UNIVERSITY OF GHANA

COLLEGE OF HEALTH SCIENCES

PERCEPTIONS OF NURSES ON THE CLINICAL USE OF HERBAL MEDICINE AT LEKMA HOSPITAL

COMFORT ASARE

SCHOOL OF NURSING

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PERCEPTIONS OF NURSES ON THE CLINICAL USE OF HERBAL MEDICINE AT LEKMA HOSPITIAL

BY

COMFORT ASARE

(10442049)

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DECLARATION

I declare that this thesis which resulted from a research was done personally under supervision. This work has not been submitted in any form for a degree or diploma at any University or any tertiary institution. Authors and publishers whose works were used in the study have been acknowledged in the text and listed in the references.

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ABSTRACT

The purpose of the study was to explore the perceptions of nurses on the clinical use of herbal medicine at LEKMA hospital, in the Accra Metropolis. The study was guided by the theory of planned behaviour (TPB) and was approved by the Institutional Review Board of the Noguchi Memorial Institute for Medical Research at the University of Ghana. The study adopted a qualitative exploratory descriptive design which used the purposive sampling technique to recruit participants. Data was collected using a semi structured interview guide and data was saturated by the 14th participant. All interviews were recorded, transcribed verbatim and analysed using thematic content analysis. Confidentiality and anonymity of the participants were ensured through the use of pseudonyms. Six themes emerged that described the subjective norms, attitudes, perceived control and the behavioural intentions of the nurses towards the clinical use of herbal medicine. The other themes included vending herbal medicine and contrasting herbal and orthodox medication which were additional findings to the constructs of the TPB. The nurses believed herbal medicine was God-given. They were confident that the clinical use of herbal medicine would improve the quality of healthcare patients received. The nurses were confident that when doctors prescribe herbal medicine, it would be easy for them to serve. Also, most of the nurses lacked adequate knowledge on herbal medicine and its administration. Most of them thought vendors of herbal medicine deceive the public and believed herbal medicine had no side effects. It was recommended that nurses should be taken through workshops on herbal medicine administration. Also, the content on herbal medicine in the curriculum for training nurses should be expanded to equip nurses for the administration of herbal medicine.

DEDICATION

This work is dedicated to God Almighty whose faithfulness has brought me this far. Also to my parents, children, siblings and all my in-laws.

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LIST OF ABBREVIATIONS

WHO:	World Health Organization
CSRPM:	Centre for Scientific Research into Plant Medicine
OPD:	Out Patient Department
ART:	Anti Retroviral Therapy
LEKMA:	Ledzokuku Krowor Municipal Assembly
TPB:	Theory of Planned Behaviour
CAM:	Complementary and Alternative Medicine
CAT:	Complementary and Alternative Therapy
MOH:	Ministry of Health
FDA:	Food and Drug Authority
ENT:	Ear Nose and Throat

CHAPTER ONE

1.0 Introduction

This chapter provides the background of the study, problem statement, purpose and objectives of the study. Other sub-sections include significance of the study and operational definition of terms

1.1 Background of the study

Traditional medicine has become very common in various cultures and ethnic groups globally. It is very accessible and affordable (Falodun, 2010); and its current speedy publicity is as a result of media and internet marketing (Al-Omari, Al-Qudimat, Abu Hmaidan, & Zaru, 2013). Societies of today are showing much interest in the various traditional medicines as such it has been integrated into many hospitals in different parts of the world (Al-Omari et al., 2013; Antigoni & Dimitrios, 2009; Avino, 2011; Bjerså, Forsberg, & Fagevik Olsén, 2011; Shorofi & Arbon, 2010; Topaz, Johnson, Pinilla, Rand, & George, 2012).

According to the World Health Organization, (2015), traditional medicine is "the sum total of knowledge, skills, and practice based on the theories, beliefs and experiences indigenous to different cultures whether explicable or not, used in the maintenance of health as well as prevention, diagnosis, improvement or treatment of physical and mental illness" (pg. 1). Complementary or Alternative Medicine (CAM) is used interchangeably with traditional medicine WHO, (2015) and sometimes also called herbal medicine in some countries such as Jordan (Al-Omari et al., 2013). CAM is referred to as "a broad set of health care practices that are not part of a country's tradition and are not integrated into the dominant health care system (WHO, 2015 pg. 1)."

Herbal medicine is a type of CAM (Al-Omari et al., 2013; Bjerså et al., 2011; Shorofi & Arbon, 2010) and can be referred to as a drug obtained naturally from leaves, fruits, stems barks, roots or an entire plant (Falodun, 2010; World Health Organization, 2015). Herbal medicine can be in various preparations including tablets, infusions, decoctions and tinctures liquids, powders, capsules, root, jackets and ointment (Centre for Scientific Research into Plant Medicine, 2013; Mantle, 2008).

The World Health Organization estimated that 80% of the world's population rely on herbal medicine for some part of their primary health care (Bonsu, 2013). It is estimated that 70% of India's population use traditional medicine as means of satisfying their healthcare needs. In Africa, 90% of the total population use traditional medicine as their choice of primary health care needs (Wachtel-Galor & Benzie, 2011); while 40% of pregnant women who attend tertiary health care institutions in Nigeria are also using herbal medicine (Tamuno, Omole - Ohonsi, & Fadare, 2013). It is estimated that 65 – 70 % of the people living in the rural areas of Ghana depend on herbal medicine as their first choice of treatment for sicknesses (Bonsu, 2013). Falodun, Qadir, & Choudhary, (2009) recommended that well trained staff are needed to monitor the delivery of herbal medicine services otherwise untrained herbal medicine providers would take care of innocent patients who would suffer some consequences eventually.

In Ghana, the Traditional and Alternative Medicine Bill 2010 stated its purpose as; to set up a Traditional and Alternative Medicine Council as a corporate body to regulate the practice of traditional and alternative medicine. The council is to promote, control and regulate the practice and practitioners in traditional medicine. The council is mandated by Traditional and Alternative Medicine Act 2013 to work in collaboration with the Ministry of Health to set up

centres for traditional and alternative medical services within the main health care delivery system in the nation (Ministry of Health , Ghana, 2013).

In order to serve safe and potent herbal medications, the Centre for Scientific Research into Plant Medicine (CSRPM) – Mampong, Ghana which has been in existence since 1975 research into herbal medicines and conducts safety and efficacy analysis on herbal medicines to be approved by the Food and Drugs Authority (FDA) (Centre for Scientific Research into Plant Medicine, 2013). It was established as an agency of the Ministry of Health, Ghana and collaborates with WHO; the first in Sub Sahara Africa (Centre for Scientific Research into Plant Medicine, 2013). The centre is mandated by Act 833 to conduct and promote scientific research into plant medicine and ensure purity of drugs extracted from plants. Since the establishment of the CSRPM, none of the hospitals in Ghana has prescribed herbal medicine in addition to western medicine until 2010 when the first herbal unit was integrated into mainstream healthcare (Ministry of Health , Ghana, 2013).

As part of the Ghana government's policy to introduce herbal clinics in all regional hospitals a pilot herbal unit was inaugurated at the LEKMA hospital in 2010 which started attending to patients in 2011. The hospital now prescribes both herbal medicine and other CAM therapies in addition to orthodox medicine to patients. The herbal unit has three herbal doctors and one enrolled nurse. The enrolled nurse is responsible for taking patients' history, complaints and all other necessary nursing care activities before patients see any of the herbal doctors. She also directs patients to the herbal pharmacy and counsels patients to take their medications but does not administer any herbal medication though drug administration is one of nurses' responsibilities towards in-patients.

Medication administration is one of the main functions of nurses. Clinical nurses spend so much time on the ward serving medication to patients because of the various procedures involved in drug administration. Serving of medication at beside goes through so many steps which include prescribing, dispensing, calculating constituents, and monitoring of patients for the desired and adverse effects of the drug (Anderson & Townsend, 2010; Leufer & Holdforth, 2013). However, errors can occur at any of the steps but nurses and other health staff are responsible for diverting these errors (Anderson & Townsend, 2010).

Nurses are expected to provide higher standards of care and safety to patients during drug administration. Often, nurses are the final safety checks in the series of activities constituted in drug administration to safeguard patients' wellbeing (Leufer & Holdforth, 2013). In view of the Ghana government policy on integration of herbal medicine into conventional hospitals, the responsibilities of nurses in the integration cannot be overemphasised. By virtue of the vital responsibilities of nurses in drug administration on the ward, they will be responsible for administering all prescribed drugs to the patient. This will include herbal medicine since it has been integrated into hospital care among other drugs prescribed at the hospital for treating patients.

Several quantitative studies have revealed that nurses have positive attitudes towards the use of CAM in the hospital but then the majority of the nurses demonstrated little knowledge on CAM and its various types (Bjerså et al., 2011; Shorofi & Arbon, 2010; Trail-Mahan, Mao, & Bawel-Brinkley, 2011). The submissions made by the researchers were not different in a related study which had physicians as participants in Jordan (Al-Omari et al., 2013). A study in Singapore revealed that some CAM practitioners perceive CAM is better for promotion of health and wellness but conditions such as cancer, diabetes, and hypertension were best

treated with orthodox medicine. Other conditions such as infertility and asthma were said to respond well to both CAM and orthodox medicine (Ang & Wilkinson, 2013).

Despite the above findings, there were some health professionals who had contrary beliefs, attitudes, and perceptions about CAM. In a qualitative study conducted in Sweden, some participants were of the view that the existing conventional therapies are enough as such there is no need for CAM. Some were not willing to learn anything about CAM because they consider it as not evidence based (Bjerså et al., 2011). Some physicians in Jordan questioned the use of herbal medicine more than the other types of CAM because they believe it has side effects and can interact with orthodox medicine if administered together (Al-Omari et al., 2013).

Some of the participants (57%) in a quantitative study conducted in 2013 indicated that if they get to know that their patients are taking herbal medicine, they will advise them to stop and in addition, educate them on the harmful effects of herbal medicine (Al-Omari et al., 2013). The majority of health professionals in a study by Bjerså et al., (2011) described the CAM as unproven therapies and the treatment of patients with CAM as unethical. Those who referred patients for CAM did so based on the fact that such practitioners of CAM have proven its effectiveness. Other health practitioners said they administer CAM therapies to their patients because they have been employed to do so and were not willing to break their employers' trust in them (Bjerså et al., 2011) .

Some of the quantitative studies revealed low knowledge on CAM among registered nurses and physicians; 36% and 16.9% respectively (Al-Omari et al., 2013; Shorofi & Arbon, 2010). Nurses are the stronghold for the integration and practice of CAM within the hospital setting (Shorofi & Arbon, 2010). This will only stand when nurses are knowledgeable about CAM to

ensure its safety and efficacy (Shorofi & Arbon, 2010). Shorofi and Arbon subsequently recommended that when integrating CAM into hospital care, there is the need to assess how equipped, eager and receptive nurses are to serve, recommend and ensure success in that type of care. Furthermore it was reported in their study that in Australia nurses are ready for in–hospital CAM use and are willing to assist patients make the best of decisions on the choice of the various CAM therapies available. This attitude of nurses revealed in the study was positive, but their knowledge level on herbal medicine was very low (Shorofi & Arbon, 2010).

Most of the studies on CAM were done in the Western world and the majority were not guided by theoretical model. Quantitative studies on CAM are perceived to be dominant with only few on the perception of nurses on CAM use. Studies on nurses' perceptions on herbal medicine specifically are not largely documented; however that is the most commonly used CAM in Ghana. In addition, findings from most of studies indicated different types of CAM as the most commonly used ones in other countries. This included relaxation, therapeutic touch, listening to music, meditation in countries such as Australia, Taiwan and China(Chu & Wallis, 2007; Holroyd, Zhang, Suen, & Xue, 2008; Shorofi & Arbon, 2010). The findings from these countries may not apply to the Ghanaian context therefore the need to explore the perceptions of nurses on the use of herbal medicine at LEKMA hospital. The study will be guided by the Theory of Planned Behaviour which states that a person's intention towards a behaviour is very important in determining the actual behaviour. However the person's intentions are influenced by attitudes, subjective norms, and perceived control (Ajzen, 1985).

1.2 Statement of the problem

A nurse may not be informed about the ingredients, indications, dose, contraindications, possible adverse effects and the interactions of herbal medications with other drugs or substances (Vermont State Board of Nursing, 2013). However there are many side effects of herbal medicine (Gever, 2010; Grunet, 2014; Shiel Jr, 2014; Sifferlin, 2013). Gever, 2010 stated that cardiovascular morbidity and mortalities are related to the intake of some herbal medications; for example ginkobiloba, ginseng and green tea. Likewise Echinacea is associated with liver toxicity and inflammation (Grunet, 2014; Shiel Jr, 2014). Aristolochic acid found in birth wort or Dutchman's pipe is associated with kidney conditions in Asia (Sifferlin, 2013).

Worldwide, CAM use has boosted and this warrants its integration into the health care system (Hussain et al., 2012). Regardless of the incidents of herbal medicine complications such as death (Antigoni & Dimitrios, 2009; The Chronicle, 2013), studies have shown less communication between health care providers and their patients on the use of CAM (Al-Omari et al., 2013; Bjerså et al., 2011). Most of the people who use CAM or herbal medicine initiate it themselves without informing their health care providers (Adjei, 2013; Babar, Syed, Naing, & Hamzah, 2012).

In South Africa, 68% of deaths caused by poisoning among native blacks were caused by traditional medicine toxicity (Antigoni & Dimitrios, 2009). In Ghana herbal medicine has been associated with some deaths which include the death of a 50year old woman who took a herbal mixture prescribed by a herbalist. Two others were hospitalised after taking the same mixture (The Chronicle, 2013).

Anecdotal evidence at LEKMA Hospital indicates that some patients are reprimanded by some nurses for using herbal medications; especially because their conditions worsened as a result of the use of the medications. In some cases, staff who work at the herbal medicine unit are stigmatized because some nurses do not know how to categorize them. In spite of this, the attendance of patients at the unit in the year 2012 was 1,131, barely a year after its operation. The herbal medicine unit has come to stay and nurses will be largely responsible for administering herbal medications to patients on the ward and sometimes at the out patient department.

Qualitative studies on the perceptions of nurses on the clinical use of herbal medicine are not largely documented. Globally, studies have largely focused on CAM rather than herbal medicine. Most were also done quantitatively which might not explore in-depth perceptions of nurses on the use of herbal medicine in the hospital. Many of the studies were done in other parts of the world other than Ghana; and many were not guided by any theoretical model. Looking at the variation in our cultural and ethnic compositions, it is important to carry out this study to explore the perceptions of nurses on the clinical use of herbal medicine.

1.3 Purpose of the study

The purpose of this study is to explore the perceptions of nurses on the clinical use of herbal medicine at LEKMA Hospital.

1.4 Objectives of the study

1. To explore the subjective norms that influence nurses in the clinical use of herbal medicine.
2. To describe the attitudes of nurses towards the clinical use of herbal medicine.

