-Testing of the instrument

Scientists and scholars in research methodology believe that to test the validity and reliability of research instruments, they have to be piloted in a population that has similar characteristics to the main study (Warren & Frankel, 1997). The questionnaire was piloted on 20 nurses of Madina Polyclinic, Accra, at two different times within one-week intervals. The pilot study resulted in a modest sample (n=20) which was a cross section of nurses from Madina poly clinic. The nurses were older and experience group with an average of 15.5 years spent working as nurses who take care of patients with genetic conditions, the nurses were generally well educated, with over 45% reporting university education. Analysis of the nurse's data indicated with higher education they acted favourably with patients with genetic conditions. Nurses agree to most of the questions regarding professional and personal experiences and also with attitudes towards patients with genetic conditions. Moreover the result from the sample could not be used in the analysis of the study because the piloted questionnaire contained two fewer questions than the final instrument.

The response to the items remained the same. The data was ranked to conduct the analysis. Cronbach's Alpha is 0.802, which indicates a high level of internal consistency (Warren & Frankel, 1997).

Data Collection Procedure

Data was collected from 170 participants who had consented and had assented to be part of the study. The data collection lasted for about two months in 2021, working hours between 10:00 am and 2:00 pm each day of the week, including weekends. The data was collected by using the adapted Attitudes Scale for Mental Illness (ASMI) questionnaire. The information collected from participants was imputed into "Statistical Package for the Social Sciences" Collecting the data was relatively simple because the questions were relatively simple, there was no time delay, and there was no literacy problem.

Ethical Consideration

The ethical approval was obtained for graduate student to conduct a research on impact of impact of nurses' cultural, professional and personal experiences' on genetic conditions of patients from the University of Cape Coast institutional review board, the study participants were at no risk of harming themselves or others by taking part in this study. Nurse's participants in the study were voluntary. Confidentiality was ensured because the questionnaire did not have any identifying information and were kept in a locked filling cabinet.

Data Processing and Analysis

To ensure validity, data entry and analyses were done using the Statistical Programme for Social Scientists (SPSS) version 21. Mean and standard deviations were used for continuous variables while frequencies and proportions were used for categorical variables. The One Sample T Test was used to determine the respondent's general knowledge of genetic conditions,

cultural experience, personal experience, professional experience and general knowledge of genetic counselling. A linear regression model was calculated to determine the relationship between nurses' general knowledge of genetic conditions and nurses' general knowledge of genetic counselling. A multiple regression model was calculated to predict the relationship between nurses' general knowledge of genetic conditions and nurses' cultural experience, nurses' personal experience and nurses' professional experience, which all constitute nurses' attitude towards people with genetic conditions. A linear regression model was calculated to predict the relationship between nurses' general knowledge of genetic counselling and nurses' cultural experience. A linear regression model was calculated to predict the relationship between nurses' general knowledge of genetic counselling and nurses' professional experience. A linear regression model was calculated to predict the relationship between nurses' general knowledge of genetic counselling and nurses' personal experience. To detect the difference between nurses' place of work and nurses' cultural experience, nurses' personal experience and nurses' professional experience, which all constitute nurses' attitude towards people with genetic conditions, an independent sample t-test was used. The findings of the study were considered statistically significant if the p-value of the test was lower than 0.05 ($p < 0.05$).

Summary

The purpose of the study, which took place at the University of Ghana Hospital and Achimota District Hospital, both in Ghana's Greater Accra Region, was to determine the impact of nurses' cultural, professional, and personal experiences on genetic conditions of patients, as well as the role of

the counsellor. The study was a cross-sectional analysis with a quantitative data collection system. The Attitudes Scale for Mental Illness (ASMI), which was customized and used for this study, offers a high degree of adaptability and breadth of coverage. The Statistical Programme for Social Scientists (SPSS) version 21 was used for data entry and analysis to assure validity.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter presents the results obtained from the analysis of the data that was collected. A total of 170 questionnaires were distributed for this study and all were retrieved, which means a response rate of a hundred percent (100%). Tables were created to aid in analysis of data. The results are presented in sections: A, B and C. Section A takes a look at the demographic information of the respondents. Section B looks at the research questions and Section C deals with the Hypothesis.

Analyses of Demographics

The demographic information of respondents comprises their gender, age range, marital status, religion, level of education, place of work, number of years spent at their present work place, number of years worked since they first qualified as a nurse, number of years of work experience and courses done since first qualified as a nurse. The analyses of the retrieved data were done with the overall aim of achieving the purpose of the study.

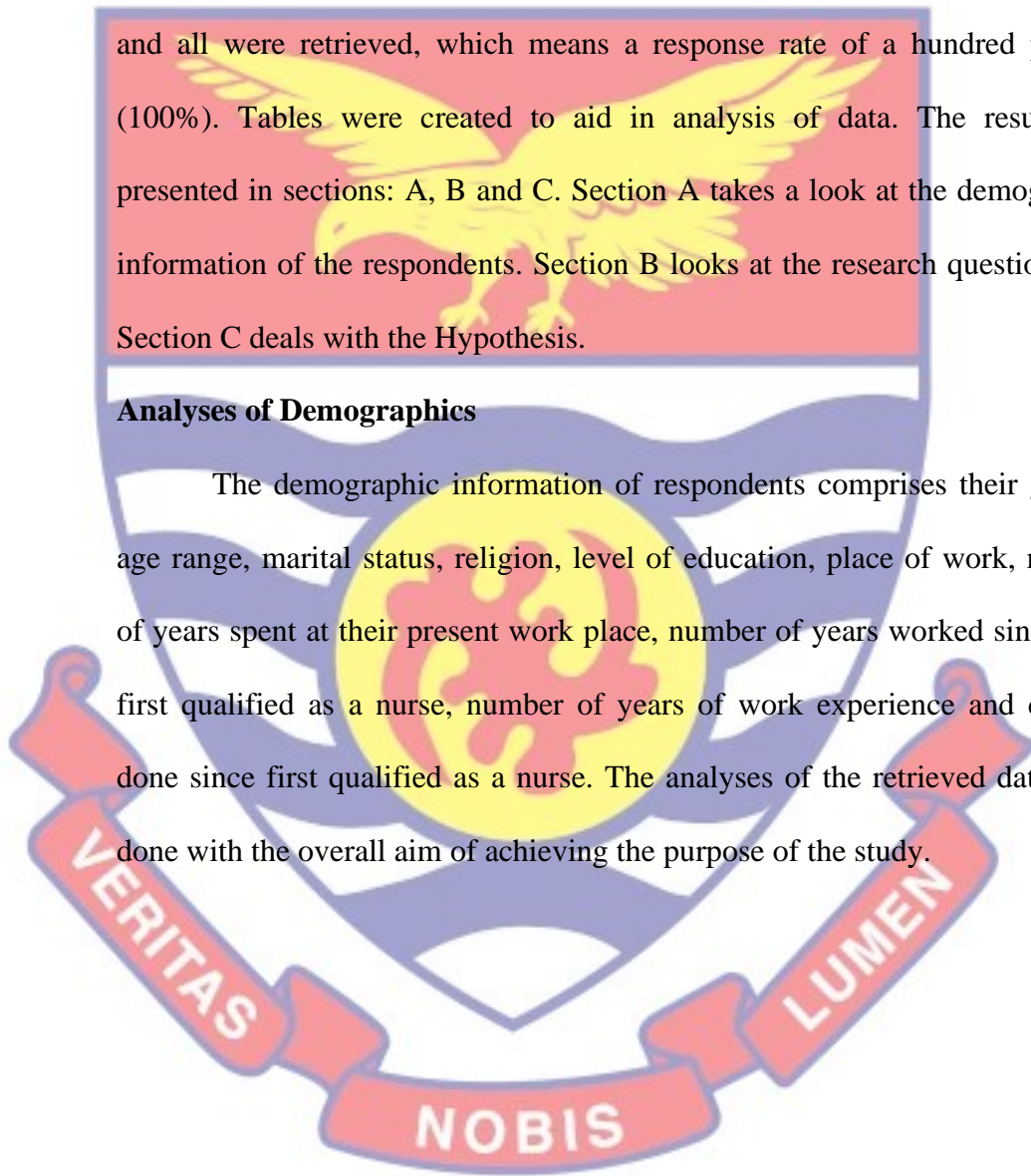


Table 1: Distribution of Demographic Information

Variables	Statistics	
	Frequency	Percent
Gender of respondents		
Male	48	28.2
Female	122	71.8
Age of respondents		
20-30	97	57.1
31-40	34	20.0
41-50	14	8.2
51 and above	25	14.7
Marital status of respondents		
Single	93	54.7
Married	63	37.1
Divorced	8	4.7
Widowed	6	3.5
Religion of respondents		
Christian	133	78.2
Islam	30	17.6
Traditional	6	3.5
Others	1	.6
Level of Education		
Certificate	15	8.8
Diploma	70	41.2
Higher Diploma	6	3.5
Degree	61	35.9
Masters	17	10.0
Post-Masters	1	.6
Where do you work		
Legon	97	57.1
Achimota	73	42.9

Table 1 Continued

For how many years have you been at your present work place

Below 1	39	22.9
1-10	99	58.2
11-20	9	5.3
21-30	11	6.5
31-40	12	7.1

How many years have you worked since you first qualified as a nurse

Below 1 year	27	15.9
1-10	106	62.4
11-20	14	8.2
21-30	10	5.9
31-40	10	5.9
Above 41	3	1.8

How many years of work experience do you have

Below 1	27	15.9
1-10	105	61.8
11-20	15	8.8
21-30	11	6.5
31-40	8	4.7
Above 41	4	2.4

Have you done any of the following courses since you first qualified as a nurse

Master of Science in Nursing Genetics	16	9.4
Health Care Genetics Minor	20	11.8
None of the Above	134	78.8

Source: Field Data (2020)

The study considered the gender of the respondents and it was revealed that female respondents dominated the sample with a frequency of 122 (71.8%) and 48 (28.2%) for the males. The study also considered the age of respondents and the data indicated that a frequency of 97 (57.1%) were between the ages of 20-30, 34 (20.0) were between the ages of 31-40, 14

(8.2%) were between the ages of 41-50 and finally 25 (14.7%) were between 51 and above. The marital status of the respondents was also considered. The analysis shows that 93 (54.7%) were single, while 63 (37.1%) of the respondents were married formed the second majority. Respondents who are divorced and widowed had a frequency of 8 (4.7%) and 6 (3.5%) respectively.

The religion of the respondents was also collected. Judging from the results in Table 1, the greater portion of the respondents were Christians, numbering up to 133 respondents and forming 78.2% of the entire participants. The second highest were respondents who were Muslims, numbering up to 30 respondents and forming a percentage of 17.6%. Traditionalists comprised six (6) respondents (3.5%), with only one (1) responding. Other religions fell by 6%. The level of education of the respondents was indicated and with a frequency of 70 (41.2%), most of the respondents have a diploma. The second highest was 61 respondents (35.9%) were degree holders. This was followed by 17 respondents (10%) who have their master's degree. 15 (8.8%) were respondents who had a certificate. 6 respondents (3.5) had a higher diploma and only 1 respondent (.6%) had a post master's. The data in Table 1 also indicates the place of work of the respondents. Their places of work are Legon and Achimota Hospital. It was revealed that 97 of the respondents work at Legon and they form 57.1% of the population, while 73 respondents (42.9%) work at Achimota.

The analysis showed the number of years spent at their present work place and 99 respondents forming 58.2% of the population have spent between 1-10 at their present place of work. The data also shows that 39 (22.9%) of the respondents have spent below 1 year at their place of work. Furthermore, the

data shows that 12 (7.1%) of the respondents have spent 31-40 years at their place of work. Finally, 11 (6.5%) and 9 (5.3%) respondents have spent 21-30 years and 11-20 years at their place of work respectively. The table also shows the number of years worked since first becoming a nurse. The data shows 106 (62.4%) of the respondents have worked between 1-10 years, also with a frequency of 27 (15.9%) of the respondents have worked below 1 year since they first qualified as a nurse. The analysis also shows that 14 (8.2%) of the respondents have worked for 11-20 years. It was revealed that respondents who have worked for 21-30 years and 31-40 years both had a frequency of 10 (5.9%). Finally, only 3 respondents, forming 1.8% of the population, have worked for 41 years and above.

The number of years of work experience was also captured in the data and the analysis shows 105 (61.8) of the respondents have 1-10 years' work experience, a frequency of 27 forming 15.9% of the respondents below 1-year work experience. The data shows that 15 (8.8%) of the respondents have 11-20 years' work experience. The analysis also indicates that 11 (6.5%) of the respondents have 21-30 work experience and only 8 (4.7%) and 4 (2.4%) have 31-40 years and 41 years above of work experience respectively.

The final section of the demographic information inquired about courses taken since becoming a registered nurse. The courses are Master of Science in Nursing Genetics and Health Care Genetics Minor. The analysis shows 134 respondents, forming 78.8% of the entire population, haven't done any of these courses. However, 20 (11.8%) of respondents read Health Care Genetics Minor, and 16 (9.4%) completed Master of Science in Nursing Genetics.

Results to Research Questions

Using a four-point Likert scale, respondents indicated their level of agreement by choosing either 1 for strongly disagree (SD), 2 for disagree (D), 3 for agree (A) and 4 for strongly agree (SA). Responses that indicated agreement (SA and A) were merged into agreed and (SD and D) into disagreed. A criterion value of 2.5 (mean) was set. Responses with mean values above 2.5 suggested agreement while responses with mean values below 2.5 indicate disagreement.

The criterion value (test value) is the population mean against which the test variables are being compared to. The test values are the general knowledge of nurses' genetic conditions, nurses' cultural experience, nurses' personal experience, nurses' professional experience and general knowledge of nurses on genetic counselling.

The One Sample t test determines whether the sample mean is statistically different from a known or hypothesized population mean. The criterion value (test value) used for the one-sample t-test for the variables in the research is the product of the minimum response value and the total number of questions in a variable (for example $1 \times 11 = 11$), also the product of the highest response value and the total number of questions in a variable (for example $4 \times 11 = 44$). The sum of these two values ($11 + 44 = 55$) is then divided by 2 ($55 \div 2 = 27.5$) to obtain the criterion value (27.5).

Research Question One: What is nurses' general knowledge of genetic conditions?

This research question sought to assess respondents' general knowledge of genetic conditions. A total of 7 questions were used to gather

the data. Table 2 presents findings on respondents’ general knowledge of genetic conditions.

Table 2: General Knowledge of Genetic Condition

S/N	General knowledge of genetic conditions	Mean	SD	Decision
	I have ever read or heard about genetic conditions	2.9824	.81024	Agreed
	Genetic condition is any inherited medical condition caused by a DNA abnormality	3.2824	.70689	Agreed
	Some genetic conditions are inherited life-threatening disorders that can damage the lungs and digestive system	3.2059	.75288	Agreed
	The most common cause of genetic conditions in developing countries is as a result of abnormalities in an individual genome	3.0882	.68663	Agreed
	Women are more likely to be affected by genetic conditions than men	2.4059	.81768	Disagreed
	I studied medical genetics as part of my training	2.4235	.87539	Disagreed
	The basic principles of genetics were covered in my course of study	2.6353	.79714	Agreed

Source: Field Data, 2020

Results in Table 2 show that respondents agreed that they have never read or heard about genetic conditions (M=2.9824, SD=.81024). Also, they agreed that a genetic condition is any inherited medical condition caused by a DNA abnormality (M=3.2824, SD=.70689). They also agreed that some genetic conditions are inherited life-threatening disorders that can damage the

lungs and digestive system (M=3.2059, SD=.75288). Furthermore, they agreed that the most common cause of genetic conditions in developing countries is as a result of abnormalities in an individual genome (M=3.0882, SD=.68663). Finally, they agreed that the basic principles of genetics were covered in their course of study (M=2.6353, SD=.79714). However, they disagreed with the statements that women are more likely to be affected by genetic conditions than men (M=2.4059, SD=.81768) and they studying medical genetics as part of my training (M=2.4235, SD=.87539). The analysis indicated that most of the nurses have knowledge about genetics and very few did not study genetics as part of their training.

Table 3: One Sample t-test for General Knowledge of Genetics Conditions

Criterion value= 17.5

Sample	M	SD	T	Sig.(2-tailed)
170	20.0235	3.16406	10.399	.000

Source: Field Data, 2020 *P<.05 (2-tailed) n=170

Table 3 presents the results of one sample t-test on general knowledge of genetic conditions. The mean score for general knowledge of genetics conditions was 20.0235 in comparison with a criterion value of 17.5. The results, therefore, indicate a high level of agreement.

Research Question Two: what is nurses’ general knowledge of genetic counselling?

This research question seeks to assess respondents’ general knowledge of genetic counselling. A total of 6 questions were used to gather the data. Table 4 presents findings on respondents’ general knowledge of genetic counselling.