3. To investigate the perceived factors influencing the clinical use of herbal medicine.
4. To identify the behavioural intentions of nurses towards the clinical use of herbal medicine.

1.5 Research Questions

1. What are the subjective norms that influence nurses on the clinical use of herbal medicine?
2. What is the attitude of nurses towards the clinical use of herbal medicine?
3. What are the perceived factors influencing nurses in the clinical use of herbal medicine?
4. What are the behavioural intentions of nurses towards the clinical use of herbal medicine?

1.6 Significance of the study

With the increasing use of herbal medicine worldwide and the onset of its integration into hospital care, this study has become very significant because the public may be informed about the perception of nurses on the clinical use herbal medicine through publication. This may inform their decision as to the setting to seek herbal treatment.

The study will add to nursing knowledge since most of the other studies in this area were on CAM and not herbal medicine specifically.

The findings of this research may reveal the behaviour of clinical nurses towards herbal medicine use in the hospital. This may inform the Ministry of Health, Ghana and the Ghana Health Service on how best to integrate herbal medicine into the health care system. That is the administration of herbal medicine at the bedside since patients are now taking herbal medications on Out Patient Department (OPD) basis.

The study may help identify the challenges associated with the clinical use of herbal medicine so that they may be addressed appropriately to improve health care delivery.

1.7 Operational definition of terms

Perceptions: This can be referred to as the attitudes, beliefs, norms, knowledge and values which influence the behaviour of nurses toward the administration of herbal medicine.

Nurses: These are registered nurses who practise nursing in the hospital.

Herbal medicine: A natural native medication from various parts of a plant. It includes the leaves, bark, roots, or the entire plant. It comes in different forms e.g. powder, liquids, tablets, ointment or the original form of a plant.

Hospital Care: The management or services given to patients who seek healthcare from the hospital.

Hospital: A formal health care institution mandated by the government of Ghana to provide or deliver health care services to the people of Ghana.

Clinical use: This is the administration, dispensing or prescription, serving or recommendation of herbal medicine on the ward.

Knowledge: This is the idea and explicit information an individual has on herbal medicine and its administration.

Bedside care: Rendering health care services to patients who are on admission in the wards.

Motivation: Refers to the factors that would inspire the nurses to comply with the approval from significant people to serve herbal medicine.

Facilitators: These are the factors that would make it easy for the nurses to serve herbal medicine in the future.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on the objectives and theoretical framework guiding the study. Some of the databases used in the search for literature included Science Direct, Google Scholar, Pub Med, Sage, EBSCOhost and Wiley. keywords used in the search included "theory of planned behaviour", "nurses perception on CAM", "nurses beliefs in CAM", "nurses attitude towards CAM", "perception of health workers on CAM", "facilitators of CAM use in the hospital", "challenges facing CAM use in the hospital" and "behavioural intentions towards complementary and alternative medicine".

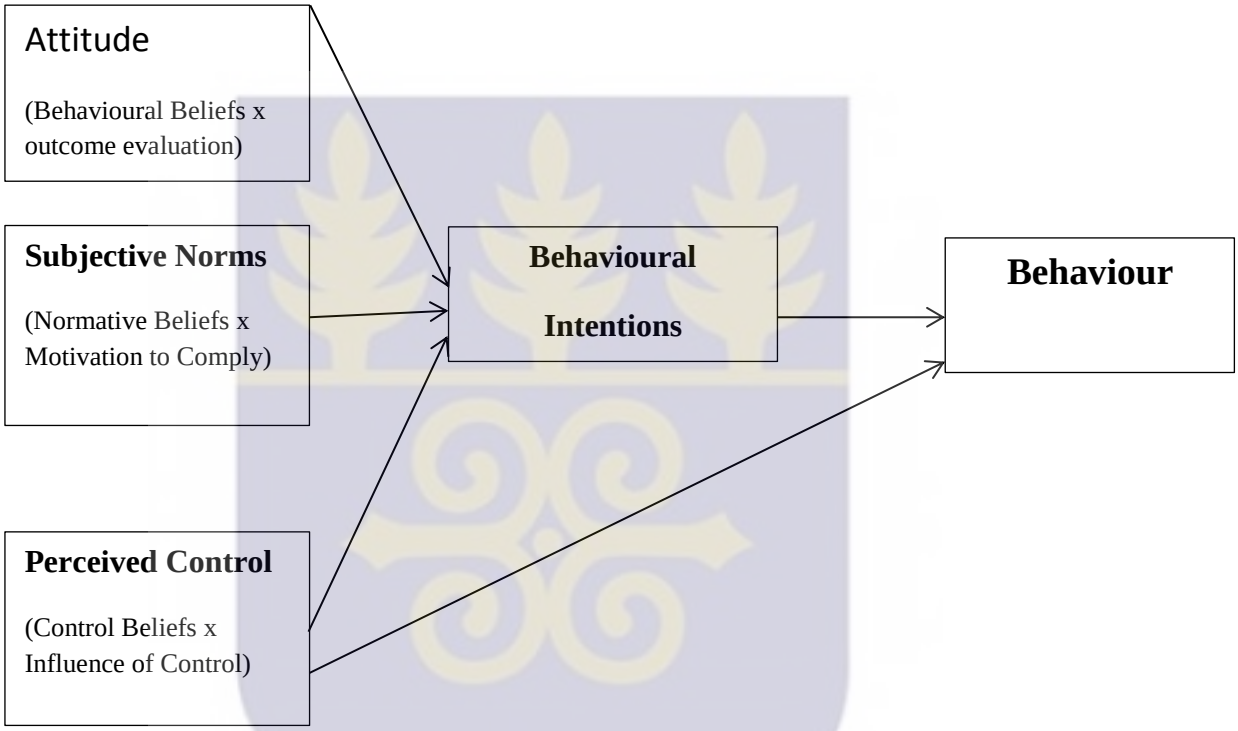
The literature review was discussed in sub–sections such as; the theory of planned behaviour, the subjective norms that influence nurses in the clinical use of herbal medicine, the attitudes of nurses towards the clinical use of herbal medicine, the perceived factors influencing nurses in the clinical use of herbal medicine and the behavioural intentions of nurses towards the clinical use of herbal medicine.

2.2 The Theory of Planned Behaviour (TPB)

The theory of planned behaviour (TPB) is an extension of the theory of reasoned action (TRA) and both envisage that the likelihood of an individual performing a particular behaviour is determined by the intentions of that individual towards the behaviour. Thus behavioural intention is the factor that inspires the performance of the behaviour which is evident in the determinations and preparedness of an individual to try the behaviour (Ajzen, 1991).

Behavioural intentions directly result from the attitudes towards the behaviour, the subjective norms concerning the behaviour and the TPB adds a third construct which is the perceived control towards the enactment of the behaviour.

Figure 1 Theory of Planned Behaviour (Ajzen, 1991)



Attitude towards the behaviour is an individual's assessment and overall evaluation of the outcome of the behaviour. This refers to an individual's feelings about the said behaviour to be implemented. A person with strong beliefs or good feelings about the behaviour is likely to have a positive attitude towards the behaviour whereas a person with bad feelings or a negative belief about the behaviour is likely to have a negative attitude towards the behaviour (Ajzen, 1991)..

Subjective norm is determined by an individual's normative belief that is if there are significant others who esteem the performance of the behaviour or disagree with it and what enthuses the person to submit to the significant others in the performance of the behaviour.

An individual who believes some key people expect him to perform the behaviour and is motivated to do so is likely to have a positive subjective norm. However, a person who is less motivated and believes some important people in his life do not authorise his performance of the behaviour would have a negative subjective norm (Ajzen, 1991).

Perceived control is the factors not within the control of the individual which may have an influence on his intentions towards the enactment of the behaviour. Perceived control is determined by control beliefs concerning the existence of facilitators and barriers to the presentation of the behaviour; and how their alleged authority augment or impede the performance of the behaviour (Ajzen, 1991).

Intention is signal of an individual's preparedness to enact an expected behaviour. The intentions of an individual towards a behaviour is predicted by the attitude towards the behaviour, subjective norms and perceived behavioural control. The intentions of an individual towards a particular behaviour is a precursor to the performance of the behaviour (Ajzen, 1991).

Nurses play a major role in the care of patients at the hospital; nurses are solely responsible for actual administration of medications to patients in the hospital; the absence of nurses impedes serving of medication to patients at the hospital. The TPB postulates a required behaviour. Although herbal medicine is being administered to patients on OPD basis, in times of emergency when a start dose of a herbal medication is required for a patient at the OPD, a nurse at the herbal unit may be required to serve. In Ghana, nurses are changed regularly from one ward to the other on the same hospital premises annually. Since the herbal unit is operating, any nurse may find him/herself at the herbal unit and would be required to serve patients. Since there are no new classes of nurses in the health sector responsible for

administering herbal medications, the current nurses would have to take up that responsibility. Therefore TPB is being applied in this study to explore the intentions of nurses towards the clinical use of herbal medicine.

The attitude of the nurses may be determined by what they consider would be the outcome of serving herbal medicine to patients in the hospital. The outcome they may think of may be either good or bad. Once the nurse is sure of a positive outcome of serving a patient herbal medicine, he/she is likely to go ahead and serve however if the outcome is considered unfavourable, nurses may not administer herbal medicine in the hospital.

Traditionally, subjective norms in various societies in both urban and rural Ghana do not frown on the use of herbal medicine. Herbal medicine is also considered as a natural remedy. By virtue of tradition and beliefs, it may be easy for nurses to decide on serving herbal medicine at the hospital in the future. The nurses may also think that the hospital authorities and other colleagues they respect and seek approval from consent to the serving of herbal medicine in the future. Once nurses are comfortable because tradition, significant people in the society and hospital authorities approve of serving herbal medicine, they are likely to serve herbal medicine at the hospital.

Perceived control is believed to be able to predict a behaviour with or without the attitude and subjective norms (Ajzen, 1991) of the nurses towards the serving of herbal medicine. The beliefs of the nurses may influence the nurses to perceive some factors as facilitating or hindering the clinical use of herbal medicine. It is expected that the nurses would use the facilitators to expedite the serving of herbal medicine in the hospital and devise means to defeat their beliefs about the challenges to the performance of the behaviour. A behavioural intention of the nurses is being very clear if the expected behaviour would be implemented.

This can be achieved by finding out from the nurses if they would actually serve or recommend herbal medicine in the hospital.

A lot of researchers have used the TPB to prove understanding of behavioural and attitudinal changes. The TPB was used as a conceptual framework to explore the subjective norms, attitudes, perceived behavioural control and the behavioural intentions of nurses towards the clinical use of herbal medicine in the present study (Ajzen, 1991).

Although literature is largely centred on nurses, information on other health professionals such as physicians, dieticians, surgeons, medical students, physiotherapists, pharmacists, psychologists, nursing students, medical students, pharmacy students, student psychologists and patients were also reviewed because of limited literature on nurses.

2.3 Subjective Norms influencing Nurses in the Clinical use of Herbal Medicine

A qualitative study by Lie, Shapiro, Pardee, & Najm, (2008) in a California University among medical students indicated that some students believe individuals with positive beliefs in CAM normally experience good outcome upon using CAM. The researchers gave a detailed description of the setting. A study in California on attitude and knowledge on CAM among nurses' by Trail-Mahan, Mao, & Bawel-Brinkley, (2011) suggested that nurses believe strongly that patients have a right to decide on their choice of treatment being it CAM or orthodox medicine. This suggests that nurses must respect their patients' choice of treatment since the ethics of the nursing profession teaches nurses to respect the autonomy of the patient (Rahmani, Ghahramanian, & Alahbakhshian, 2010). Respecting patients' autonomy is an aspect of nursing care activities; when nursing care of patients is high, it is reflected in a positive outcome of patient's condition (Papastavrou, Andreou, Tsangari, & Merkouris, 2014). Nursing care activities also include medication administration which is a

responsibility of the nurse (Leufer & Holdforth, 2013). Nonetheless, sometimes depending on the state of the treatment, a nurse may use his or her discretion to discontinue or continue with the treatment in the absence of physicians (Adipa, Aziato, & Zakariah, 2015). Aziato & Adejumo, (2014) supporting the finding by (Adipa et al., 2015) reported that although prescription of medication is an obligation of doctors by law, some surgical nurses in Ghana use their discretion in managing pain. Some of the nurses gave analgesics to their patients in the absence of the doctors (Aziato & Adejumo, 2014).

Since drug administration is a responsibility of nurses, some nurses showed interest in CAM because they believe CAM is more appropriate for preventive care than conventional medications (Antigoni & Dimitrios, 2009). The nurses believe that orthodox medicine worsens patients conditions (Antigoni & Dimitrios, 2009). Their submission was supported in a recent study in Singapore by Ang & Wilkinson,(2013). They suggested that CAM therapies are the most appropriate means for disease prevention and health promotion. It can be deduced from their findings that conventional therapy might not be enough for the prevention and treatment of illnesses. Ang & Wilkinson, (2013) had only 42 participants though it was a quantitative study. Samuels et al., (2010) reported in a cross sectional study in five Israeli Medical Centres that nurses and midwives believe CAM can be used together with orthodox medicine.

A study by Adjei, (2013) on the utilization of traditional herbal medicine and its role in health care delivery in Ghana at Wassa Amenfi a town in Ghana reported that participants believe herbal medicine was used by their forefathers and the herbal medication made them live for long. They believe that current generation is not experiencing longevity of life because of their use of orthodox medication. Participants emphasised that the use of herbal medicine has been in existence from one generation to the other because the use of herbal medicine is in

accordance with their cultural beliefs and it is culturally acceptable. Participants were also emphatic that herbal medicine was made by God. According to the (Holman Christian Standard Bible, 2005 p.1186) "All kinds of trees providing food will grow along both banks of the river. Their leaves will not wither and fruits will not fail. Each month they will bear fresh fruits because water comes from the sanctuary. Their fruits will be used for food and their leaves for medicine." This supports the finding by Adjei, (2013) that herbal medicine was made by God. The participants in the study by Adjei, (2013) were the public, orthodox health professionals and herbal medicine practitioners. The researcher gave a detailed description of the research setting which would enable the replication of the same study in a different context. The use of mixed methods in the study by Adjei, (2013) would help in the generalization of the findings .

The majority of the studies found that most health professionals believe CAM is not evidence – based (Al-Omari et al., 2013; Antigoni & Dimitrios, 2009; Avino, 2011; Bjerså et al., 2011; Shorofi & Arbon, 2010). A study in Sweden suggested that the health workers believe that treating patients who are predisposed to a lot of infections or complications with CAM is unprincipled since CAM treatments have not been proven (Bjerså et al., 2011). A related qualitative study with psychologists and student psychologists as participants by Wilson & White, (2011) on Integrating Complementary and Alternative Therapies (CAT) into Psychological practice also supported the finding that treating clients with CAM was wrong.