Table 4: General knowledge of genetic counselling

S/N	General knowledge of genetic counselling	Mean	SD	Decision
.	As a nurse it is always very important to treat the symptoms of genetic conditions and not the person	2.9176	.74915	Agreed
.	I believe counsellors are part of the management team of patients with genetic conditions	3.2882	.65667	Agreed
.	I am sceptical towards gene therapy because I am scared by the thought of interfering with our genes	2.6941	.81442	Agreed
.	I would be glad if genetic counselling is available for people with serious genetic disorders	3.4588	.64456	Agreed
.	I do not think genetic counsellors have an influence on how we relate with patients' genetic conditions	2.4471	.96698	Disagreed
.	I was taught pre-natal genetic counselling	2.7118	.80265	Agreed
.	All professional nurses' can offer genetic counselling	2.7235	.95461	Agreed
.	Genetic counselling can be useful on all occasions	3.2882	.64760	Agreed
.	Midwives have a role to play in genetic counselling	3.1294	.82546	Agreed
.	We need a medical genetic unit in every hospital	3.4471	.64369	Agreed
.	There is the need to have follow-ups for both pre-natal and postnatal i.e. during pregnancy and after delivery	3.4471	.72170	Agreed

Source: Field Data, 2020

Results in Table 4 present nurses' general knowledge of genetic counselling. Out of the 11 statements above, respondents agreed to 10 of the statements and disagreed with 1. The respondents agreed to the following statements: As a nurse it is always very important to treat the symptoms of genetic conditions and not the person (M=2.9176, SD=.74915), I believe counsellors are part of the management team of patients with genetic conditions (M=3.2882, SD=.65667), I am sceptical towards gene therapy because I am scared by the thought of interfering with our genes (M=2.6941, SD=.81442), I would be glad if genetic counselling is available for people with serious genetic disorders (M=3.4588, SD=.64456), I was taught pre-natal genetic counselling (M=2.7118, SD=.80265), All professional nurses' can offer genetic counselling (M=2.7235, SD=.95461), Genetic counselling can be useful on all occasions (M=3.2882, SD=.64760), Midwives have a role to play in genetic counselling (M=3.1294, SD=.82546), We need a medical genetic unit in every hospital (M=3.4471, SD=.64369) and There is the need to have follow-ups for both pre-natal and postnatal i.e. during pregnancy and after delivery (M=3.4471, SD=.72170). The respondents, however, disagreed with the statement. I do not think genetic counsellors have an influence on how we relate with patients' genetic conditions (M=2.4471, SD=.96698). Nurses are of the view that knowledge in genetic counselling will help them handle patients with genetic conditions better and the need to incorporate genetic counselling in the health care system.

Table 5: One-sample t-test for nurses’ general knowledge of genetic counselling.

Criterion value= 27.5				
Sample	M	SD	t	Sig.(2-ailed)
170	33.552941	4.116659	19.171053*	.000

Source: Field Data, 2020 *p<.05 (2-tailed) n=170

Table 5 presents the results of a one-sample t-test on nurses’ professional experience. The mean score for nurses’ general knowledge on genetic counselling was 33.552941 in comparison with a criterion value of 27.5. On the strength of these results, there is a high level of agreement that nurses have knowledge of genetic counselling.

Research Question Three: What are the nurses’ cultural experiences?

This research question sought to assess the respondents’ cultural experience. A total of 9 questions were used to gather the data. Table 4 presents findings on respondents’ cultural experience.

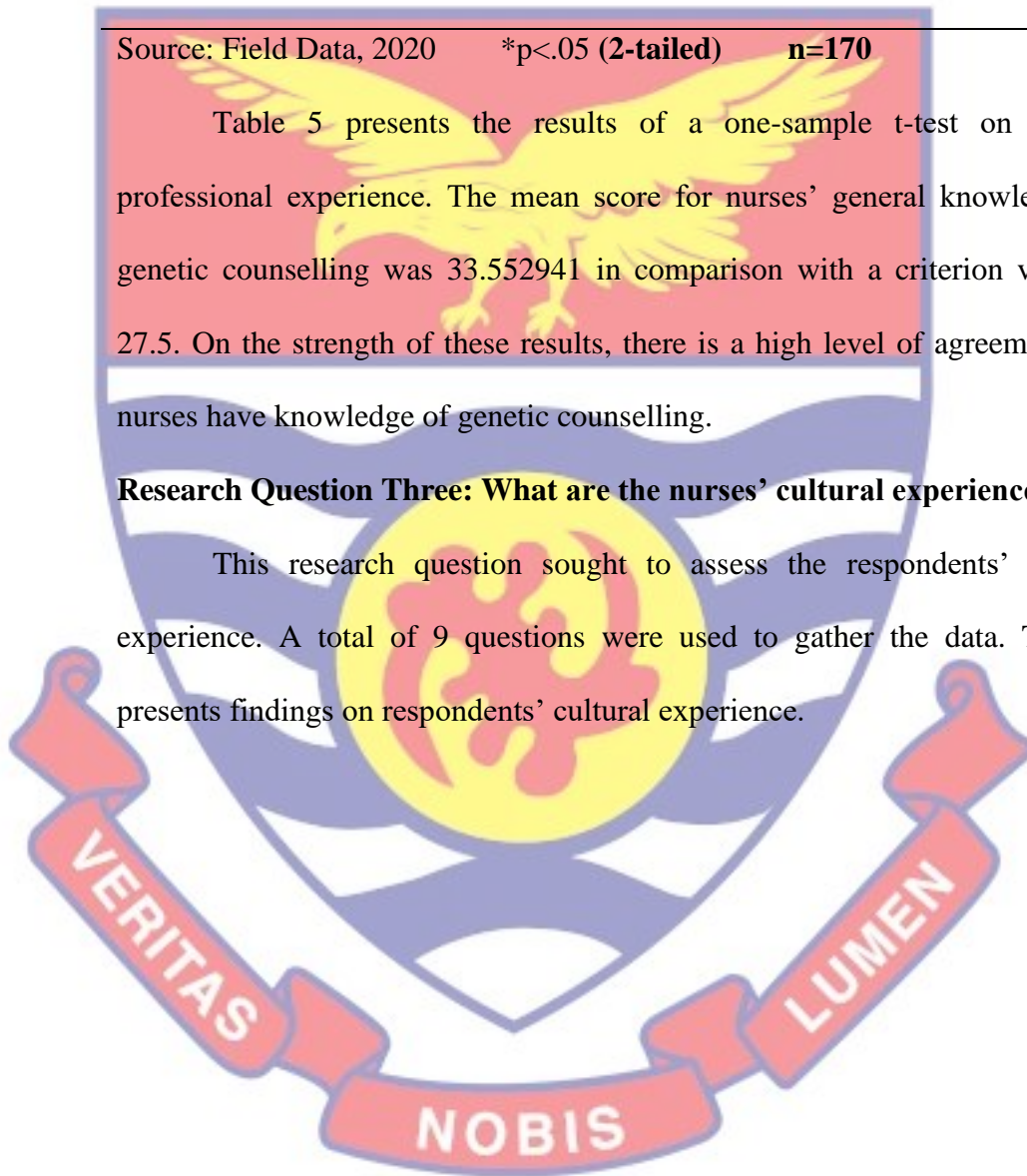


Table 6: Nurses’ Cultural Experience

S/N Nurses’ Cultural Experience	Mean	SD	Decision
I am unable to care for such patients because my ethnic group frowns on them	2.0000	.94837	Disagreed
I view language differences as important in providing care to patients with genetic conditions	2.8176	.96491	Agreed
I feel okay attending to patients of the opposite sex and of different ethnic groups	2.8294	.93598	Agreed
I believe there are cultural similarities among different groups of patients.	2.8882	.86646	Agreed
I attend to patients with genetic conditions from different ethnic groups	3.0118	.69647	Agreed
I respect the religious beliefs and practices of patients with genetic conditions	3.0588	.78977	Agreed
I consider the personal care needs of patients when attending to them	3.0176	.81751	Agreed
The cultural safety needs of patients with genetic conditions is my priority as a nurse	2.9412	.75921	Agreed
I will consider the dietary needs of patients with genetic conditions when attending to them	3.0647	.78555	Agreed

Source: Field Data, 2020

The results presented in Table 6 show nurses’ cultural experience. The respondents disagreed with the statement that, "I am unable to care for such patients because my ethnic group frowns on them" (M= 2.0000, SD=.94837). The respondents, however, agreed to the following statements: "I view language differences as important in providing care to patients with genetic conditions" (M= 2.8176, SD=.96491), "I feel okay attending to patients of the

opposite sex and of different ethnic groups" (M= 2.8294, SD=.93598), "I believe there are cultural similarities among different groups of patients" (M=2.8882, SD=.86646), "I attend to patients with genetic conditions from different ethnic groups" (M=3.0118, SD=.69647), "I respect the religious beliefs and practices of patients with genetic conditions" (M=3.0588, SD=.78977), "I consider the personal care needs of patients when attending to them" (M=3.0176, SD=.81751), "The cultural safety needs of patients with genetic conditions is my priority as a nurse" (M=2.9412, SD=.75921), and "I will consider the dietary needs of patients with genetic conditions when attending to them" (M=3.0647, SD=.78555). From the study, most of the nurses have favourable attitudes towards patients with genetic conditions because of what pertain within their culture, since culture is a way of life, the research indicates that most of the nurses acquire positive attitude within their culture.

Table 7: One-Sample t-test for Nurses' Cultural Experience

Criterion value= 22.5

Sample	M	SD	t	Sig.(2-tailed)
170	25.6294	4.24240	9.618*	.000

Source: Field Data, 2020 *p<.05 (2-tailed) n=170

Table 7 presents the results of one sample t-test on nurses' cultural experience. The mean score for nurses' cultural experience was 25.6294 in comparison with a criterion value of 22.5. The results indicate a high level of agreement.