In Australia, some students and practising psychologists revealed what will motivate them to integrate CAT which includes herbal medicine into their practice (Wilson & White, 2011). The students and practicing psychologists said knowledge on CAT, client's wish or suggestion of CAT and an available scientific evidence would motivate them to integrate CAT into their practice (Wilson & White, 2011). Some pregnant women in Kenya were also

motivated to use herbal medicine in their current gestation because herbal medication is cheap and available. They were again motivated to use herbal medicine because they used it in their previous pregnancies (Ngetich, 2014).

According to Wilson & White, (2011) participants believed their integration of CAT into their psychological practice might be approved by some patients, mental health workers, CAT practitioners, CAT users and individual psychologists interested in CAT. Bjerså et al., (2011) also reported that patients' clinical use of CAM may be approved by the patient's yearning to be treated with CAM, particularly if the CAM therapy has little adverse effect. The study by Wilson & White, (2011) was ethically approved by the Queensland University of Technology Human Research Committee and was guided by the theory of planned behaviour. O'Connor and White, (2009) in a related study on the Intentions and Willingness to use Complementary and Alternative Medicine also noted that patients believe their spouses, partners, peers and medical practitioners may approve of their use of CAM. However government workplaces and medical practitioners among others were expected to condemn the integration of CAT into the practice of psychologists (Wilson & White, 2011).

2.4 Attitude of Nurses towards the Clinical use of Herbal Medicine

It was reported in most of the studies that females participate more in CAM studies than males (Al-Omari et al., 2013; Chu & Wallis, 2007; Hussain et al., 2012; Shorofi & Arbon, 2010; Wilson, Hamilton, & White, 2012). A study by Hussain et al., (2012) on Pakistani Pharmacy Students' Perception about Complementary and Alternative Medicine observed 81% female response rate compared to a 66% male response rate. The female participants said CAM has a promise in health care delivery unlike the male participants who reported CAM therapies to be threats to public health. Shorofi and Arbon, (2010) also reported 90.1 % female participants compared with 9.9% male involvement in their study. Even though the

majority of participants in CAM studies are female, Christians are also said to be largely dominant in a study on traditional medicine (Ngetich, 2014). Ngetich reported that the majority of the participants in her study are Christians. In Ghana, it has been reported by the Ghana Statistical Service, (2012) that the majority of Ghanaians are Christians.

It was suggested in the majority of the studies that most nurses (Antigoni & Dimitrios, 2009; Holroyd et al., 2008; Shorofi & Arbon, 2010; Topaz et al., 2012) physicians (Al-Omari et al., 2013; Bjerså et al., 2011; Maha & Shaw, 2007), nursing faculty and students (Avino, 2011) as well as medical students (Kanadiya, Klein, & Shubrook, 2012) showed positive attitudes towards CAM. However (Maha & Shaw, 2007) suggested that depending on the kind of experience one has with CAM; an individual may either have a positive or negative attitude towards CAM. They further stated that persons with pleasant CAM experiences were persuaded by such exposures to specialise in CAM (Maha & Shaw, 2007). Participants in the study by Topaz et al., (2012) were primary healthcare providers and met the inclusion criteria; that is "physicians and nurses who referred patients into a research study about asthma self-management including CAM" were recruited in the study by (Topaz et al., 2012 p.255). This will give a true reflection of the findings, which is on the attitude and beliefs of primary health care providers on CAM for asthma self-management.

It may be inferred that depending on the type of experience one may have with CAM, a person may experience different aspects of CAM's effectiveness. According to Lie et al.,(2008) some medical students believe the effectiveness of CAM is highly relative and it depends on the condition, the person and the sort of CAM therapy. A recent study by Jarvis, Perry, Smith, Terry, & Peters, (2015) with general health practitioners in the United Kingdom as participants supported this finding and stated that the effectiveness of CAM largely depends on a person and as such CAM's effectiveness is predicted by the outcome of an

individual's condition after the use of CAM. Furthermore, they suggested that CAM is effective in treating some conditions particularly those not treated with orthodox medications. The majority of the participants (95.2%) in the study by Holroyd et al., (2008) trusted the effectiveness of CAM and 21.% of the nurses involved in the study were of the opinion that CAM is effective in treating acute medical conditions. Nine out of ten orthodox health care practitioners involved in the study by Adjei, (2013) supporting the opinion of the nurses, reported that herbal medicine is effective for the treatment of illnesses. Some participants had relatives suffering stroke treated with herbal medicine for two months and they got healed and this informed the participants of the effectiveness of herbal medicine. Out of the two hundred and thirty (230) participants in the study by Adjei, (2013), 63% mentioned that herbal medicines are more effective than orthodox medications but 36.1% of the participants believed orthodox medicines were more effective than herbal medicines. The herbal medicine practitioners further stated that herbal medications are potent Adjei, (2013). However a study by Hussain et al., (2012) reported that student pharmacists in Pakistan thought that CAM was dangerous to public health. The questionnaires used in the study by Holroyd were adopted from Wallis which was developed in 2004. It was translated into Chinese by the researchers, and subsequently examined rigorously by different experts in the Chinese language and experts in CAM to remove any ambiguity, ensure understanding and improve response rate. This helped them to ensure validity in their study.

Jarvis et al., (2015) proposed that some general health practitioners did not know the qualification required for one to practise CAM in the United Kingdom. Participants recommended that CAM service providers should be controlled. Maha & Shaw, (2007) reported in their study that all participants including one conventional medical service provider now turned into CAM service provider were all having a qualification from the

university. This may suggest that CAM service providers in health facilities may hold an approved qualification to practise. Conversely, traditional healers in rural Mozambique who participated in the study by Audet, Blevins, Moon, Sidat, Shepherd, Pires, Vergara, &Vermund, (2012) which was aimed at seeking insight into the knowledge, attitudes, practices and behaviour of traditional healers reported that the majority of the participants had very little formal education yet some of them have been practising for about twenty years. This may suggest that there are some CAM practitioners who may not be academically inclined in their practising of CAM.

In the study by Trail-Mahan et al., (2011) nurses were found to be oblivious of their responsibilities in the integration of CAM into conventional therapy. Most of the nurses could not reflect on the fact that they were responsible for educating patients on their choice of CAM. However Friberg, Granum, & Bergh, (2012) reported in a meta analysis that some nurses consider patients' education as a very important routine activity in nursing practice. The study by Trail-Mahan et al., (2011) was a quantitative study with 153 participants but no probability sampling method was used in selecting the sample, as such the findings cannot be generalised. Nevertheless, the study was guided by the Theory of Reasoned Action. Some psychologists in Australia are also not aware of their obligations in case CAM is integrated in their practice (Wilson & White, 2011). In a related qualitative study in Sweden, some participants were of the view that current conventional therapies are enough as such CAM therapies are not needed. The sample size for the study was 16 and respondents were nurses, doctors, physiotherapists and clinical dieticians (Bjerså et al., 2011). However there was no detailed description of the study setting which would make it difficult for the study to be replicated in a different context. Nevertheless, Antigoni and Dimitrios, (2009) reported that some medical consultants in the UK realised the rate of prescription of drugs had decreased

after they started prescribing CAM to their patients. This indicates that CAM has a significant role in the health care system.

Joos, Musselmann, Miksch, Rosemann and Szecsenyi, (2008) reported in a qualitative study among general health practitioners in Germany that participants thought that the integration of CAM into mainstream health care system will enhance the value of care received by patients since CAM will be regulated. This means CAM therapies will be administered by qualified health practitioners since it will be in the hospital.

A meta-analysis by (Antigoni & Dimitrios, 2009) showed that, 80% of nurses including those on a night shift attended a workshop purposely on the integration of CAM into hospital care in UK because of their interest in CAM. In Jordan, a quantitative study suggested that 50% of the physicians who participated in the study by Al-Omari et al., (2013) were interested in CAM with some being CAM users. Eighty percent (80%) of these participants were eager to learn about CAM use in oncology. Seventy two percent (72%) of nurses in Hong Kong (Holroyd et al., 2008), 83% of medical students (Kanadiya et al., 2012), 47% of nursing faculty and 46% of nursing students (Avino, 2011) in a quantitative study at Delaware reported they use CAM. In Germany, 82.2% of physicians (Stange, Amhof, & Moebus, 2008) and 31% of the participants in the study by (Osemene, Elujoba, & Ilori, 2011) reported that they combine CAM and orthodox medication to treat their personal ailments. Some participants in a study in Australia believed the combination of CAM and orthodox medicine was safe and mentioned that the efficacy of CAM would be intact even if it is combined with conventional medications. Nonetheless some participants in the study by Bjerså et al., (2011) complained about drug to drug interaction that is between herbal and orthodox medication. Some physicians; 16% exclusively used CAM alone (Stange et al., 2008). Some married students in a tertiary institution in Nigeria who were users of herbal

bitters gave it to their children as well. Some participants in Australia in the study by O'Connor & White, (2009) were of the view that their use of CAM would prevent them from getting sick, enhance their health status and help them to stop the use of conventional therapies.

The majority of the studies both quantitative, qualitative and meta-analysis all suggested that CAM is not scientific (Antigoni & Dimitrios, 2009; Bjerså et al., 2011; Holroyd et al., 2008a; Samuels et al., 2010) thus there is no explicit declaration of the credibility of CAM. Also, CAM practitioners are unable to explain the scientific basis for CAM (Antigoni & Dimitrios, 2009). As such, Bjerså et al., (2011) suggested that it is because of the lack of scientific explanations to CAM that is why CAM has not been integrated into school's curriculum and no literature exists on CAM practices at the hospitals.

2.5 Perceived Factors Controlling the Clinical use of Herbal Medicine

A quantitative study by Godin, Beaulieu, Touchette, Lambert, & Dodin, (2010) discovered that factors such as the effectiveness of CAM and unavailability of conventional treatments to recommend for the treatment of certain ailments as facilitating factors to the clinical use of CAM among some health practitioners. O'Connor & White, (2009) also noted that the availability of renowned CAM practitioners could be facilitators to the use of CAM. The study by O'Connor & White was aimed at examining the behavioural, normative and control beliefs underlying CAM use between those who intend to and those who do not intend to use CAM. It was a quantitative study with 358 participants but no statistical tool was used in determining the sample size.

The factors that hindered CAM use in hospitals at Taiwan included lack of organizational resources and policies (Chu & Wallis, 2007), lack of funding for research into CAM which

barricaded publicity of CAM therapies (Bjerså et al., 2011). In Nigeria herbal medicine is well publicised (Osemene et al., 2011). The participants for the study by Chu and Wallis were registered nurses who were pursuing further education in Bachelor of Nursing. Since the objective of the study was to determine nurses' attitude towards the use of CAM it would have been appropriate to have nurses working on the ward as participants instead of those in school. May be some of the clinical activities on CAM might have changed since the participants left for school. In a study by Al-Omari et al., (2013) using a cross sectional survey to determine perception and attitudes of physicians towards CAM, it was suggested that in Jordan lack of support for medical oncologist is the most prevailing challenge against the integration of CAM into hospital care. The specific type of support they were supposed to give was not elaborated; the response rate for the study was 71% which implied 71 physicians out of 100 sample responded to the questions. Though the sample size was low taking into consideration the study being quantitative, it is believed that physicians are a group of professionals who are not so large in number as such this finding could be generalised.

The majority of the studies in different continents; both quantitative and qualitative studies report lack of staff training for CAM (Avino, 2011; Chu & Wallis, 2007; Godin, Bélanger-Gravel, Eccles, & Grimshaw, 2008; O'Connor & White, 2009; Wilson & White, 2011) as a challenge for in hospital use of CAM. One can infer that this can lead to lack of CAM specialists which will have an impact on CAM service delivery (Al-Omari et al., 2013). Hussain et al., (2012) further posited in their study that 85% of pharmacy students are not willing for CAM as a course to be added to the already existing curriculum for their training in Pakistan and this was supported by (Wilson & White, 2011) who reported that practising psychologists are also not prepared to undergo any new training especially for CAM in

Australia. The psychologists complained about having spent so many years learning to qualify as psychologists. However 80% of physicians in Jordan are willing to learn about CAM (Al-Omari et al., 2013). Bjerså et al., (2011) cited that some health practitioners in Sweden resist CAM. They do not want to hear or learn anything about CAM because they are afraid of the possibility of rivalry between CAM and orthodox medicine. Those who either prescribe or serve the CAM to their patients did so because they want to be seen as trustworthy and loyal by their employers. Participants in the study by Bjerså et al., (2011) further suggested the need for professionals in the conventional healthcare system to collaborate with the CAM practitioners or specialists. The staff in conventional healthcare were to start the partnership in order to acquire knowledge. Leggat, (2007) indicated that teamwork is very important in the delivery of healthcare and this was supported by (Manser, 2009). Manser, (2009) indicated that complete healthcare is delivered through communication and collaboration among staff. This may suggest that, healthcare services are not given by an individual healthcare professional, implying, health professionals work together, and that no single professional works alone towards patients' recovery. According to van Haselen, Reiber, Nickel, Jakob, & Fisher, (2004) 26% of primary health care providers at Packside health catchment area, London suggested that CAM services should be administered by non-state registered health professionals. It was a quantitative study with 370 participants but only 149 health practitioners responded to the questionnaire indicating a response rate of 40%. However the study was silent on ethical clearance.

Avino, (2011) proposed additional barriers including lack of necessary equipment and no reimbursement for those who use CAM therapies and legal barriers as hindrances to in-hospital use of CAM. It was reported in a quantitative study by Elrlich et al., (2013) that patients who receive CAM care pay for the treatment with their own money. Their findings

can imply that CAM therapies are not integrated into the nationwide health insurance; as such patients are likely to pay for CAM therapies themselves. Milden and Stokols, (2010) supporting this finding, cited in their study that physicians were worried about health insurance cover for CAM therapies. Nevertheless, most orthodox medications were catered for in the nationwide health insurance. It can be deduced that this will have an impact on the in hospital use of CAM especially patronage by patients. Jarvis et al., (2015) proposed that NHIS authority provides funds for only therapies that are scientifically proven to be effective for instance orthodox drugs. The study by Avino, (2011) was aimed at exploring the knowledge, attitudes and practices of nursing faculty and students regarding CAM. The sample for the study was largely selected from all eight schools in Delaware including part time and full time nursing faculty, undergraduate and graduate students. This will make the findings of the study largely representative of the population.

Bjerså et al., (2011) further suggested that in Sweden although CAM has a lot of economic importance, there is lack of financial resources to carry out investigations into CAM and this hindered publicity of CAM. In Nigeria, the situation on CAM publicity is different. According to Osemene et al., (2011) commercialization of herbal medicine is more advanced than that of orthodox medicine. Restrictions were placed on orthodox medications unlike that of herbal medication. This may imply that herbal medications may be popular in Nigeria than in Sweden. Ethical clearance and statistical method for determining sample size were not mentioned in the study by (Osemene et al., 2011). Since the study was not ethically approved, it may suggest that participants' rights might have not been considered.

2.6 Behavioural intentions of nurses toward the clinical use of herbal medicine

A study by Godin et al., (2008) on the intentions to encourage CAM among general practitioners and medical students in Quebec revealed that the majority of the participants

were neutral in their intentions to suggest CAM to their patients. A few of the participants who were knowledgeable in just one therapy had higher intentions towards CAM and did not consider lack of scientific proofs and no insurance cover as hindrances to CAM use. The study was guided by the theory of planned behaviour and was ethically approved by the Research Ethics Committee of Laval University.

In a related quantitative study on Pakistani Pharmacy Students' Perception About Complementary and Alternative Medicine by Hussain et al., (2012), 66% of the students were just interested in recommending CAM however, 84% of the students were eager to recommend CAM therapies to their patients despite the lack of evidence on the effectiveness of CAM modalities. A related cross sectional survey at David Geffen School of Medicine at the University of California revealed that, 50% of the medical students were interested in Los Angeles suggesting Traditional Oriental Medicine to patients (DeSylvia, Stuber, Fung, Bazargan-Hejazi, & Cooper, 2011). The study received Institutional exempt approval from University of California Los Angeles. In the study by Avino, (2011) some 68% of nursing faculty and 80% students nurses said they will approve of CAM to others. In a quantitative study by Wilson, White, & Hamilton, (2013), a few psychologists in Australia were comfortable endorsing CAM to their clients.

However in a focus group discussion by Lie et al., (2008) among medical students it was reported that medical students were not interested in using any CAM modality themselves in the future. CAM therapies were not going to be the first line treatment they would recommend. Nonetheless some of the medical students were willing to integrate CAM in their practice in the future. In the study by Bjerså et al., (2011), the number of patients who asked to seek CAM treatment was very low. No patient receiving conventional medicine was referred for CAM therapy in Sweden and even those who were referred, it was based on the

relationship with the practitioner and the suitability of the therapy due to lack of evidence (Bjerså et al., 2011). Wilson & White, (2011) reported in their study that some psychologists were not willing to refer their clients to CAM practitioners; they felt that by doing so, they will be forcing their clients into using CAM. Some psychologists were also not willing because they were concerned about quack CAM practitioners.

2.7 Vending Herbal Medicine

In Nigeria, Benin and Ghana herbal medications are vended in different places including buses and herbal markets (Quiroz et al., 2014; van Andel, Myren, & van Onselen, 2012; Yusuff & Wassi Sanni, 2011). According to Yusuff & Wassi Sanni, (2011) in a cross sectional qualitative study on itinerant vending of medicines inside buses in Nigeria: vending strategies, dominant themes and medicine-related information provided; the most common medicines vended in buses included haematinics, multivitamins, pain relievers as well as herbal medications. Azila-Gbettor, Atatsi, & Adigbo, (2014) and Yusuff & Wassi Sanni, (2011) reported in their study that vendors of herbal medications use deceitful information to lure passengers to procure their medications. Some practising psychologists are worried about mentioning CAM to their patients because they think some CAM service providers are quacks and others are into the business for money (Wilson & White, 2011). Some passengers bought the herbal medications sold in buses; that is between 6.7%-48.3% (Yusuff & Wassi Sanni, 2011) and 74.2% (Azila-Gbettor et al., 2014). However 15.7% passengers did not buy herbal medications sold in buses in the Ho municipality because they thought the medication was not ordered by doctors; 28.6% of the passengers also questioned the vendors (Azila-Gbettor et al., 2014). Yusuff & Wassi Sanni, (2011) gave a detailed description of the research setting and recorded vending activities without interfering. This will allow participants to be in their natural self during marketing of the medicinal product hence real in

depth data would be gathered. According to Azila-Gbettor et al., (2014) some passengers in the Ho Municipality felt herbal medications sold in buses were dangerous, counterfeit and expired and these were some of the motives why they did not buy. According to Lie et al., (2008) some medical students in California are not pleased with individuals' use of CAM because they believe CAM therapies are not evidenced based.

During vending activities, the information normally given by vendors include indication, dosage, adverse effects, contraindications and the efficacy of the herbal medication. However the information given are usually inadequate (Yusuff & Wassi Sanni, 2011). Some vendors claimed that their herbal medications could be used for treating conditions like epilepsy (Adjei, 2013; Quiroz et al., 2014), infertility (Adjei, 2013; Quiroz et al., 2014; van Andel et al., 2012), malaria, sexual weakness, diabetes, hypertension, piles, menstrual pains and waist pains (Adjei, 2013). In rural Mozambique, some traditional medicine practitioners reported that their ability to heal HIV/AIDS related conditions is a gift they received from some supernatural beings that visited and blessed them with it (Audet et al., 2012).

The efficacy, safety and quality of a herbal medication is dependent on the packaging of the herbal drug (Masand, Madan, & Balian, 2014). They suggested that herbal medications should be wrapped up in acceptable packaging materials (Masand et al., 2014). Homsy, King, Tenywa, Kyeyune, Opio, and Balaba, (2004) reported that traditional medicine practitioners can use pots, bamboo containers and wooden containers to package their traditional medicines. Nevertheless, individuals who prepare traditional medicines for commercial purposes must not package medicines such as suspensions, solutions and injectables in polythene bags. Traditional medications are to be labelled and the labels are to contain; name of the herbs, other ingredients, date of collection, packaging, indications, dosage and method of application. Traditional medications for commercial purposes are to

have labels with scientific names of the herbs used, quantity of the various ingredients, the manufacturing date, expiry date, right dosage for adults, children and infants, established contraindications and other necessary warnings (Homsy et al., 2004).

According to Jordan & Haywood, (2007) an evaluation of internet website marketing of herbal weight loss supplement alluded that out of the thirty two websites selected in the study, 30 have labels with ingredients of the herbal supplements listed. However 84% of the sites tried to list the active ingredients, 63% did not mention the active ingredients at all whereas 9.4% listed the active ingredients but they were scanty. This may suggest that whereas some patients or customers would have access to herbal medications with labels, other customers may not have that same opportunity. Depending on the website chosen by customers, some customers may purchase herbal medicines without labels. There was no information on safety, side effects, and contraindications. Some websites also posted deceptive information on the labels of their drugs. Information on the labels of the majority of the herbal products were not complete, no contact information or lines and some drugs had no literature (Jordan & Haywood, 2007).

Herbal medications available at Benin and Ghana's herbal market are in the form of dry and fresh herbs, wood, roots, seeds, fruits, leaves and whole plant (Quiroz et al., 2014; van Andel et al., 2012). However, a herbal medication in the form of fibre is found on Benin's herbal market (Quiroz et al., 2014) and bitters on G hana and Nigeria's herbal market (Homsy et al., 2004; van Andel et al., 2012). van Andel et al., (2012) estimated that there are 951 tons of crude herbal medicines sold at Accra and Kumasi's herbal markets sampled in their study however their study was silent on ethical approval. Abebe, (2002) proposed that some herbal medications made from ginger and ginseng are available in the form of powder, liquids, tablets, capsules and tea. Ginseng can again be found in the form of a candy. Garlic is also

available in the form of tablet and capsule whereas other herbal medications are available in the form of syrup which is normally coloured and flavoured (Abebe, 2002). In Ghana some traditional healers presented their herbal medicines in the form of powder dried or cut into pieces in a sealed container (Aniah, 2014).

2.8 Contrasting herbal and orthodox medications

The safety and efficacy of herbal medications depend on the storage of the herb. Direct contact of herbs with sunlight, oxygen and microbes would have an effect on the life span of the herbal medication (Masand et al., 2014). Homsy et al., (2004) suggested that herbal medications that have been processed should be kept in well fitted glass containers; stored at a cool place without contact with sunlight; and must be kept for only two days. Raw herbs are to be stored on wooden racks in a room with adequate ventilation and shielded from light.

Although a lot of people are of the opinion that herbal medications are natural and have no side effects, not all herbal medications are safe. Some dangerous side effects have been reported with the use of herbal medications (Pal & Shukla, 2003). This is because most herbal medications have not been taken through rigorous drug examination processes for establishment of their safety and effectiveness (Pal & Shukla, 2003). Physicians (50%) in a study in Jordan by Al-Omari et al., (2013) supporting this allusion, stated that they believe herbal medicine has side effects and 49% of them further stated that herbal medications can interact with orthodox medicine which is considered harmful. Although the study by Al-Omari et al., (2013) used a quantitative design no statistical method was used in determining the sample size; participants' rights might have been infringed upon since signing of informed consent was waived off by the Institutional Review Board. The study was silent on the gender of the participants; however a detailed description of the setting was given. In Nigeria, some tertiary students who consumed herbal bitters experienced side effects such as

dizziness and general body weakness (Showande & Amokeodo, 2014). Conversely, some participants in a study in Australia and Nigeria believe herbal medicines are harmless compared to orthodox medicine (Holroyd et al., 2008; Osemene et al., 2011). Kehr, (2014) compared the side effects of orthodox and herbal cancer medications and reported the differences between the two. According to Kehr, (2014) orthodox medications destroy body cells and damages the immune system whereas herbal medications select the diseased cells destroys them and also boost immunity.

In Ghana, 45.4% of the participants in a study by Adjei, (2013) in Wassa, Ghana are of the opinion that herbal medicines are safe for ingestion and have little side effects whereas 56.7% mentioned that herbal medicines are natural without any side effects. However in the Ho Municipality, 88.4% of the participants in the study by Azila-Gbettor et al., (2014) reported that they know herbal medicine has side effects yet herbal medicine is their most preferred medication vended in buses.

Some participants in a study in South Africa are not comfortable with herbal medicine because it has no dosage and they think that it could harm them (Van der kooi & Theobald, 2006). According to Fong, (2002) when herbal medications are used at an approved dosage, people do not experience any side effects and side effects normally occur in the gastrointestinal tract and the integumentary system. In the Bongo district in Ghana, some traditional healers measured their herbal medications with cups, spoon, glass, a pinch and a container's lid. However the age, physical state, severity of the disease and the traditional healer's experience informed the traditional healer's decision to treat (Aniah, 2014).

In the United States, 5.4% (12.3 million) of the populace are using CAM because they are interested in keeping some of their money (Wang, Kennedy, & Wu, 2012). This may suggest

that orthodox medications are expensive that is why the switch to CAM. Although in Nigeria people pay for herbal medicine treatment, yet some prefer herbal medications to orthodox medicine because of the price. van Andel et al., (2012) reported that the cost of herbal medications on Ghana's herbal market are very cheap, however herbal medications that are less common are quite expensive. The findings in the study by (Adjei, 2013) supporting van Andel et al., (2012) stated that the prices of herbal medications are less expensive and even well packaged herbal medications are cheaper than orthodox medications. Some participants also believe herbal medicines are relatively cheaper (Adjei, 2013).

2.9 Summary

It was realized from the literature that most of the studies were done quantitatively. Some could not explore much into the attitudes, beliefs and perceptions of health professionals on the clinical use of CAM. Through the use of qualitative studies, this research intends to explore more into what constitutes the perceptions of nurses and how that has informed their intentions towards the clinical use of herbal medicine.

From the literature reviewed so far, none of the studies on CAM or that on the attitudes, beliefs and knowledge of nurses on CAM was done in Ghana. This study will fill this identified gap. Also, theoretical framework which guides the study and adds to the authenticity of a study's objective was not used in the majority of the studies. As such, this study will be guided by the theory of planned behaviour (TPB).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter describes the research design, research setting, target population, inclusion criteria, exclusion criteria, sample size and sampling technique, data collection and tool for data collection, ethical considerations, rigour, data management, data analysis.

3.2 Research design

Research design is the approach one selects to combine different aspects of a research in a logical sequential manner to effectively address a "research problem" that is, the direction to follow to collect and analyse data (Labaree, 2014 p.1). According to Babbie, (2002) a quantitative research uses numerical representations to describe experiences of individuals; that is quantitative research narrows data generated in a study into numbers such as percentages, frequencies and figures in order to make interpretations (Crossman, 2014). However, a qualitative research gives detailed elaboration of what constitutes the human experience (Babbie, 2002). There are five methods of qualitative study which include phenomenology, grounded theory, narrative research, case study and ethnographic research (Creswell, 2006).

This study employed an exploratory descriptive qualitative design which is used when little or no research has been done about the prevailing phenomenon (Labaree, 2014). This research design was adopted because most of the literature reviewed indicated that most of the studies on CAM were done using quantitative method which could not probe or give detailed accounts of the perceptions of nurses on herbal medicine use in the hospital. The

design allowed the researcher to explore and generate detailed views about nurses' perceptions on the clinical use of herbal medicine at LEKMA hospital.

3.3 Research Setting

The setting for the study was Ledzokuku – Krowor Municipal Assembly (LEKMA) hospital which is in the Greater Accra region, the second most populated region in Ghana. The hospital was established in 2010 with a total bed capacity of one hundred and seven (107). LEKMA hospital runs both conventional medical and complementary and alternative medical services. It has wards for in-patients, pharmacy units that is one each for orthodox medications and CAM medications especially herbal medicine, laboratory department, radiology department, mortuary and an administration. It has a surgical ward, medical ward, paediatric ward, obstetrics and gynaecology ward, emergency ward, theatre, ear, nose and throat (ENT) unit, voluntary counselling and testing unit and the herbal unit, eye clinic, dental clinic and an antenatal unit. The total number of nurses in the hospital is two hundred and eighty (280).

The herbal unit has three herbal doctors, one specialist for acupuncture services and one enrolled nurse who is responsible for nursing care activities such as history taking and counselling of patients taking herbal medications. The herbal unit runs on OPD basis, patients who are seen at the unit opt for CAM therapies voluntarily. The unit normally runs from Monday to Friday and averagely seven (7) patients are seen in a day.

The hospital has all cadres of health professionals including registered nurses, auxiliary nurses, medical assistants, pharmacists, laboratory technicians, radiographers, medical doctors and herbal doctors. The categories of nurses working at the hospital include diploma nurses, graduate (baccalaureate) nurses, public health nurses, enrolled nurses and state

registered nurses. There are nurses with speciality in peri operative nursing, ophthalmic nursing, and midwifery.

3.4 Target Population

Target population refers to a collective number of people the researcher is interested in forming conclusion on after completing a study (korb, 2012). Therefore, the population studied in this research was registered nurses at LEKMA hospital.

3.5 Inclusion criteria

Registered nurses who participated in the study were those with two years working experience and were willing to be part of the study. They have worked at the LEKMA hospital for at least six months within the clinical area such as the medical, surgical and paediatric, emergency, herbal unit, obstetrics and gynaecology wards. Two years after qualification as a nurse was enough for the nurses to be experienced with the outcome of treating patients with orthodox medicine. Six months of working at LEKMA hospital would increase their knowledge on the consequence of treating patients with herbal medicine since the use of herbal medicine is in abundance in various communities in Ghana. Based on the nurses' exposure to these effects, it might build their perceptions towards the clinical use of herbal medicine.

3.6 Exclusion criteria

The study excluded rotation nurses and nurses who have worked at the hospital for less than six months.

3.7 Sample size and sampling technique

There is no pre - determined method for arriving at the sample size in qualitative studies however the quality of data gathered in the study is of much value to the researcher. The

quality of the data is based on how rich the data is, the experiences disclosed by participants and how data collected is related to the research question (Ajjawi, 2013). According to Creswell, (2014) data saturation occurs when newly collected data does not yield any new idea. Data was saturated with the 14th participant.