Research Question Four: What are the nurses’ personal experiences?

This research question seeks to assess the respondent’s personal experience. A total of 6 questions were used to gather the data. Data shown in Table 8 presents findings on respondents’ personal experience.

Table 8: Nurses’ Personal Experience

S/N	Nurses’ Personal Experience	Mean	SD	Decision
	Attending to patients with genetic conditions makes me feel proud as a nurse	3.1059	.71375	Agreed
	If I have a genetic condition, I will feel free to disclose it	2.7000	.81299	Agreed
	I use my own experience to inform my work with service users	2.8235	.71628	Agreed
	Patients with genetic conditions are not responsible for their state of being	2.9353	.96779	Agreed
	Sometimes I feel nervous and uncomfortable when I have to care for a genetic patient with limited resources	2.6000	.89970	Agreed
	I feel comfortable interacting with children with genetic conditions	2.9882	.83552	Agreed

Source: Field Data, 2020

Results in Table 8 indicate that the respondents agreed to all the statements in this section. The respondents agreed to Attending to patients with genetic conditions makes me feel proud as a nurse (M=3.1059, SD=.71375). They also agreed to the statement that if I have a genetic condition, I will feel free to disclose it (M=2.7000, SD=.81299). The

respondents agreed to the statement "I use my own experience to inform my work with service users (M=2.8235, SD=.71628). The respondents also agreed to the following statements: Patients with genetic conditions are not responsible for their state of being (M=2.9353, SD=.96779). Sometimes I feel nervous and uncomfortable when I have to care for a genetic patient with limited resources (M=2.6000, SD=.89970) and I feel comfortable interacting with children with genetic conditions (M= 2.9882, SD=.83552). when nurses have personal experience with genetic conditions they tend to behave favourable towards patients with genetic conditions.

Table 9: One-Sample Test for Nurses' Personal Experience

Criterion value= 15				
Sample	M	SD	t	Sig.(2-tailed)
170	17.1529	2.64466	10.614191*	.000

Source: Field Data, 2020 *p<.05 (2-tailed) n=170

Table 9 presents the results of one sample t-test on nurses' personal experience. The mean score for nurses' cultural experience was 17.1529 in comparison with a criterion value of 15. The results therefore, indicate a high level of agreement.

Research Question Five: What are the nurses' professional experiences?

This research question seeks to assess the respondent's professional experience. A total of 7 questions were used to gather the data. Table 8 presents findings on respondents' professional experience.

Table 10: Nurses’ Professional Experience

S/N	Nurses’ professional experience	Mean	SD	Decision
	I need more training pertaining to the management of patients with genetic conditions	3.3294	.71150	Agreed
	I am afraid of dealing with patients with genetic conditions	2.3412	.97971	Disagreed
	I think nurses’ need more supervision when dealing with patients with genetic conditions	3.1353	.81367	Agreed
	Pre-clinical exposure preparation is important to me as a nurse	3.1941	.66437	Agreed
	I am concerned about what people say about me treating a patient with genetic conditions	2.6647	.96042	Agreed
	I maintain a professional demeanor when attending to patients with genetic conditions	3.2176	.64792	Agreed
	I express ambivalent emotions when attending to patients with genetic conditions	2.7412	.83776	Agreed

Source: Field Data, 2020

The results in Table 10 present nurses’ professional experience. The respondents agreed to the following statements: I need more training pertaining to the management of patients with genetic conditions (M=3.3294, SD=.71150). I think nurses need more supervision when dealing with patients with genetic conditions (M=3.1353, SD=.81367). Pre-clinical exposure preparation is important to me as a nurse (M=3.1941, SD=.66437), I am concerned about what people say about me treating a patient with genetic conditions (M=2.6647, SD=.96042), I maintain a professional demeanour

when attending to patients with genetic conditions (M=3.2176, SD=.64792) and I express ambivalent emotions when attending to patients with genetic conditions (M=2.7412, SD=.83776). However, the respondents disagreed with the statement that I am afraid of dealing with patients with genetic conditions (M=2.3412, SD= .97971). Nurses who have worked with patients with genetic

conditions act favourably towards patients with genetic conditions than nurses who have no experience handling patients with genetic conditions.

Table 11: One Sample t-test for Nurses’ Professional Experience

Criterion value= 15				
Sample	M	SD	t	Sig.(2-ailed)
170	20.623529	3.171532	12.841063*	.000

Source: Field Data, 2020 *p<.05 (2-tailed) n=170

Table 11 presents the results of one sample t-test on nurses’ professional experience. The mean score for nurses’ cultural experience was 20.623529 in comparison with a criterion value of 17.5. With these results, it shows that the rate of agreement is high.

Testing of Hypotheses

Hypothesis One: There is a significant positive relationship between nurses’ general knowledge of genetic conditions and genetic counselling.

A linear regression model was calculated to determine the relationship between nurses’ general knowledge of genetic conditions and genetic counselling.

Table 12: Linear Regression for relationship between nurses’ general knowledge and genetic counselling.

Variables	B	R ²	SE B	β	T	P
Constant	2.078	.106	.267		7.790	.000
genetic counselling	.337		.076	.325	4.460	.000

Source: Field Data, 2020 p<.05 N=170 F= 19.890

df= (1,168) *Independent Variable: Nurses’ general knowledge of genetic conditions.

The data presented in Table 12 shows a significant relationship between the two variables. The results indicate that general knowledge on genetic counselling ($\beta = .325$, $P < .05$) is a significant and positive predictor of general knowledge on genetic conditions. In effect, as general knowledge of genetic counselling increases, general knowledge of genetic conditions increases. Furthermore, the model explains 10.6% of the variance. This means 10.6% of variation in general knowledge on genetic conditions is predicted by general knowledge on genetic counselling. Since there is a significant positive relationship between general knowledge of genetic conditions and general knowledge of genetic counselling, the hypothesis is accepted.

Hypothesis Two: There is a significant positive relationship between genetic counselling and nurses’ cultural experiences.

A linear regression model was calculated to determine the relationship between genetic counselling and nurses’ cultural experience. The result is presented in Table 13.

Table 13: Linear Regression for relationship between genetic counselling and nurses’ cultural experience.

Variables	B	R ²	SE B	B	T	P
Constant	2.661	.028	.290		9.174	.000
Genetic counselling	.180		.082	.166	2.189	.030

Source: Field Data, 2020 p<.05 N=170 F= 4.790

df= (1,168) *Dependent Variable: Nurses’ Cultural Experience

The analysis of the data in Table 13 shows a significant relationship between the two variables. The results indicate that general knowledge of genetic counselling ($\beta = .166$, $P < .05$) is a significant and positive predictor of nurses’ cultural experience. Furthermore, the model explains 2.8% of the variance. This means 2.8% of variation in nurses’ cultural experience is predicted by general knowledge of genetic counselling. Since there is a significant positive relationship between general knowledge of genetic counselling and nurses’ cultural experience, the hypothesis is retained.

Hypothesis Three: There is a significant positive relationship between genetic counselling and nurses’ professional experiences

A linear regression model was calculated to determine the relationship between genetic counselling and nurses’ professional experience. The result is presented in Table 14.

Table 14: Linear Regression for relationship between genetic counselling and nurses’ professional experience.

Variables	B	R ²	SE B	β	T	P
Constant	2.593	.052	.246		10.523	.000
Genetic counselling	.211		.070	.227	3.026	.003

Source: Field Data, 2020 p<.05 N=170 F= 9.155

df= (1,168) *Dependent Variable: Nurses’ Professional Experience

The analysis presented in Table 14 shows a significant relationship between the two variables. The results indicate that general knowledge of genetic counselling ($\beta = .227$, $P < .05$) is a significant and positive predictor of nurses’ professional experience. Furthermore, the model explains 5.2% of the variance. In effect, 5.2% of variation in nurses’ professional experience is predicted by general knowledge of genetic counselling. Since there is a significant positive relationship between general knowledge on genetic counselling and nurses’ professional experience, the hypothesis is retained.

Hypothesis Four: There is significant positive relationship between genetic counselling and nurses’ personal experiences.

A linear regression model was calculated to determine the relationship between genetic counselling and nurses’ personal experience. The result is presented in Table 15.

Table 15: Linear Regression for relationship between genetic counselling and nurses’ personal experience

Variables	B	R ²	SE B	β	T	P
Constant	2.373	.063	.259		9.177	.000
Genetic counselling	.247		.076	.252	3.373	.001

Source: Field Data, 2020 p<.05 N=170 F= 11.374

df= (1,168) *Dependent Variable: Nurses’ Personal Experience

The data presented in Table 15 shows a significant relationship between the two variables. The results indicate that general knowledge of genetic counselling ($\beta = .252, P < .05$) is a significant and positive predictor of nurses’ personal experience. Furthermore, the model explains 6.3% of the variance. This means 6.3% of variation in nurses’ personal experience is predicted by general knowledge of genetic counselling. Since there was a significant positive relationship between general knowledge on genetic counselling and nurses’ personal experience, the hypothesis is retained.