Purposive sampling technique was adopted to select the participants. According to Tongco, (2007) purposive sampling technique is an intentional decision to select a particular participant because of the characteristics possessed by that participant. This sampling technique was used because of the capacity of the nurses to provide the required information needed to answer the research question and their willingness to participate (Padgett, 2008).

Various wards; medical, surgical, paediatric, maternity and OPD were visited to explain the process, purpose and objectives of the study to the heads of these wards. Subsequently, the researcher left a notice with contact number on the notice boards of the wards. The notice invited volunteers for the study specifying the inclusion criteria. Those who were interested contacted the researcher for recruitment. Follow up visits were made after putting up the notice to meet those who expressed interest. Also, the researcher spoke to the nurses one-on-one basis and those who volunteered and who met the inclusion criteria were recruited.

3.8 Data collection tool and Procedure

A semi structured interview guide was employed to collect data. The semi-structured interview guide was used because it is not rigid and also allowed the researcher to probe into specific areas of interest (Mason, 2004). Section A of the interview guide consisted of the demographic information of the participants while section B comprised the interview guide which consisted of open–ended questions with probes. The questions on the interview guide were guided by the TPB and the objectives of the study.

In-depth, face-to-face interviews in English language were conducted at a venue, date and time of convenience to the participants. Participants read the information sheet (see Appendix C); had all misunderstandings clarified and signed the consent form (see Appendix D) before the interviews. The interviews were started on July 2014 and ended on December 2014 and each interview lasted between 45 – 60 minutes. All interviews were conducted at the hospital premises; three at the nurses' in-charge offices and the rest at offices selected by the participants. The interviews involving the nurses in-charge were conducted after participants had closed from work and the other nurses were interviewed when they were off duty. The interviews focused on the beliefs, attitudes, facilitators, challenges and the intentions of the nurses towards the clinical use of herbal medicine. During each interview, the researcher probed and redirected responses when necessary so that the responses were within the objectives of the study. The interviews were recorded using a voice recorder with the consent of the participants. The researcher kept records of her experiences on the field; the nonverbal communications of the participants; their mannerisms and anything imperative to the study in a field diary which helped the researcher to understand the data during analysis. After the interviews, participants were thanked and given a token. Participants were informed about further interview sessions for clarifications when necessary.

3.9 Piloting of instrument

Pretesting or piloting the instrument is administering the interview guide to a few number of registered nurses before administering it to the main study participants to help "fine-tune" the instrument (Dane, 2010 p.228). The semi – structured interview guide was piloted among two registered nurses at the Ridge Hospital Accra to check participants' ability to understand the questions. This hospital was chosen because it has an outlet where herbal medicine is sold, also it is located in the Greater Accra Region, Ghana. The first interview was transcribed

before the next interview and this allowed the researcher to identify lapses and effect changes on the instrument before the subsequent interviews. All problems and ambiguity identified with the interview guide were rectified before the commencement of the actual study. The data for the pilot study was not added to the main findings in this study.

3.10 Ethical considerations

The researcher sought ethical approval from the Institutional Review Board (IRB) of the Noguchi Memorial Institute for Medical Research of the University of Ghana. A copy of the ethical approval letter (see Appendix G) and an introductory letter from the School of Nursing, University of Ghana (see Appendix H) were sent to the Medical Director, LEKMA Hospital, Accra to inform them about the study and to recruit participants. The researcher explained the purpose, objectives, benefits and potential risk to participants and allowed them to ask questions for clarification. Only participants who consented to participate were recruited.

Participants were assured of confidentiality and privacy to any information they gave and they were informed of their right to withdraw at any point in time during data collection and that any withdrawal was not going to affect their employment status. The researcher used pseudonyms to represent participants who were interviewed. Participants were given an information sheet which further explained the research, to read and seek clarifications where necessary and they signed a consent form a week before the interview. They were told that the information they provided would be kept for five years in a locked cabinet and the key kept by the researcher and after the five years data would be destroyed. Also, the information was stored on a password protected computer as well as an external hard disc and a CD-ROM to prevent data loss. The findings from this study will be published and used for teaching students and nurses.

3.11 Rigour

Rigour or trustworthiness in a qualitative study is the extent to which the findings of a study can be trusted (Lincoln & Guba, 1985). The trustworthiness of a research can be achieved through four main criteria namely credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985).

Credibility

Credibility in a qualitative research is achieved when the findings in a research reflect exactly what the participants perceive of a phenomenon (Koch, 2006) and they suggested the need for the researcher to become more aware of himself. To achieve credibility in this study, the researcher recruited only participants who met the inclusion criteria. A field diary was kept to record the nonverbal communications of participants and the experiences of the researcher on the field. The researcher also spent adequate time with participants; between 45-60 minutes to build rapport and follow- up on all themes to get their detailed perceptions on the clinical use of herbal medicine. There was member checking to verify their responses to ensure that true responses were documented.

Transferability

Transferability in a qualitative research can be met when the outcome or findings of the study can fit into another similar context (Krefting, 1991). Transferability was achieved by the detailed description of the context of this study. The sample for the study was fully described as well as the methodology that was used to arrive at the findings. All transcribed data and field notes have been kept for audit trail.

Dependability

This refers to the extent to which research findings can be repeated among same sample or context (Koch, 2006; Lincoln & Guba, 1985). Dependability was achieved in this study by the detailed description of the sample, setting, methodology and analysis. Each interview was transcribed and analysed with same processes to arrive at themes and sub themes.

Confirmability

Confirmability refers to the extent to which a research finding reflects the experiences of participants and is devoid of researcher biases (Lincoln & Guba, 1985). To achieve this there must be a likelihood of another researcher arriving at the same result when data is analysed (Lincoln & Guba, 1985). In order to achieve confirmability, the researcher sought for in-depth perception of nurses on the clinical use of herbal medicine. The researcher also sought for clarification from participants on responses that were not understood. Participants were also debriefed on their responses which participants confirmed what they said. Data was collected until it was saturated and no new ideas were generated. Data analysis was centred on the information provided by the participants and devoid of the researcher's feelings.

3.12 Data management

The main purpose of data management in a qualitative study is to "store data for maximal efficiency in retrieval and analysis" (Padgett, 2008 p. 75). The researcher has kept a field note and diary in which she has written the date, time and place where the interviews were conducted. Each participant was given a pseudonym which was written in a file kept separately for each individual for easy retrieval. All transcribed data, voice recorder, field notes and diaries as well as all documented information has been kept in a cabinet with key accessible to only the researcher. However the demographic information and consent forms

have been kept separately and accessible to only the researcher and her supervisors. The transcribed data has been stored on a CD – Rom and external hard disc to prevent data loss. Audio tapes, transcribed data, field notes and field diary will be kept for five (5) after which they will be destroyed.

3.13 Data analysis

Data analysis is the process whereby a researcher reduces data in order to explain it (LeCompte & Schensul, 1999). In this study, thematic content analysis was employed to analyse the data. Anderson (2007 p. 1) stated that, thematic content analysis can be referred to as a "descriptive presentation of qualitative data". In thematic content analysis, a researcher goes through the transcribed interview data and selects words or phrases that can serve as codes. Similar codes are grouped to form sub themes and the subthemes are grouped in themes (Anderson, 2007). According to Padgett, (2008), thematic content analysis is normally guided by the pre-existing themes and sub-themes form the constructs of the model guiding the study.

Data collection and analysis were done concurrently. At the end of each interview the recording on the voice recorder was transcribed verbatim. The researcher gave each participant a number for example Recording 0001 to differentiate the transcripts and the order of the interview. Pseudonyms such as Aba, Baaba, Caaba, Daaba, Eaaba, Faaba, Gaaba, Hila, Iaaba, Jackie, Kay, Lina, Mina and Nancy were used. The concurrent data collection and verbatim transcription helped the researcher to improve on the subsequent interview sessions and to note the emerging codes. Accuracy of manual transcripts was ensured by reading and listening to the audio tape recording at the same time.

After transcribing all recordings, thematic content analysis was employed. The researcher read the transcripts several times and coded all responses that were similar based on the pre-existing themes and subthemes of the TPB. Different colours were used to represent various themes. The themes and subthemes were then categorised to according to the pre-existing themes and sub-themes based of the constructs of the TPB. Findings which were inconsistent with the pre-exiting themes and sub-themes of the TPB were content analysed.

During content analysis, the researcher read each transcript several times to understand and get the meaning of the idea portrayed by the participants. Phrases with similar meaning or same idea as well as similar words were coded. Analogous codes were grouped into a subtheme. Equivalent subthemes were then grouped into a theme. Analysis of data was devoid of the researcher's feelings or thoughts. Only thoughts, feelings and perceptions of participants were reported. Quotes from participants were used to support the generated themes.

CHAPTER FOUR

4.0 FINDINGS

4.1 Introduction

This chapter presents the findings from the data gathered from participants in the study on the perceptions of nurses on the clinical use of herbal medicine at LEKMA hospital in Accra, Ghana. Analysis of the data took into consideration the field notes that helped in understanding of the data generated. The findings were grouped based on the constructs of the theory of planned behaviour (TPB) and the objectives of the study. Six themes emerged with their corresponding sub-themes. Four were consistent with the TPB whereas two other themes emerged which were not related to the theory. The various themes and sub-themes were presented with verbatim quotations from the participants and their anonymity was maintained by the use of pseudonyms. The demographic characteristics of participants are also provided.

4.2 Demographic Profile of Participants

Fourteen participants (nurses) from different units at the LEKMA Hospital were interviewed. Two (2) were Gas, one (1) Ga Adamgbe, eight (8) Akans, two (2) Ewes and one (1) Guan. The Akans comprised Ashanti, Bono, Akuapim and Fanti. Four (4) of them were between 18-28 years, six(6) between 29-30 years, one(1) between 40-50 years and three(3) between 51-60 years. All participants were female with eleven (11) married, two (2) single and one separated. The majority; five (5) were living at Teshie, two (2) each at Spintex, Tema and Agblezaa where as one participant each lived at Manet, Batsona and Nuguah Adogono which are all suburbs in Accra. All the nurses interviewed were fluent in the English language, "Twi" and "Ga", moreover some were fluent in Ewe, Fanti, Ada, Akuapim and Dangbe. They

were all Christians with two (2) each working at the paediatric, maternity, medical, OPD and ART units respectively. Three (3) were working at the surgical ward and one (1) at the herbal unit. Two (2) of them have been working for four (4) years, six (6) for five years and another two (2) for eight years. One participant each has been working for fifteen, twenty, thirty four and forty years. Out of the fourteen nurses interviewed two (2) were Principal Nursing Officers (PNO), one (1) Superintendent Midwife; two (2) Principal Enrolled Nurses, Senior Staff Nurses (SSN) were seven (7) and two (2) Staff Nurses (SN).

4.3 Organization of Themes

The themes that emerged in this study were organized to provide answers to the research questions and were consistent with TPB such as the subjective norms influencing nurses in the clinical use of herbal medicine, attitudes of nurses towards the clinical use of herbal medicine, perceived factors influencing the clinical use of herbal medicine and behavioural intentions of nurses towards the clinical use of herbal medicine. However, two additional themes; vending herbal medicine and contrasting herbal and orthodox medicine emerged, which were not part of the TPB. Table 2 shows the various themes with their corresponding subthemes.

4.4 Subjective Norms that Influence Nurses in the Clinical use of Herbal Medicine

To answer the first research question, "What are the subjective norms that influence nurses in the clinical use of herbal medicine", the theme was subjective norms that influence nurses in the clinical use of herbal medicine. The nurses believed herbal medicine was God-given which has been approved by the government and the hospital authorities to be served in the hospital. Certain factors motivated the nurses to administer herbal medicines in the future. Patients' recovery rate and packaging of herbal drugs were identified as motivational factors

that would influence the nurses in the clinical use of herbal medicine. Two subthemes emerged; Beliefs of nurses about herbal medicine and Motivation to serve herbal medicine.

4.4.1 Beliefs of Nurses about Herbal Medicine

All the nurses had some form of belief concerning herbal medicine whether used in the hospital or outside the hospital. The nurses believed that herbal medicine has been with us since creation; it is God-given and is meant for the maintenance of well-being of humans. They stated that the bible instructs us to eat the fruits and use the leaves for medicine.

> *"Herbal medicine was created by God; it has been with us since creation. Herbal medicines can be found in plants and grasses and they are for our own wellbeing."* **Faaba**

> *"Even the bible says that we should eat the fruit and use the leaves for medicine."* **Daaba**

A nurse mentioned that herbal medicine has been in existence before the onset of orthodox drugs; the ancestors were dependent on it and it was good.

> *"I know that from the olden days when these orthodox drugs were not available our ancestors used herbal drugs and they were good for them."* **Kay**

A participant believed that, all Ghanaians, as typical Africans no matter the level of education, believe herbal medicine will work for them;

> *"I believe that all Ghanaians; as Africans, it is typical of us Africans that no matter how educated we are, we believe herbal medicine will work for us at a point in time."***Daaba**

The nurses considered the Hospital authorities as principal in their decision to serve or not to serve herbal medicine. They perceived the authorities as having some form of expectations toward them and this was perceived as a form of pressure that informed their intentions towards the clinical use of herbal medicine. Some of the nurses believed serving of herbal

medicine in the hospital has been approved by the hospital authorities because they make announcements every morning on the availability of herbal services at the facility;

> *"The hospital authorities approve of herbal medicine because mostly the information centre at the OPD makes announcement every morning about the availability of herbal medicine in the hospital."* **Baaba**

The nurses thought that serving of herbal medicine to patients in the hospital has been accepted by the government and nothing could be done about it. The nurses were committed to doing whatever was permissible so long as it was going to save lives.

> *"Oh once the government has accepted it in the healthcare system there is nothing we can do, we have to accept it. We are here to save lives, we are serving our country; we are ready to do anything that will save our people. "* **Iaaba**

A participant believed that a patient coming in with a prescribed herbal medication to be served means the patient has decided to use it. Once the patient decides to use it, he eventually approves of the nurse serving the herbal medication

> *"Well if a patient comes in with a herbal drug that is to be administered, I have to know it's the patient's decision; so I wouldn't say no or I won't serve, that is the patient's decision so I have to serve."* **Kay**

Nursing as a profession was seen as a significant factor that would permit nurses to serve herbal medicine in the hospital. The nurses believed their profession had trained them to serve medications hence they must accept and be committed to their work.

> *"We were trained to serve medications, so we don't have a problem with that. That is our work so we have to accept it. We are all helping our country Ghana and so we should be committed to our work"* **Iaaba**

Some of the nurses thought they may approve serving of herbal medicines themselves if they suggest to doctors to prescribe a herbal drug that worked for their superiors or someone.