Hypothesis five: There is a difference between the place of work and attitude towards people with genetic conditions.

An independent samples t-test was used to determine the difference between nurses' place of work and cultural experience, personal experience, and professional experience, all of which contribute to nurses' attitudes toward people with genetic conditions.

Table 16: Independent samples t-test for place of work and attitudes

Place of work	Legon		Achimota		t value	P
	M	SD	M	SD		
Nurses' cultural experience	24.7732	4.47331	26.7671	3.64204	-3.110*	.002 s
Nurses' professional experience	20.3608	3.33287	20.9726	2.92960	-1.247	.214 ns
Nurses' personal experience	16.7320	2.71767	17.7123	2.45221	-2.427*	.016 s

Source: Field Data, 2020 *p< .05; s= significant; ns= not significant

n=170

The analysis presented in Table 16 shows results from the independent samples t-test. The results show that there is a statistically significant difference between the mean scores of nurses' working at Legon (M=24.7732, SD=4.47331) and nurses' at Achimota (M=26.7671, SD=3.64204) on Nurses' Personal Experience. From the table, t (168) =-3.110 and with a significant level of (2-tailed) .002 which is less than .05 (p < .05), shows that there is a statistically significant difference between nurses' working at Legon and nurses' at Achimota on Nurses' Cultural Experience. These results suggest that nurses from Achimota scored higher on cultural experience than nurses from Legon. Hence, the place of work has an impact on cultural experience.

The results also show that there is a statistically significant difference between the mean scores of nurses' working at Legon (M=16.7320, SD=2.71767) and nurses' at Achimota (M=17.7123, SD=2.45221) on Nurses' Personal Experience. From the table, $t(168) = -2.427$ and with a significant level of (2-tailed) .016 which is less than .05 ($p < .05$), shows that there is a statistically significant difference between nurses' working at Legon and nurses' at Achimota on Nurses' Personal Experience. These results suggest that nurses from Achimota scored higher on personal experience than nurses from Legon. Hence, the place of work has an impact on personal experience.

Furthermore, the results show that there is a statistically significant difference between the mean scores of nurses' working at Legon (M=20.3608, SD=3.33287) and nurses' at Achimota (M=20.9726, SD=2.92960) on Nurses' Professional Experience. However, from the table, $t(168) = -1.247$ and with a significant level of (2-tailed). 214, which is higher than 05 ($p < .05$), shows that there is no statistically significant difference between nurses' working at Legon and nurses' at Achimota on Nurses' Professional Experience. Hence, the place of work has no impact on professional experience.

Discussions

Patients who patronize Ghanaian health facilities have frequently expressed disappointment with the actions of certain health staff, especially nurses, who have tended to worsen their illness. In general, patients did not have good things to say about nurses, as observed by Asenso-Okyere et al. (1999). The common consensus was that nurses did not treat patients well and were often disrespectful to them. Generally, the findings revealed that the respondents agreed to most of the statements in general knowledge on genetic

conditions. This is supported by Schreuder and Coetzee; If workers have the right understanding of the skills needed for a particular job, they are likely to have a good working attitude even in difficult times (Schreuder & Coetzee, 2011).

In contrast to the preceding results, nurses in Bhutan, India, and Sweden reported a supportive attitude toward people with serious mental or genetic disabilities. (Solanki, Shah, Vankar & Parikh 2017). The discrepancy between the current study and previous studies may be related to variations in theoretical training, increased interpersonal interaction with people with genetic conditions, schooling, and clinical experience in mental health, all of which are significant measures of a less negative attitude toward people with genetic conditions. In Ethiopia, hospital nurses registered slightly different prevalence rates (Mariam, Bedaso, Ayano, & Ebrahim, 2016). These variations may be clarified by the use of different outcome measures. Of course, the availability of training and exposure to the care of people with genetic and mental disorders can play a role in outcome differences.

Professional credentials (diploma nurses) were 2.96 times more likely to have a negative attitude than someone with an MSc. This is backed by a study conducted in Ethiopia among public hospital nurses and a study conducted in Durban, South Africa, among general nurses (Mariam et al., 2016). This result also indicates that nurses with a higher educational level have a less stigmatizing attitude than those with a lower educational level, and practitioners with a higher academic level have the potential to have more theoretical information about patients with genetic conditions as well as the

opportunity to have regular interaction with individuals with genetic conditions (Pelzang, 2010).

The respondents also agreed with most of the statements about nurses' cultural experience. Groce and Zola argued that while no cultural heritage can fully explain how any given person would think and behave, it can assist health care practitioners in anticipating and understanding how and why individuals make such decisions (Groce & Zola, 1993). This was disagreed by a study conducted by Putsch and Joyce who argued that provider supremacy may lead to exceptional prejudice, which can lead to a unilateral and ethnocentric interpretation of "what's incorrect." A provider's opinions can be more biased by his or her personal history, beliefs, and social status. In comparison, formal preparation, training and qualification in medical methodology establish a sense of correctness, authority and dominance that is better understood by the practitioner. These conditions can lead to instances in which the perspective of the patient is ignored or omitted as invalid considerations. (Putsch and Joyce, 1990). Nonetheless, a study by Skirton, Barnoy, & Erdem concluded that cultural background must be understood when incorporating genetics into an educational programme. As a result, it is important to investigate nurses' genetics awareness in various countries (Skirton, Barnoy, & Erdem, 2012). The study also indicates that respondents agreed to most of the statements in nurses' professional experience. These results are consistent with the finding of Asare-Allotey (Asare et al, 2018), who reported in an article entitled, "Nurses' attitude deplored", admonished that nurses must not hide behind the constraints facing them at the health centres to perpetuate discourteous acts towards their clients.

According to the paper, a self-appraisal report by the association indicated that the "public had no problem with the skills of nurses but rather the way they communicated and received patients." The attitude of some nurses and midwives has become a major challenge in healthcare delivery and has also harmed the profession's reputation. In a study conducted by Yoseph Sahile (Sahile, 2019), primary health care nurses with less than 5 years of experience were 4.84 times more likely to have a negative attitude than nurses with more than 11 years of experience. This study is backed by research from other nations, including Ethiopia, South Africa, Ghana, and Nigeria (Mariam et al., 2016). This contrasts with a study conducted in Bhutan among general nurses, which found that nurses with more than 20 years of experience were substantially more likely to have negative attitudes than those with less clinical experience, Appiah (2013). This may be due to a lack of knowledge, especially when it comes to dealing with people who have severe genetic disorders. The way nurses received their patients had about 60% healing on them and urged all nurses to work closely with their organization to deal with the negative attitudes of some of the nurses Appiah (2013). From the study, the respondents agreed to all the statements in Nurses' Personal Experience. The study was conclusive on the fact that the vast majority of those polled were in agreement with most of the statement. This, therefore, indicates that there is a high degree of consensus.

They also agreed to most of the statements in general knowledge on genetic counselling. One study that contradicted the research findings focused on advanced practice nursing students' genetics knowledge (Maradiegue et al., 2005), and discovered that the majority of these nurses had only a rudimentary

understanding of medical genetics. The authors came to the conclusion that there are significant gaps in the nursing curriculum regarding medical genetics, and that additional education is needed to enhance nurses' genetic competence. In a similar study, Burke and Kirk (2006) looked at the history of genetic nursing education and discovered that genetic information on counselling and skills was lacking, genetic trust for nursing practise was poor, and research on the delivery of genetic education was minimal. This was reinforced by a study conducted by Collins et al (2003), in which he concluded that unless decisive action is taken to change education at the high school, undergraduate, and graduate levels, the awareness gap will continue in the future.

Hypothesis one revealed that there is a significant positive relationship between general knowledge on genetic conditions and genetic counselling. These findings are consistent with those of Kim (2003) and Tomatir, Sorkun, Demirhan, and Akdag (2006), who discovered that a lack of genetics training in nursing programs leads to problems that these practitioners face when providing genomics-based health care. Other nurses, on the other hand, believe that genetic counselling should not be part of their scope of practise. These nurses stressed the importance of their work in genetic counselling (Godino et al., 2013a, 2013b). For example, 62% of 102 Italian nurses and midwives polled in relation to genetic health care agreed that they should not be involved in providing genetic health care. Among those who have contributed to this work are Godino et al., (2013) Likewise, Godino et al. (2013b) discovered that 82% of respondents believe genetic health care is unimportant to their work. According to Holt, Hardy, and Bouras (2008), it is

important to provide adequate training and instruction for nurses in order to fulfil the genetic counselling needs of people with genetic conditions. This is also reflected in the report of the Mental Health Commission (2009), when they argued that there is a need for in-service training that focuses on the mental health problems of people with genetic disabilities. They accepted that this would equip nurses to provide better health care (Bouras et al 2009).