> *"Suppose a patient on the ward is not getting well and there is a herbal drug that my superior or someone used and it worked, I may suggest it to the doctor. If the doctor agrees with it and want to try it, we will go ahead."* **Mina**

4.4.2 Motivation to Serve Herbal Medicine

Some nurses were self motivated to serve herbal medicine in the future. They thought they were accountable for whatever they did while on duty. The actions or inactions of other staff were not going to deter them; the patients were their only priority.

> *"As for me, I am a midwife; any negative attitude showed by my colleagues towards herbal medicine will not prevent me from doing what is right for my patients. I will only do what will help my patients; what will make my patients regain their health is my priority. Negative attitudes from my colleagues will not prevent me from doing what is right."* **Mina**

> *"I am accountable for whatever I do when I come to work. If I come for afternoon duty and realise the morning staff did not serve the herbal medication, I will only ask why they did not serve. When it gets to my turn to serve, I will serve."* **Eaaba**

The packaging of the herbal drug was also a motivational factor to serve herbal medicine in the future. Some nurses were expecting herbal drug for hospital use to be nicely and attractively packaged with labels specifying dosage, indications, expiry date and side effects.

> *"The packaging will influence us because most of us are moved by what we see; so the packaging alone can influence us. Even with these orthodox medications, there are some that when you even take it and you are giving it to the patient, they doubt it. They will ask you "ei!, 3y3 papa" (is it good?) looking at just the container, they are asking if it is good? So packaging is important; everything about it should be nice and attractive."* **Jackie**

> *"Like all other drugs, manufacturers should specify the expiry dates, dosages, adverse effect, desired effect, how it is supposed to be stored, everything should be available on the package of the herbal medicine, it all counts."* **Hila**

A participant mentioned that when her patient recovers after receiving herbal treatment she would be motivated to serve herbal medicine and recommend it to other people.

> *"When I serve and maybe a patient does well on it, it would motivate me to even influence other people to take it."* **Eaaba**

However a nurse thought that her past experiences with herbal medicine would either motivate or discourage her from serving herbal medicine. A positive past experience would encourage her to serve whereas a negative experience would discourage her from serving.

> *"Hmm! Previous experience will count; the positive experience will influence me to serve the medicine, but the negative one! How can I give something that did not work for me to my patient to also take?"* **Daaba**

4.5 Attitudes of Nurses towards the clinical use of herbal medicine

To answer the research question "What is the attitude of nurses towards the clinical use of herbal medicine", the theme was Attitudes of nurses towards the clinical use of herbal medicine. From the data, the nurses' attitudes toward the clinical use of herbal medicine were influenced by positive and negative factors. Positive factors identified included belief in the effectiveness of herbal medicine, credibility of herbal medicine service provider and benefits of clinical use of herbal medicine. The positive factors emanated from their previous use of herbal medicine, trust in the potency of herbal drugs and trustworthiness of the staff at the herbal unit as well as recognising the hospital as the safest place to administer herbal medicine. Factors that negatively impacted the attitudes of the nurses were lack of interest in herbal medicine and absence of trust in herbal medicine administration in the hospital. Two subthemes emerged which were positive attitudes towards clinical use of herbal medicine and negative attitudes towards the clinical use of herbal medicine.

4.5.1 Positive attitudes towards clinical use of herbal medicine

As part of the nurses' positive attitudes towards the clinical use of herbal medicine, they were confident in the effectiveness of herbal medicine and this originated from the nurses and their families' prior use of herbal medications and trust in its potency. They were also sure of the credibility of herbal medicine service providers and this was derived from their confidence in

the staff at the herbal unit. Some nurses saw herbal medicine administration at the hospital as an act that would be beneficial to patients. This was because of their belief that herbal medicine administration at the hospital will lead to monitoring of patients, increase positive health seeking behaviour and also saw the hospital as the safest place to serve herbal medicine.

4.5.1.1 Effectiveness of herbal medicine

It was revealed that the majority of the nurses had positive attitudes towards the effectiveness of herbal medications. This was exhibited by their personal use of herbal medicine from the herbal unit to treat some conditions they suffered. Their conditions improved after taking those treatments. Baaba, Nancy and Mina have used herbal medicine from the herbal unit of the hospital to treat dysmenorrhoea, arthritis and common cold respectively;

> *"I was having dysmenorrhoea so I complained to the staff at the herbal unit and I was given bottle of herbal product. For now I've not been having severe pains as I used to. Since I took that bottle, I've not even taken it again but I've been having my normal flow and I am fine."* **Baaba**

> *"When I got Arthritis last year I just decided to try the herbal medicine and it really worked for me. The joint, the knuckles were too painful, I could really see there was something wrong and when I took it* (herbal medicine)*, it all disappeared in less than a week and I could wash."* **Nancy**

> *"I had cold the other time, I didn't even know the herbal unit had this herbal nasal drop, I was given one at the herbal unit. It was very effective compared to Ephedrine nasal. I used it for three days and the congestion was okay so I stopped, I still have the herbal drug."* **Mina**

A participant further expressed that she preferred herbal medicine to orthodox drugs because orthodox drugs contain too much chemicals whereas herbal medicine is natural.

> *"I prefer herbal to orthodox medicine; orthodox drugs contain a lot of chemicals but herbal medicine is made up of natural things."* **Mina**.

Other participants combined herbal and orthodox medicine and were ready to discuss with their health care providers in case any irregularity was detected through laboratory investigations.

> *"I like combining both* (herbal and orthodox medicine), *that is while I am taking the herbal medicine, then I will be seeing my doctor too in the hospital, so that I can do labs and take the medications in addition. If the labs show any abnormality I will tell my doctor I am taking herbal medications too."* **Baaba**

The nurses who used herbal medicine did so because they had used orthodox drugs for a long time but their conditions kept recurring. They used different types of analgesics such as; diclofenac, nospa and paracetamol to treat dysmenorrhoea every month but they wanted something that would stop it. Others also saw the intake of Ventolin to be too much that was why they switched to herbal medicine.

> *"Initially anytime I had the dysmenorrhoea, I just take in may be diclofenac, nospa or paracetamol and sometimes brufen; but I realised the following month it will come back again. So I stopped until I started taking the herbal product."* **Baaba**

> "*I am an asthmatic so I tried the herbal medicine because I realised the Ventolin was getting too much so I tried taking the China type* (China herbal product), *it worked for me."***Caaba**

Some of the nurses bought herbal medicine for their relatives and it was effective. One nurse bought herbal medicine for bed wetting after several reassurances from the hospital failed.

> *"I bought herbal medicine for my little sister who was still wetting her bed at age 11 and it worked. She used it for about two weeks and she never wet her bed again. My mum was taking her to the hospital and they kept on saying the urinary sphincter was loose so gradually, it will fix itself. That was the assurance they gave her."* **Jackie**

Other nurses also used herbal medicine when they were younger. The herbal medicine was given by their grandparents for conditions such as tonsillitis and it worked. The herbal medication prevented them from undergoing surgical interventions at the hospital.

> *"I remember when I was with my granny she treated me with herbal medicine a lot. 0nce I was having some kind of swallowing difficulties; my tonsils got inflamed, she*

used 'Tinkalo' (a herbal drug) *with lime, I took some and then she smeared some on my neck and within a week I was fine. I remember I went to see a specialist and he told me that when it happens again then I will have to undergo surgery because the tonsils don't do anything for the body, but then when I used the 'Tinkalo' I was relieved, I never experienced it again."* **Baaba**

Some of the nurses were willing to give herbal medicine to their husbands, their children and other children in their family. Some participants combined herbal and orthodox medicine for relatives suffering asthma.

"I will give it to my husband if only it will work for him. If he is on orthodox medicines and they are not working for him, we will try the herbs" **Jackie**

"I will give herbal medicine to my children; we even combine herbal and orthodox medicine for my niece. She is also an asthmatic patient so we combine it for her because herbal medicine is also effective." **Kay**

For some nurses, their parents used herbal medicine and it worked for them; as such, it contributed to their positive attitude.

"Whenever my father had cold, especially when he was coughing, he will only use ginger. He will grind the ginger, add a little sugar, warm it up, and that was his medicine and it worked for him." **Nancy**

A participant reported successful treatment of infertility with herbal medicine. This was after the user had treated the infertility with orthodox medicine and saw no positive outcome.

"I know somebody who treated infertility with orthodox medicine but it did not work for her. She went in for herbal medicine and it did the magic for her." **Daaba**

Most of the nurses showed positive attitudes towards the potency of herbal medications because of their previous use. They were of the opinion that herbal medicine was really potent or effective. Mina and Aba had these to say;

"Herbal medicine is effective, it is very, very effective because I have used it before; I have used some and I know it is very effective." **Mina**

"I have used herbal medicine before and I know it is effective, it is very effective." **Nancy**

Some nurses expressed that because herbal medicine was good that is why the government has permitted a course in herbal medicine to be pursued by individuals at one of the state owned Universities.

> *"Herbal medicine is good; if herbal medicine was not good the government would not have allowed people to do courses in herbal medicine, rather I feel because it is good."* **Iaaba**

One nurse further explained that because herbal medicines were effective, that is why some debilitated patients discharged against medical advice surprisingly recover after using herbal medications. The participant recommended proper screening and proper mode of preparation.

> *"There are some patients on the ward that you see them to be dying; they are discharged against medical advice to try herbal medicines at home. Surprisingly you see them later fully recovered; so it works; it is effective. I think herbs only need to be well screened with proper mode of preparation to isolate any germ or microorganisms and it will be more effective."* **Jackie**

The nurses recommended that herbal medicines should be encouraged for people to realise its effectiveness. They believed that if about 20% of the total population of the country were going to be healed by the use of herbal medicine it was going to increase productivity and prevent the loss of 20% of the total population .

> *"I think it is good and needs to be encouraged, herbal medicine alongside orthodox. Herbal medicine is good; I think people should be made to understand its effectiveness, herbal medicine is good."* **Nancy**

> *"If herbs are able to cure about 20% of our people and the orthodox medicine is curing about 70% of our people, it is going to help. The health of the people is going to be maintained and there will be productivity. If we depend on only orthodox medicine we will lose 30% of our people; if herbal medicines are added about 20% of lives will be saved."* **Jackie**

Most of the nurses were convinced that herbal drugs administered at the hospital were scientific or have been researched into and approved by the Food and Drugs Authority,

Ghana. They have been confirmed safe for human consumption. Herbal medicine used in the hospital was considered genuine.

> *"So far as they have started prescribing herbal medicine in this hospital, it means much research has been done and it has been approved by the Food and Drugs Authority."* **Caaba**

> *"The herbal medicine prescribed in this hospital has been approved by the Food and Drugs Authority. I know it gone through a whole lot of testing for them to realise that it is not harmful to the human body. They are scientific! "* **Kay**

> *"I will say they are authentic, I believe they have researched into it before selling it out."* **Daaba**

The nurses were optimistic that herbal medicine served at the hospital passed through the Centre for Scientific Research into Plant Medicine (CSRPM) and it was good. The nurses believed that the CSRPM was responsible for researching into herbal medications to ensure its safety and efficacy.

> *"I know it passes through the Centre for Scientific Research into Plant Medicine and I think its okay."* **Baaba**

> *"Most of the herbal medicines are coming from the Centre for Scientific Research into Plant Medicine. They ensure the efficacy and the safety of herbal medicine. That is their job; they ensure that herbal medicines that come outside are safe and potent; they research into herbal medicines."* **Eaaba**

4.5.1.2 Credibility of herbal medicine service provider

Most of the nurses were aware of the trained personnel at the herbal unit; they knew their educational background. The staff at the herbal unit were trained at a University and some had gone for courses outside Ghana and they were skilful. Aba and Faaba stated this as;

> *"The herbal unit has trained staff; I know there is a doctor of herbal medicine at the unit. Apart from being a doctor she's gone for a lot of courses, I know she travelled to China for some courses and there are other trained staff at the unit."* **Aba**

> *"I know the doctor in-charge at the herbal clinic. I learnt she studied herbal medicine at the University; I think she is an expert in her job."* **Faaba**

The nurses also showed trust or confidence in the trained personnel at the herbal unit and described the advent of trained herbal doctors in the hospital as safe. Some were willing to take herbal medications prescribed by the staff in the future.

> *"Well I think the hospital administering herbal medicine is safe. Once a trained person is prescribing the herbal medication and he is giving specific dosages, I trust it. If anything should come up one day and am referred to the herbal unit to try it, I won't be so scared because I know is a trained person standing there".* **Aba**

The nurses believed that the herbal doctors at the hospital were not quacks but were trained, knowledgeable and certified by the health authorities to practise.

> *"The herbal officers are qualified and certified by authorities to practice herbal medicine. They are knowledgeable and qualified to be called herbal practitioners. They have gone through the processes and are successful."* **Nancy**

4.5.1.3 Benefits of Hospital use of herbal medicine

The majority of the nurses showed positive attitude towards hospital administration of herbal medicine to patients. The nurses believed they were going to be responsible for educating patients treated with herbal medicine in the hospital. They assumed that patients would be taught how to administer herbal medicines and the side effects to expect.

> *"Whatever medication the patient is on, we teach patients if they have to administer it themselves and it will be the same for herbal medicine."* **Hila**

> *"I will give the necessary education about herbal medication. For instance if a patient is taking a herbal medicine and experiences diarrhoea, yellowish discolouration of your eyes I will educate the patient to report to the hospital."* **Aba**

The nurses were confident that the integration of herbal medicine into conventional therapy was a good innovation which should be encouraged. They believed it was going to promote monitoring of patients in the hospital in case of adverse effects.

> *"Positive! Is a positive initiative which should be encouraged. If a patient takes the herbal medicine in the hospital, in case of adverse effect we would be able to intervene*

and observe patient unlike those who sold outside the hospital, you cannot even trace them." **Gaaba**

"It is good in the sense that in case of any adverse reaction or side effects we would be able to monitor patients." **Caaba**

As a result of the monitoring of patients, participants thought the hospital was the safest place to prescribe herbal medicine. They believe that the availability of different cadre of health professionals at the hospital would provide patients with the prompt attention needed during adverse reactions.

"In the hospital, we have the senior nurses, the doctors, other nurses and different health professionals for monitoring. When we serve a particular herbal medicine and a patient reacts to it, he would get quick attention. So I think the hospital is the safest place to serve herbal medicine" **Nancy**

The safety associated with the clinical use of herbal medicine was attributed to the fact that the nurses believed herbal medicine in the hospital came from a reliable source and have been confirmed safe for human consumption.

"I believe in herbal medicine but from a reliable source; like in the hospital you know. The hospital would not go in for something from the roadside but what has been researched into." **Daaba**

"I don't think the hospital authorities will just go anywhere and get the herbal medications. They will buy from where it has under gone a lot of investigations and are proven to be very safe for human consumption." **Baaba**

A participant believed that the clinical use of herbal medicine was going to improve the quality of care patients receive. The nurse expressed that patients with recommendations from doctors to use herbal medicines would now go through the same hospital routines for orthodox care to receive their herbal medicine treatment in the same health facility.

"Sometimes the doctors will ask a patient to try herbal medicine. If there is a herbal doctor to take care of the patient in the hospital, the patient will go through the same process as for orthodox care to receive treatment. I think this will improve the care patients receive." **Kay**

Some nurses stated that the clinical use of herbal medicine was going to lead to positive health seeking behaviour. They believed herbal medicine use in the hospital would bring the minds of people back to the hospital and offer them the opportunity to switch between herbal and orthodox medicines and be confident in their choice.

> *"Well I think they are bringing the minds of those who buy herbal medicine from quacks back to the hospital so that if they don't get orthodox medication, they can get herbal medication and be confident in it."* **Gaaba**

As a result of the anticipated positive health seeking behaviour, some nurses recommended that herbal medicine administration at the OPD should be extended to the wards.

> *"Herbal medicine shouldn't only be administered at the OPD; it should be served on the wards as well."* **Baaba**

> *"Herbal medicines to me are good, and they should be prescribed to patients on the wards."* **Jackie**

The nurses were emphatic that the clinical use of herbal medicine was a good practice as such they recommended that orthodox drugs use should be reduced. Participants suggested that herbal medications should be produced in such a way that pregnant and lactating women can also use them. They encouraged manufacturers of herbal medications to produce injectable herbal medications in addition to the oral ones.

> *"It is a good practice; I think manufacturers of herbal medicines must put in more effort so that herbal medicine would replace orthodox drugs. Producers must prepare it in a way that pregnant and lactating women can also use it. I will also encourage that they produce herbal medicines that are injectable."* **Mina**

4.5.2 Negative Attitudes towards the clinical use of herbal medicine

Some of the nurses had negative attitude towards the clinical use of herbal medicine; most of them had no interest in herbal medicine. A few of the participants attributed their negative attitude to their childhood upbringing.

> *"Personally, I am not interested in herbal medicine; I've not used it before, I am not interested in herbs. I am not interested in it at all. During my childhood days I didn't see my mother using herbal drugs so I also grew up not interested in it."* **Iaaba**

Although others have heard of the effectiveness of herbal medicines in treating some conditions, they were still not interested in herbal medicines unless it was the last option. They were only interested in orthodox drugs because that was how they were trained. They thought they would suffer some side effects.

> *"People are saying that herbal medicines are better for treating dysmenorrhea than orthodox medications but I wouldn't go for it. I would rather do what I was taught in school. Well I am indifferent; unless probably I have tried everything and may be that is my last resort; when I give up on orthodox medicine before I will go for it"* **Hila**

> *"When I started Nurses Training School, I stopped taking herbal medicine. I feel it would affect my system."* **Caaba**

A few others were indecisive and were looking forward to people they trust who have used herbal medicine and felt it worked to make them take a decision to use herbal medicine.

> *"I will be hesitant a bit; I will be hesitant to using herbal medicine. I will not just accept it like that unless I am really convinced. May be when a family member really convince me that he/she had used it and it was good; then I may try it otherwise I won't."* **Aba**

> *"No! No, I won't take herbal medicine unless am convinced enough that a particular herbal medicine is taking away my condition and it will never come again. Otherwise I don't know what I will use herbal medicine for."* **Gaaba**

However a participant recommended that those who take herbal medicine should only take fewer doses because we have individual differences.

> *"To me I think herbal drugs should not be taken too much, and they should give lesser dose to patients to take because every human being has different mechanism so they should give lesser doses."* **Caaba**

The nurses were only interested in administering orthodox medicines and not herbal medicines.

> *"Our training at the nursing and medical school does not include traditional medicine* (Herbal Medicine). *We are more into orthodox medicine so that is what we have in our minds."* **Hila**

A participant was sad when she was posted to the hospital after training and saw a herbal unit.

> *Even when I came to this hospital and I realised that there was a herbal unit here, in fact I did not like it, I was sad.* **Caaba**

The nurses had reservations about where herbal drugs were prepared and the people who prepared them. The nurses thought herbal medications were not healthy for the current health system.

> *"To me I think herbal medicine is not good for our current health system. It's not healthy for our system because of where they prepare it and the kind of people who prepare it. Some of them prepare these lotions and things in their homes and sell it to us."* **Gaaba**

As part of the adherence counselling session at the Anti Retroviral Therapy (ART) unit, patients were discouraged by nurses not to add herbal medications to the antiretroviral drugs they were taking.

> *"At the ART Unit part of our adherence counselling session we discourage our clients from adding herbal preparations to the antiretroviral drugs. You know because some will just buy herbal medications outside the hospital."* **Aba**

4.6 Perceived factors influencing nurses in the clinical use of herbal medicine

To answer the third research question, "What are the perceived factors influencing nurses in the clinical use of herbal medicine?" the theme was perceived factors influencing nurses in the clinical use of herbal medicine. It was realised from the data that some of the factors identified were going to facilitate or make things easier for the nurses in the clinical use of

herbal medicine. The prescription of herbal medicines by doctors, availability of the herbal drug, patients' willingness and patients' financial state were going to facilitate the clinical use of herbal medicine. However in the presence of these enablers the nurses were faced with other issues which hindered their intention to serve herbal medicine. Some of the factors which were hindrances to the clinical use of herbal medicine were lack of knowledge, patients with negative mind-set towards herbal medicine, unclear integration of herbal medicine into mainstream health care and lack of publicity for herbal medicines in the hospital. Two subthemes emerged; facilitators and barriers as suggested by the theory of planned behaviour.

4.6.1 Facilitators of clinical use of herbal medicine

The findings showed that most nurses believed they were not responsible for prescribing medication. However, based on their knowledge in pharmacology they made suggestions to doctors for adjustments of medications where necessary. The decision to serve herbal medicine in the future was dependent on doctors prescribing it. The nurses were ready to serve if only the doctors prescribe.

> *"As nurses we do not prescribe medications. On a few occasions because of our knowledge in pharmacology sometimes we are able to suggest to doctors to adjust the dosages of some medications. It is not solely our decision to make to serve herbal medicine. It is reliant on doctors prescribing it; if the doctors prescribe I will serve"* **Aba**

> *"Once the doctor writes it, I am okay to serve."* **Eaaba**

However the nurses were also looking forward to the prescription written by the doctors and stamped in the patient's folder to facilitate administration of herbal medicine to patients.

"If the prescription comes in the doctor's handwriting, the doctor's stamp and written in the patient's folder; I will serve it" **Daaba**

Some participants elaborated that nurses who served medications without prescriptions were not going to be backed by the hospital authorities should the unexpected happen. The nurses expected their colleagues to be clear with the instruction on prescription before administering herbal medicine in the future.

"We only administer prescribed drugs so if the drug is not prescribed and you administer it and maybe there is some problem, I don't think the hospital will back you." **Lina**

"Nurses should be clear with the instructions concerning the prescribed herbal medication. If any nurse is not clear with the instructions, he should question the doctor who prescribed the medication." **Hila**

Nurses thought that if only patients could afford the herbal medication it will be easy for nurses to serve.

"If patients are able to afford the herbal medicine we will serve. If you are able to buy it we do not have problem than to serve. When the doctor prescribes for them and they buy it then we have no business than to serve it" **Eaaba**

"If the doctor prescribes the herbal medicine and the patient is ready to pay we will serve. " **Faaba**

According to the nurses, the patient's willingness and beliefs towards herbal medicine was also going to make it easy to serve the herbal medication. A patient with positive belief in herbal medicine was surely going to take the herbal medication and it will work for that patient.

"Patient's willingness to take it too will also count. I believe that the patient's willingness to take it will make it easier." **Daaba**

"It depends on the individual's beliefs. There are some people that no matter what you do they want to take herbal medicine. So such people if you give them fine it will work for them." **Eaaba**

Some of the nurses also stated that the availability of the drugs was very important in making it easy for them to serve herbal medicine. They were interested in the drug being continuously accessible.

> *"The availability of the drugs really matters. Sometimes you will want the drug to available so that you can serve but the supplies will not bringing it, you will have to wait. So if it will be made available not just given it and then you just forget about it. It should be continues not just starting and then breaking off for some months or years before revisiting it."* **Daaba**

A few of the participants said if herbal medicines were available, patients who patronised them and experience the efficacy of the medication would recommend them to others.

> *"It will help if the herbal medicine is available at the pharmacy. It will even encourage people to use it the more and if it works for them they will tell others to patronize it."* **Eaaba**

However, a nurse recommended that once nurses are mandated to serve the herbal medications, it should be made available.

> *"I think if it's going to be legally permitted for nurses to administer herbal medicine in the hospital, then the herbal medication should be made available for patients who opt for it."* Kay

4.6.2 Barriers of clinical use of herbal medicine

Almost all the participants in this study believed they lacked the necessary knowledge on herbal medicine which was perceived as the main hindrance to the clinical use of herbal medicine. The nurses felt uncomfortable to administer herbal preparations in the future regardless of the years they have been in the profession. The participants were expecting to be abreast with the knowledge on the uses of herbal preparations, types of herbal medicines and the routes of administration.

> *"We don't know much about herbal medicine so we are not very comfortable to administer it; we don't have much training and that is our main hindrance. If nurses have proper training on the use of herbal preparations; so that we become abreast with the knowledge on herbal medicine, I will serve."* **Aba**

> *"Our knowledge on herbal medicine is not enough; if we are to serve now then we need more education so that we will be knowledgeable on the types and the route of administration. Having been in nursing practice for so many years, I don't think the knowledge I have is enough."* **Faaba**

The nurses were not knowledgeable on herbal medicine because during their period of training at the Nurses Training College most of the nurses studied traditional medicine or herbal medicine for just a semester and it was not enough; nonetheless other nurses were not taught at all.

> *"When we were in school we were taught traditional medicine for only one semester."* **Daaba**
>
> *"You know my training, we did traditional medicines along the line but it wasn't enough."* **Lina**
>
> *"At school we were not taught to use herbal medicine, we don't even know the drugs, we don't know what they will do."* **Hila**

Participants stated they really needed education on herbal pharmacology because serving of herbal medicines involves human life which could be fatal and nurses needed to be cautious. They expected herbal pharmacology books to be available like that of orthodox medicines.

> *"We really need to be educated on herbal pharmacology to delve into critical issues. We are dealing with human beings and in dealing with human life you have to be very careful; every aspect of it is sensitive. The least mistake you do will cost somebody's life."* **Daaba**
>
> *"I think we need more education on herbal medicine. Just as there are books on orthodox medication pharmacology there should be books on herbal pharmacology for us to read so that we can administer."* **Kay**

In addition, participants were interested in the training because they thought it will help them to be knowledgeable in the efficacy of herbal medicine to deliver and be courageous in their service delivery.

> *"With time if we have education we can deliver."* **Faaba**
>
> *"You have to give us the training so that we know the efficacy of herbal medications and have the courage to serve our patients."* **Mina**

The nurses were sure education on herbal medicine would eradicate every negative feeling of the health professionals towards herbal medicine and make them confident to convince patients to use herbal medications.

> *"A doctor may not believe in prescribing herbal medicine to patients; a nurse may also not believe in it and will not serve. However through education their confidence would be built and they will serve it."* **Daaba**

> *"Well I believe the training and education will eliminate every uncomfortable feeling."* **Aba**

They expected the education to be in the form of workshops or in-service training and not necessarily going back to the classroom to be taught all over again. Jackie, Baaba and Kay had this to say;

> *"I think there should be more workshops or training; may be an in-service training for staffs before herbal medicines will be used on the ward."* **Jackie**

> *"I think may be through the organisation of workshops it will go down well with all staff."* **Baaba**

> *"I think we can organise workshops instead of going back to the classroom."* **Kay**

Conversely, some of the nurses suggested that once there are herbal doctors prescribing herbal medicines then they should have their colleague herbal nurses to administer. They expected the herbal nurses to be knowledgeable than non-herbal nurses. They suggested that herbal nursing course could be a postgraduate specialist course.

> *"Since there are herbal doctors trained at the university they should have their herbal nurses to administer herbal medicine. If they have herbal schools for nurses; for instance a postgraduate herbal nursing programme, it will be better."* **Hila**

> *"I think if herbal doctors train their own herbal nurses it will be better because some of the medicine, if you are trained and knowledgeable about it and you are serving patients it is more appropriate. They should have special training school for nurses who are interested"* **Iaaba**

Another barrier identified as hindering the clinical use of herbal medicine was publicity. Some of the nurses perceived that the hospital was not really promoting herbal medicine; even the public was alleged not to be aware of the existence of the herbal unit at the hospital.

> *"I do not think the hospital is promoting it. At the OPD information desk, sometimes they tell patients that we have herbal clinic at the top so those who are interested in herbal medicine go up stirs. However they don't announce it often"* **Eaaba**

> *"Most people don't know that we have a herbal section here; it's just a few people who know."* **Kay**

> *"Even at home people ask of the herbal unit because they don't know. I am the one who normally tells them we have a herbal unit in the hospital."* **Mina**

A staff at the herbal unit tried promoting a herbal lotion which was very effective for wound dressing but it did not get the necessary acceptance.

> *"A staff at the herbal unit came to tell us about asmesol. He said it is a herbal preparation used for dressing of wounds and it was good. I told him to inform the doctors because they prescribe wound dressing lotions. As for me if I go ahead and use asmesol to dress patients wounds, if anything bad happens, they will ask me why I used it instead of what the doctors prescribed."* **Eaaba**

The location of the herbal unit was also obstructing publicity of the herbal medicine. A participant narrated that the location of the herbal unit made it difficult for the unit to be seen. Patients interested in herbal medicine felt reluctant asking of the unit's location

> *"The problem is where the herbal unit is located; it should have been at a place where it can be identified easily upon entering the hospital. Some people feel shy to ask of where the herbal unit is; but if the person enters the facility and sees that this is the herbal unit the person will just go there without asking anybody."* **Mina**

Some participants expressed that the hospital should advertise its herbal medicine use because previously hospitals in general were not approving the use of herbal medicine by patients. They perceived patients may think the hospital was using them for clinical trials and the patients may attribute any fatal outcome to their use of herbal medicine.

> *"The hospital should promote its administration of herbal medicine because people know that hospitals condemn herbal medicine and discourage patients from using it. If this hospital is now serving herbal medicine then it should be advertised. Otherwise patients may think the hospital is using them for trial and any bad outcome may be linked to the hospital."* **Gaaba**

It was discovered that some nurses at the hospital were not fully clear or sure of herbal medicine integration in the hospital. The herbal unit seemed to be standing alone or separated from the mainstream health care and medical doctors were not prescribing herbal drugs.

> *"We don't know whether herbal medicine has been fully integrated into the healthcare system or they are standing solely on their own. We need to know whether the whole hospital has accepted to merge it with the orthodox medicine. We don't know whether to tell someone or recommend it to someone. It is not very clear whether there is a full integration or not, I don't know."* **Aba**

> *"It is like there is a barrier; the herbal unit is doing its own thing and we (*main stream healthcare*) are also doing our own thing. We are administering orthodox medicine and they are also giving their herbal medicine."* **Hila**

The nurses expressed that there was the need for all staff to collaborate; they needed to work as a team and tolerate each other to enhance herbal medicine usage. Every profession was to be considered equally important so that the staff could testify about herbal medicine.