Hypothesis two established a significantly positive relationship between genetic counselling and nurses' cultural experience. This result is confirmed by studies conducted by Perkins, Rinaldi, and Hardisty (2010); Gillard and Holley (2014), which found that incorporating knowledge through experience has become a more valued part of service design and delivery by nurses. It is important to understand people's cultures and their origins, and culture must be approached from a people-centred perspective. Guidance is obtained from members of the family or group in genetic counselling and other health issues where individual and community intervention is taken to bring about rehabilitation (Kleinman, Eisenberg & Good, 1978). Aranda and Knight (1997), in their research "The influence of ethnicity and culture on the caregivers stress and coping process: A sociocultural review and analysis" concluded that race and culture are important factors in counselling. French in 1994, working on attitudes of health professionals towards disabled people, remarked that our attitudes are formed by our beliefs and values, which can influence our behaviour (French, 1994). Not only do cultural values influence how patients interact with healthcare providers, but they also influence how providers react to these patients. For others, culture can have an impact on how knowledge is delivered. A 1980 study discovered that the counselling

styles of Black and White counsellors differed in general. While white counsellors were more "attending," asking more open-ended questions and concentrating on feelings, black counsellors were more "expressive," providing more feedback and explanations (Fry, Kropf, & Coe, 1980). Similarly, when white and black social workers were compared, it was found that white providers spent more time solving patients' psychological and internal concerns, while black providers spent more time discussing solutions to external issues (Davis & Gelsomino, 1994). The research finding was also supported by studies conducted by Banja (1996), that to prevent social justice issues that arise when unequal procedures or practises that threaten personal integrity exist, It is essential for nurses to consider patients' cultural values and perceptions, which influence behaviours and direct decisions during genetic counselling and may affect interactions with society (Groce & Zola, 1993). Nurses with knowledge of genetic counselling have positive cultural experience.

Hypothesis three also established a significant positive relationship between genetic counselling and nurses' professional experience. Happell (2008) in a study found out that after practicing as mental health nurses and gaining knowledge in genetic counselling ', the nurses approached the experience with a positive attitude and wanted to work as mental health nurses. Nurses that have been subjected to preclinical analytical planning and genetic counselling have also reported being pleased with their clinical experience. Clayton et al. (2008) concluded that it is important to include necessary knowledge in genetic therapy and techniques for clinicians who deal with people with genetic conditions; this gives nurses more confidence in

treating people with genetic conditions and mental health issues. Furthermore, Bouras and Holt (2009) stated that in-service training for nurses that includes knowledge of genetic counselling is essential to encourage understanding and trust when working with patients who have mental health issues. With this advanced experience, nurses may be able to provide and support psychological health care for patients who have inherited disorders (Werner and Stawski 2012).

In hypothesis four, a significantly positive relationship between genetic counselling and nurses' personal experience was established. This finding agrees with a study done in 2007 and 2009 by Joyce et al., (2007) and Joyce et al., (2009). The research acknowledges that the personal knowledge of psychiatric illness was independent from the work of genetic therapy, but nevertheless influenced their nursing practice. In Molls (2010) current ethnographic research of the experience of the psychological ill-health of 32 participants from one Canadian health institution, the personal experience of the psychological ill-health pervaded psychological health work as result of their knowledge of genetic counselling. The supposed positive impact that common awareness on genetic counselling and nurses' personal experience had on the nursing profession of the participants in this research contrasts with the 'largely negative' experience of the nurses in Joyce, Hazelton, and Macmillan's (2007, p. 375). study, in which participants saw being mentally ill as the 'antithesis of becoming a nurse' The results of this research offer a fresh perspective on how genetic counselling information informs personal experience of inherited illness in mental health nursing practice, shedding light on the impact that personal experience has on relationships and experiences

with patients. Previous studies on the use of self in nursing and nurses' identities back up the findings. (Oates, Drey, & Jones, 2017), where making connections and establishing relationships is regarded as the bedrock of mental health nursing practise.

Hypothesis five identified the influence of the workplace on nurses' attitudes toward people with genetic conditions. The research indicates that nurses from Achimota ranked higher on cultural experience than nurses from Legon. Hence, the place of work has an impact on attitudes. The study also suggests that nurses from Achimota ranked higher on personal experience than nurses from Legon. Hence, the place of work has an impact on attitudes. The analysis further shows that there isn't any statistically significant difference between nurses' working at Legon and nurses' at Achimota on Nurses' Professional Experience. Therefore, when it comes to professional experience, the workplace has little impact on attitude. Ajzen and Fishbein, (1980) in a study, agreed with the workplace effect on culture and personal experience findings and concluded that the attitude depicted by nurses toward their patients might have been engendered by certain factors of their work environment. This means that the place of work can influence nurses' attitude towards people with genetic conditions. This was collaborated by study conducted by Buerhaus, Donelan, Ulrich, Norman, DesRoches and Dittus (2007). Impact of the nurse shortage on hospital patient care: Comparative perspectives, the conclusions from the study show that many nurses employed in two hospitals encountered enormous difficulties in their work climate, with a great deal of focus on workforce shortages, having a significant effect on their capacity to deliver premium care. They also found that budgetary

pressures in the company made it very difficult to reduce workforce shortages. In similar study participants in Kieft, Brouwer, Francke and Delnoij (2014) have suggested that management was linked to a regime where money is controlled because of budgetary constraints. Inadequate staffing in the current sample has resulted in elevated levels of stress and increased workloads, which have had an effect on their behaviour towards patients. The report, which was released on March 24, 2017, confirms the findings of many studies that indicate nurses are exposed to high rates of workplace violence and that the epidemic has the potential to harm nurses and the health care system in general (AbuAlRub & Al-Asmar, 2011). Although the occurrence of physical occupational violence among Ghanaian nurses (9.0%) was lower than in several other studies on the subject (17%-27%;) (AbuAlRub et al., 2011), the impact was no less severe, with 41.2% of participants who experienced physical abuse reporting being on high alert and on the lookout. This result, along with studies such as (Esmaeilpour Salsali, & Ahmadi, 2011) which also revealed that a large percentage of contestants in their research who have been subjected to physical abuse have become extremely vigilant, is troubling and calls for policies to resolve the issue. The quality of the care depends partly on the quality of the relationship between nurses and patients. It is obvious that health-care professionals cannot provide high-quality care if they are too alert due to abuse.

The results generally indicate that nurses have a high degree of genetic understanding. This is in contradiction to the 2013 (Godino, Turchetti and Skirton) survey of the awareness and attitudes Italian nurses have towards

genomic health, which reveals that nurses have a low level of genetic engineering expertise that seems global (Godino et al 2013).

Summary of Results

In summary, this chapter provided answers to five research questions and tested five hypotheses formulated for the study. The analysis of the research questions revealed that the respondents agreed to most of the statements in General knowledge of genetic conditions and the respondents also agreed to most of the statements in nurses' cultural experience. The analysis also indicates that the respondents also agreed to most of the statements in nurses' "professional experience and they also agreed to most of the statements in General knowledge on genetic counselling. From the analysis, the respondents agreed to all the statements in Nurses' Personal Experience. The study was conclusive on the fact that the majority of the respondents agreed to most of the statement. This, therefore, indicates that there is a high degree of consensus.

In testing the hypothesis, it was established that there is a significant positive relationship between nurses' general knowledge on genetic conditions and genetic counselling. It was also revealed that there is a significant positive relationship between genetic counselling and nurses' cultural experiences. It was also established that there is a significant positive relationship between genetic counselling and nurses' professional experiences. There is a significant relationship positive between the relationship between genetic counselling and nurses' personal experiences.

Finally, the study established that the place of work had an impact on nurses' attitude towards people with genetic conditions.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a summary of the findings and conclusions drawn from the findings. It also covers recommendations, limitations and suggestions for further research.

Summary

The thesis aimed to investigate the impact of nurses' cultural, professional and personal experiences on attitude towards genetic conditions of patients: the implication for counselling. The study was carried out in two selected hospitals in the Greater Accra Metropolis, the University of Ghana Hospital, Legon and the Achimota Hospital. The target population used for the study was nurses working at Legon and Achimota hospitals. This study attempts to provide answers to why nurses hold certain attitudes towards patients with genetic conditions and how these attitudes are influenced by the nurse's cultural, personal and professional experiences and the implications of counselling. The research discusses the four levels of nursing, Meta theory, Grand theory, Middle range theory and Micro-range theory. In analysing the data, Statistical Package for Social Science (SPSS) was used to determine the t test for respondents, linear regression and multiple regressions was used to predict relationship between variables.

The study again talks about some theories of nursing, namely the theory of "the nurse as a wounded healer". It also talks about three theories of genetic counselling, decision science theory; fuzzy trace theory and cognitive behaviour theory. There are many specialist associations interested in offering

genetic therapy programs to people with genetic disorders, including psychiatrists, physical therapists, speech and language therapists, etc. Nurses and genetic counsellors are known to be essential to delivering health services to patients with genetic disorders since they deal directly with them on a regular basis (Holt, Hordy & Bouras, 2008). The relationship between the attitudes of nurses, whether positive or negative, towards patients with genetic disorders and the effects of their cultural, personal and professional experiences can be changed by genetic therapy. The analysis showed that a relationship exists between nurses' knowledge of genetic conditions and nurses' general knowledge of genetic counselling. It was also established that there is a relationship between nurses' knowledge of genetic conditions and their attitude towards people with genetic conditions. It also showed that a relationship exists between nurses' knowledge of genetic counselling and nurses' cultural experiences. It was also established that there is a relationship between nurses' general knowledge of genetic counselling and nurses' professional experiences. There is also a relationship between nurses' knowledge of genetic counselling and nurses' personal experiences.

It is argued by Hagan and Thompson (2014) that therapeutic partnership and coping skills are important factors for the practice of mental wellbeing in a person-centred approach. It has been established that many nurses have found it impossible to interact and sustain a therapeutic interaction with individuals with hereditary disabilities, making it extremely challenging for care givers to recognise and address the psychological wellbeing needs of people coping with inherited disorders (Goldbart, Chadwick & Buell, 2014). The vision of nursing is to offer optimum care to people with genetic disorders

and to families with optimistic attitudes; sadly, this is not always the case. Research has demonstrated that genetic counsellors have a role to play in improving these behaviours and must thus be included in the administration of health care.

The impact of a nurse's work environment on their mind-set towards individuals with hereditary disorders was another area of interest in the report. The study established that nurses from Achimota scored higher on cultural experience than nurses from Legon. This means that place of work has an impact on nurses' attitude towards people with genetic conditions. The study was conclusive on the fact that a significant number of the respondents agreed to most of the statement. This also indicates that there is a strong degree of consensus. The study also concluded that the effect of nurses' cultural, professional and personal experiences on the genetic disorders of patients cannot be dealt with by professional bodies without feedback from the genetic counsellor.

Conclusions

In conclusion, the study found out that knowledge of genetic conditions has an effect on nurses' attitudes toward patients with genetic conditions. From the research it shows that when nurses have enough knowledge of genetic conditions they have favourable attitude towards people of genetic conditions, and with effective genetic counselling, nurses are able to change their attitude towards patients with genetic conditions. The study also revealed that knowledge of genetic counselling has an influence on nurses' attitude towards people with genetic conditions. Also, the place of work also has an impact on nurses' attitude towards people with genetic conditions.

Recommendations

Based on the findings and conclusions the following recommendations are made.

- Further studies by ministry of health should consider using a larger sample size, possibly from different health facilities, to generate a more generalized result to make a robust inference about the population used for the study.
- Nurses should be trained by nursing training colleges in how to handle patients with genetic conditions.
- Although nurses' attitudes were on the whole positive, variations and differences between their cultural, personal and professional experiences merit further investigations by Ghana health service.
- It is acknowledged that the study was done with nurses and utilized a convenient sample, thereby limiting the right to generalize results outside the influence of this study. A similar study by Ghana health service with all health professionals is recommended.

Limitations

The following are the study's limitations:

- Given the target population of about 59,820 respondents, a sample of just 170 participants was relatively small. The small sample size, therefore, might impede generalizability to the whole country.
- The sample size, though accessible, was mostly not readily available. This was because they were either attending to patients or their shift was over.

- Acquiring necessary clearance from the Ghana Health Service and District Health Directorate was a huge challenge. It delayed the timeline for the study.
- Although confidentiality was guaranteed, most nurses were reluctant to partake in the study.

- Using a cross-sectional survey analysis could not help generalize the research in terms of what happens after the nurses who partook in the study goes for counselling.

Implication for Counselling

- The study is very important in the field of counselling. Because it will help address the counselling need of nurses, Counselling should be an integral part of healthcare in Ghana, the healthcare system does not have enough counsellors who handle cases of clients who visit the hospitals with issues of discrimination, issues dealing with negative attitude of nurses, Ghana as a whole do don't understand the need of counsellors and counselling psychologists, the efforts of the various counselling association are making it possible for Ghanaians to get access to counsellors in the hospitals.
- Counsellors should have knowledge in genetics, knowledge in genetics according to the research is very important in changing the attitude of nurses, counsellors must be thought genetics as part of their training, counsellors who are out of school and practicing should undergo refresher courses to have at least basic knowledge in genetics.

- More genetic counsellors should be trained, counselling is a relationship between a client who needs help and a counsellor who is well trained to give that help, genetic counselling is a branch of counselling where counsellors are trained in genetics and how to council clients who visits the hospital or counselling centres with issues regarding genetics, currently we only have one university in Ghana training genetic counselling at the masters and doctor of philosophy.

Implications for further research

This study employed the use of questionnaires, so not much could be derived from the respondents. It is suggested that in subsequent studies in this area, the researchers should conduct interviews to get an in-depth understanding of the phenomenon.



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- (b) Islam [] (d) Others []

5. Level of Education:

- (a) Certificate [] (d) Degree [] (b) Diploma []
(e) Masters (c) Higher Diploma []
(f) Post-Masters []

6. Where do you work?

- (a) Legon []
(b) Achimota []

7. For how many years have you been at your present work place?

- (a) Below 1 year [] (d) 21 – 30 []
(b) 1 – 10 [] (e) 31 – 40 []
(c) 11 – 20 [] (f) Above 40 []

8. How many years have you worked since you first qualified as a nurse?

- (a) Below year 1 [] (d) 21 – 30 []
(b) 1 – 10 [] (e) 31 – 40 []
(c) 11 – 20 [] (f) Above 40 []

9. How many years of work experience do you have?

- (a) Below 1 year [] (d) 21 – 30 []
(b) 1 – 10 [] (e) 31 – 40 []
(c) 11 – 20 [] (f) Above 40 []

10. Have you done any of the following courses since you first qualified as a Nurse?

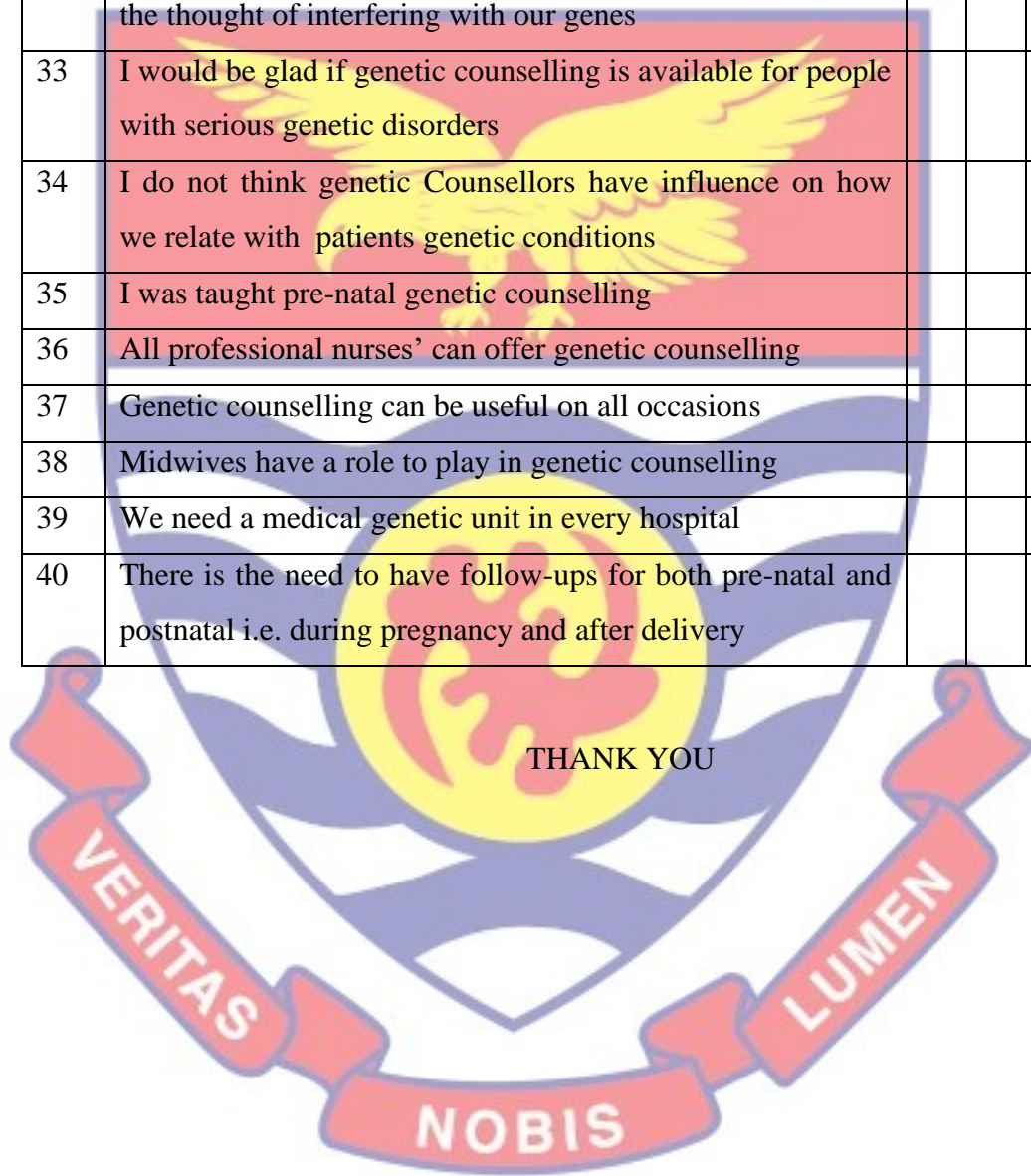
- (a) Master of science in nursing genetics []
(b) Health care genetics minor []
(c) None of the above []

SD = Strongly Disagree D = Disagree A = Agree SA = Strongly Agree

ATTITUDE SCALE FOR MENTAL ILLNESS (ASMI)		S	D	A	S
		D			A
SECTION B: GENERAL KNOWLEDGE OF GENETIC CONDITION					
1	I have ever read or heard about genetic conditions				
2	Genetic condition is any inherited medical condition caused by a DNA abnormality				
3	Some genetic conditions are inherited life - threatening disorders that can damage the lungs and digestive system				
4	The most common cause of genetic conditions in developing countries is as a result of abnormalities in an individual genome				
5	Women are more likely to be affected by genetic conditions than men				
6	I studied medical genetics as part of my training				
7	The basic principles of genetics were covered in my course of study				
SECTION C: NURSES' CULTURAL EXPERIENCE					
8	I am unable to care for such patients because my ethnic group frowns on them				
9	I view language differences as important in providing care to patients with genetic conditions				
10	I feel okay attending to patients of the opposite sex and of different ethnic groups				
11	I believe there are cultural similarities among different groups of patients.				
12	I attend to patients with genetic conditions from different ethnic groups				
13	I respect the religious beliefs and practices of patients with genetic conditions				

14	I consider the personal care needs of patients when attending to them				
15	The cultural safety needs of patients with genetic conditions is my priority as a nurse				
16	I will consider the dietary needs of patients with genetic conditions when attending to them				
SECTION D: NURSES' PERSONAL EXPERIENCE					
17	Attending to patients with genetic conditions makes me feel proud as a nurse				
18	If I have a genetic condition, I will feel free to disclose it				
19	I use my own experience to inform my work with service users				
20	Patients with genetic conditions are not responsible for their state of being				
21	Sometimes I feel nervous and uncomfortable when I have to care for a genetic patient with limited resources				
22	I feel comfortable interacting with children with genetic conditions				
SECTION E: NURSES' PROFESSIONAL EXPERIENCE					
23	I need more training pertaining to the management of patients with genetic conditions				
24	I am afraid of dealing with patients with genetic conditions				
25	I think nurses' need more supervision when dealing with patients with genetic conditions				
26	Pre-clinical exposure preparation is important to me as a nurse				
27	I am concerned about what people say about me treating a patient with genetic conditions				
28	I maintain a professional demeanor when attending to patients with genetic conditions				
29	I express ambivalent emotions when attending to patients with genetic conditions				

SECTION F: GENETIC COUNSELLING					
30	As a nurse it is always very important to treat the symptoms of genetic conditions and not the person				
31	I believe Counsellors are part of the management team of patients with genetic conditions				
32	I am skeptical towards gene therapy because I am scared by the thought of interfering with our genes				
33	I would be glad if genetic counselling is available for people with serious genetic disorders				
34	I do not think genetic Counsellors have influence on how we relate with patients genetic conditions				
35	I was taught pre-natal genetic counselling				
36	All professional nurses' can offer genetic counselling				
37	Genetic counselling can be useful on all occasions				
38	Midwives have a role to play in genetic counselling				
39	We need a medical genetic unit in every hospital				
40	There is the need to have follow-ups for both pre-natal and postnatal i.e. during pregnancy and after delivery				




APPENDIX B

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/VS/21-130  Date: 28th May, 2021

Your Ref:

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357


Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

The bearer, Kingsley S. Kwadzi, Reg. No. ED/9915/008 is
M.Phil. / ~~Ph.D.~~ student in the Department of Guidance
and Counselling in the College of Education Studie
University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to
undertake a research study on the topic:
Impact of nurses' cultural, professional and
personal experiences on genetic conditions
of patients

The Ethical Review Board (ERB) of the College of Education Studies
(CES) has assessed his/~~her~~ proposal and confirm that the proposal
satisfies the College's ethical requirements for the conduct of the
study.

In view of the above, the researcher has been cleared and given approval
to commence his/~~her~~ study. The ERB would be grateful if you would
give him/~~her~~ the necessary assistance to facilitate the conduct of the said
research.

Thank you.
Yours faithfully,



Prof. Linda Dzama Forde
(Secretary, CES-ERB)

APPENDIX C

LETTER OF INTRODUCTION FROM UNIVERSITY OF CAPE
COAST

UNIVERSITY OF CAPE COAST
COLLEGE OF DISTANCE EDUCATION
GRADUATE STUDIES UNIT

Tel No. 03320-91217
Fax: 03321-33655
E-mail: codepostgraduate@gmail.com



University Post Office
Cape Coast

Our Ref: CoDE/G.7/1/4/vol.1/

9th July, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

**A LETTER OF INTRODUCTION – KINGSLEY SYLVESTER KUADZI
(ED/GCP/18/0008)**

Mr. Kingsley Sylvester Kuadzi is a student of the College of Distance Education, University of Cape Coast with student registration number ED/GCP/18/0008. He is pursuing a Master of Philosophy in Guidance and Counselling. He is working on his thesis on the topic **“Impact of Nurses cultural, professional and personal experiences on Attitude towards genetic conditions of patients: the implication for counselling.”**

We would be grateful if you could help him with the necessary assistance, please.

Thank you.

Yours faithfully,

Eddiebright J. Buadu (PhD)
(Co-ordinator)

UNIV. OF GHANA HOSPITAL
BOX LG 79 LEGON, ACCRA

APPENDIX D

LETTER OF INTRODUCTION FROM GHANA HEALTH SERVICE

In case of reply, the number and date of this Letter should be quoted.

My Ref. no.: GHS/ONMHD/01
Your Ref. No.....

CORE VALUES
PEOPLE CENTERED
PROFESSIONALISM
TEAM WORK
EXCELLENCE
DISCIPLINE
INTEGRITY



OKAIKOI NORTH MUNICIPAL HEALTH DIRECTORATE

GHANA HEALTH SERVICE
C/O BOX C/ AH 15
ACHIMOTA - ACCRA

email:northokaikoi@gmail.com

6TH AUGUST, 2020

THE MEDICAL SUPT.
ACHIMOTA HOSPITAL

INTRODUCTORY LETTER
MR. KINGSLEY SYLVESTER KUADZI - (ED/GCP/18/0008)

This is to introduce to you Mr. Kingsley Sylvester Kuadzi a Master of Philosophy in Guidance and Counselling Student of the College of Distance Education, University of Cape Coast who has approval from the Regional Health Directorate to conduct a research on the topic: *"Impact of Nurses Cultural, Professional and Personal Experiences on Attitude Towards Genetic Conditions of patients: The Implication for Counselling"* in your facility.

You are kindly entreated to provide him with the needed assistance..

Thank you

[Signature]
DR. NANA AMA EFURMA ADJABENG
Ag. DIRECTOR
OKAIKOI NORTH MUNICIPAL HEALTH DIRECTORATE

DR. NANA AMA EFURMA ADJABENG
AG. MUNICIPAL DIRECTOR OF HEALTH SERVICES
OKAIKOI NORTH

APPENDIX E

LETTER OF INTRODUCTION FROM ACHIMOTA HOSPITAL

In case of reply the number and the date of this letter should be quoted.

My Ref. NO. **GHS/AH/RR1/G-58**

Your Ref. No.



ACHIMOTA HOSPITAL

GHANA HEALTH SERVICE
P. O. BOX AH 15
ACHIMOTA, ACCRA
TEL: **0302400212 / 0302400553**

Email: achimotahosp.bmc@gmail.com

MEMORANDUM

TO	• DEPARTMENTS CONCERNED
FROM	• HEAD OF ADMINISTRATION
DATE	• 11TH AUGUST, 2020

SUBJECT: APPROVAL FOR RESEARCH DATA COLLECTION

The bearer of this memo, **Mr. Kingsley Sylvester Kuadzi**, a Master of Philosophy in Guidance and Counselling Student of the College of Distance Education, University of Cape Coast is conducting a research on the topic: **“Impact of Nurses Cultural, Professional and Personal Experiences on Attitude Towards Genetic Conditions of Patients: The Implication for Counselling”**.

He has been given the approval to undertake the research and so your assistance is being sought to enable him to glean the necessary data for the study.

Thank you.

REJOICE BLEBU
HEAD OF ADMINISTRATION
(FOR: MEDICAL SUPERINTENDENT)