> *"We should work together; we shouldn't look down upon each other. We should come to a consensus as to what we actually want to do. If we are initiating herbal medicine into the facility, then we should come together so that when the drug works we would testify about it."* **Baaba**

> *"There should be collaboration; if a patient wants to switch from orthodox medicine to herbal or herbal medicine to orthodox medicine, it should not create tension between herbal doctors and medical doctors. There should not be any disparity; likewise nurses and all other staff whether at the herbal unit or the mainstream healthcare should collaborate."* **Jackie**

The mind-set of a patient about herbal medicine was an additional barrier to the clinical use of herbal medicine. According to some nurses though the herbal drug may be

prescribed, a patient may decide not to take the drug and the nurse cannot coerce him or her to do otherwise.

> *"The patient can tell you he or she will not take the medication and it's a challenge."* **Baaba**

> *"A doctor may prescribe the herbal medicine for a patient but then the patient may not be interested in taking the medicine which can also be a challenge because you cannot force the patient."* **Daaba**

However a participant mentioned that when a patient refuses to take the herbal medicine, nurses must come to the patient's level and find means to convince him or her. The patient must be made to believe he is safe so that the patient can testify about herbal medicine in the future.

> *"When the patient is refusing the herbal medication, you have to come down to the patient's level and let the patient know what you are giving him/her. Let him know he is in safe hands and that he will be fine."* **Mina**

Some participants expressed that the state of a herbal drug to be served to a patient on the ward could raise suspicion in a patient. They stressed that if herbal drugs to be served at the hospital were prepared the way they are prepared in their homes, then patients would be suspicious and not use it.

> *"It will be a big challenge if it happens that we have to boil the herbal medication before we serve to patients on the ward. Some people are some way, even if it was me and you are bringing something to me in a cup, I will feel uncomfortable. The patient may feel uncomfortable with you pouring herbal medicine into a cup to serve him. Something you have poured from the nurses' station to the bedside. He or she would not be sure of what he is taking. The patient may think you have putting something bad in the medication."* **Eaaba**

Since the hospital was treating patients with herbal medicine on OPD basis, a participant thought that some patients may add other unapproved herbal medicines to what has been prescribed for them.

> *"A patient going home with prescribed herbal medicine will add some other herbal medicine to make his condition worse."* **Gaaba**

Absence of insurance cover for herbal drugs was also an impediment to the clinical use of herbal medicine. National Health Insurance Scheme (NHIS) was not covering herbal drugs prescribed at the hospital and this prevented people from patronizing the unit.

> *"Some people want herbal medicine but they don't have the money to buy it because herbal medicines are not covered by NHIS."* **Mina**

> *"The only thing that draws clients away from patronizing the herbal unit is the financial difficulty. The herbal medicines are not covered by NHIS; patients cannot bear the cost; most of them don't have enough to buy because they don't have the means."* **Nancy**

However a few of the nurses recounted that NHIS covered consultations with the herbal doctors but echoed that if NHIS covers herbal drugs it would be helpful since it covered orthodox medicine.

> *"I know for their consultations NHIS covers it but I don't know whether it covers the medications itself but if it covers the medication as well, I think it will also be a good idea because it covers modern medicine."* **Baaba**

However there were incidents at the hospital where patients came in with emergency conditions without money and relatives. They could not afford their drugs because the drugs were not covered by NHIS and the pharmacy was not serving the drugs for free. This could hinder the administration of herbal medicine.

> *"Some patients come with no relative and money; they come in the state of emergency. The doctor would diagnose and prescribe and there will be a problem as to how to get the medicine. The drug may is not covered by insurance; the patient may not have money and the pharmacy will not serve without the patient paying."* **Iaaba**

Some nurses expressed that if NHIS covers herbal medicines it would make it easy for other doctors (medical doctors) to prescribe herbal medicine and prevent patients from buying outside.

> *"If herbal medicines are covered by NHIS it will help, it will make it easier for doctors to prescribe if they want to."* **Aba**

> *"National Health Insurance covering herbal medicine, it will be good because people will stop buying outside and come to the hospital."* **Gaaba**

The majority of the nurses were not aware of policies or protocols that empowered them to serve herbal medicine in the hospital. Legally, the nurses felt they were not backed by law to serve herbal medicine.

> *"If there are protocols then I don't know because I have not seen one. Usually if there is anything like that out, they will circulate it in all units and departments but I have not seen anyone here yet so we don't have the policies."* **Gaaba**

> *"Of cause policies or protocols to cover nurses; if Ghana health service agrees to the administration or integration of herbal medicine to the normal system* (the orthodox medication), *the law should protect us, we should be backed by law before we start serving because there are no policies in place protecting us."* **Hila**

4.7 Behavioural intentions of nurses towards the clinical use of herbal medicine

To answer the forth research question "What are the behavioural intentions of nurses towards the clinical use of herbal medicine", the theme was behavioural intentions of nurses towards the clinical use of herbal medicine. The findings of the study revealed that the nurses had planned either to serve or not to serve herbal medicine in the hospital. Some also spoke about their reluctance to recommend herbal medicine to their patients and others were neutral in their decisions towards serving herbal medicine in the future. The subtheme that emerged was serving of herbal medicine.

4.7.1 Serving of herbal medicine

Some participants spoke about their preparedness to serve herbal medicine in the hospital once nurses are mandated to administer herbal medicine. The nurses considered the recovery of their patients as their primary responsibility and as such they were ready to serve once it has been requested.

"I will serve; I will serve as I have said I will serve the herbal medicine! I will serve it!" **Aba**

"I think ensuring the recovery of the patient is our principal obligation so definitely I will serve the patient's medication no matter what the medication is. If it is going to cure or improve the health of the patient, I will serve the herbal medicine." Jackie

Some of them stressed their readiness to serve more strongly by saying they would comfortably serve and do it confidently.

"As I've already told you, am ready to serve the herbal medicine if the time comes and we are supposed to administer on the wards." **Baaba**

"I will serve herbal medication comfortably! I will serve it confidently!" Nancy

However some participants stated that they would not serve herbal medicine in the hospital because herbal medicine has bad outcomes. They anticipated that serving of herbal medicines was going to be very difficult because of their training and they believed nurses' serving of herbal medicine was not going to happen.

"Left with me I will not serve herbal medicine because from what I've seen I know that herbal medicine is not good, so why should I give? When something bad happens I will be held responsible, so I will not serve. It will be very difficult to serve. I don't think it will be possible for now." **Gaaba**

"When I went to school, I wasn't taught to administer herbal medication so I wouldn't administer it. My personal reasons are that the outcomes I have mostly seen are bad." Hila

Some of the nurses expressed the fact that they would not recommend herbal medicine to their patients. They stated that it would not be easy to recommend it to clients because people complain a lot about it.

"I won't easily recommend herbal medicine to a client because I don't know much about it." Aba

"No! No! I will not recommend herbal medicine to anyone; I have not seen anyone use herbal medicine without complaining. **Gaaba**

A participant was neutral as to her intentions towards the clinical use of herbal medicine; she stated that she does not know what to say when it comes to nurses serving herbal medicine in the future.

> *"We are going to serve patients! I don't know what to say!"* **Iaaba**

Another nurse articulated that nurses who were not interested in serving herbal medicine should not let patients go without being served. Rather such patients must be attended to by nurses who are prepared to serve the herbal medication.

> *"The fact that we are different individuals someone might not be interested in serving herbal medicine and the fact that someone does not want to serve doesn't mean that nurses should let the person go, a different nurse may be prepared to serve the patient."* **Baaba**

4.8 Vending Herbal Medicine

Herbal medicines outside health facilities were vended in the various communities of the nurses who participated in this study and it was considered a normal practice. However it influenced the nurses in their intentions towards the clinical use of herbal medicine. Some were sold in cars, on the street and also by head porters. However the nurses as well as some other people in communities either laughed or sacked the vendors especially those sold in cars. Others also bought the herbal medication whereas others testified about it. Some herbal medicines are packaged in tubes, rubber envelopes, plastic containers and others with some labelled whereas the majority were not labelled. Two subthemes emerged which were Marketing and Packaging of herbal medicine. This theme was identified through content analysis. The theme is an extra theme and it is not related to the TPB.

4.8.1 Marketing of herbal medicine

Herbal drugs were sold at other places aside health facilities. Some were sold in cars, on the streets and by head porters. Some were also sold in the open market;

> *"Those thirty three seated buses which are from circle to Spintex you always get someone selling herbal medicine on it."* **Aba**
>
> *"I have seen people selling herbal products on the streets and in buses too."* **Nancy**
>
> *"Some sell in Apanpamu store (*head porters*) and some also on the streets."* **Faaba**

During vending, some vendors ask passengers who have used that particular herbal product previously to testify about the drug. Some also start by mentioning the conditions which only herbal drugs could heal;

> *"Sometimes before a seller starts selling they will ask someone who has used the medicine before to say something about it and sometimes they get people to testify about the medicine."* **Iaaba**
>
> *"The vender normally talks about the conditions in the country which cannot be cured by foreign drugs but their own herbal products."* **Caaba**

Some of the information given were centred on the fact that one herbal drug could cure more than ten diseases or several illnesses.

> *"They say one medicine can heal a lot of conditions; so many illnesses; that's what I know."* **Aba**
>
> *"Normally they mention one drug treating more than ten conditions."* **Faaba**
>
> *"He was saying it cures about ten conditions, he mentioned about ten diseases that it cures."* **Kay**

The nurses mentioned some of the conditions that vendors claimed their medicines could heal and all the conditions were said to be healed by just one herbal drug.

> *"They will tell you there are so many illnesses it can cure, piles, headaches, menstrual crumps, sexual weakness, so many all contained in one drug."* **Aba**
>
> *"Hypertension, diabetes the common one is stomach pains, conditions of the eye, so many conditions; one drug treating almost everything."* **Faaba**

However a participant mentioned that one herbal drug healing about thousand conditions was good because you would not need to take different drugs for different conditions at the same time. She was also concerned about drug to drug interactions upon taking more than one medication.

> *"It is good because if one drug is taking care of only one condition like headache and another drug is taking care of stomach ache, in the end one would take three drugs for three conditions and I am thinking about drug to drug interaction. There are some drugs that when you take you are not supposed to take other drugs to it because it will counteract its effectiveness. So I think taking a drug to take care of thousand conditions is good."* **Caaba**

Some vendors mentioned that their herbal medicines were not giving side effect rather they were boosting immune systems.

> *"He was like when you take this medicine it wouldn't have any effect on your liver or your kidney; the drug is like an immune booster to your system."* **Kay**

The information given by venders during marketing were said to be wrong and deceitful.

> *"Sometimes what the venders say is totally wrong; someone will say if you want all the phlegm in your system to be flushed out, take this medicine; it will take care of it. I don't understand and I believe their marketing information is totally wrong and lies."* **Aba**

A participant revealed some vendors mentioned that their herbal drugs were able to dissolve fibroids and that was considered as funny.

> *"Sometimes I hear some funny things from these traditional medicine people. They will tell you they have medications for treating fibroids; normally their medications are to dissolve fibroids."* **Hila**

Some of the vendors provided instructions on how to prepare and use the drugs as well as the route of administration. Others also added things to avoid when taking the medication.

> *"The man said when you want to use the herbs, get a fine stone then you grind it the herbs. After you add lemon but then you don't have to use knife to pierce the lemon, you have to use a wood to pierce it and then you apply it. You can even take it in through your nostrils."* **Baaba**

> *"The vender told them what they should not eat when they are using the herbal drug. So with mine, he said the enema should be given twice in a week and we should add sro wisa (*a herbal drug*) and ginger so it was grinded and he told me to divide it into five portions for use."* **Jackie**

Some passengers were instructed to place the herbal medicine in alcohol (bitters) before consumption and it was frowned upon by the nurses.

> *"Sometimes venders tell passengers to put the herbal medication in hard liquor. They put the herbal medication in a bottle and then pour hard liquor on it and that is supposed to cure something."* **Hila**

It was also discovered that some vendors sold books on herbal medicines and not the herbal drug itself, whereas others provided education on the drug itself and the conditions the drug could cure.

> *"We have people who also educate us in cars; they also sell books on herbal medicine. As for them they don't sell the drugs, they sell books which contain a lot of information on herbs and how they are used"* **Gaaba**

> *"They will educate you like this is made of either two or three herbs, then they will tell you the conditions that the particular medicine can cure."* **Eaaba**

The majority of the participants stated that, some vendors revealed they had no formal training on herbal medicines but inherited the business from their grandparents. Others also said their herbal drugs have been endorsed by some health personnel from some recognised health institutions.

> *"…Some of them will say they inherited the business of herbal medicine from their grandfathers. The vendors used that herbal drug to cure diseases."* **Jackie**

> *"They will tell you that they know nurses and doctors at a familiar hospital who have even endorsed the herbal medicine. A certain midwife from a well-known hospital has also endorsed it. "* **Gaaba**

However marketing of herbal medicine in the society was met with diverse feeling and reactions from nurses and passengers such as laughter and doubt. The nurses laughed at

the symptoms mentioned by vendors and believed one drug treating about twenty different conditions was not acceptable.

> *"When I hear that it's a remedy for 20 diseases, I just begin to laugh. How can one medicine cure kooko (piles), stomach ache, head ache, it does so many things. I begin to wonder how; it is not good at all."* **Nancy**

> *"Being a nurse when I listen to some of the symptoms and the way the vendors go about it, I laugh."* **Aba**

Most of the nurses did not buy herbal medicines sold in cars because they had no trust or faith in one drug healing several conditions. Other nurses did not patronise since the drugs were not having standard dosages.

> *"I did not buy it in the sense that I did not have faith or trust in the medicine because one medicine treating so many things no, so I did not buy it."* **Daaba**

> *"Mostly I don't buy those herbal drugs because they don't have any standard dosage, if it has then maybe I will be tempted to buy and try."* **Baaba**

Some nurses also felt bad when passengers bought herbal medications because they were not sure of what constituted the herbal medication and whether it would jeopardise the lives passengers. The nurses felt the Food and Drugs Authority should be monitoring vendors.

> *"Sometimes I feel bad because you don't know the kind of mixture that went into the medication and how dangerous it is. I feel very bad when I see people buying herbal medicines."* **Gaaba**

> *I get very worried. I am always concerned about it. The Standard Board should check people who sell herbal drugs.* **Hila**

Herbal drugs sold outside health facilities were doubted by some of the nurses. Participants considered those who vended herbal medicines in buses as quacks; their drugs were not researched into, not approved and therefore unsafe. The quacks were said to have blemished the image of herbal medicine.

> *"If it is those who sell in the bus, for me I know their herbal medicines are not safe; it hasn't been researched into and are not approved; a lot of things haven't been done."* **Lina**

> *"Those who sell in cars are the quacks and they've destroyed or tarnished the image of herbal medicine so I think herbal medicine is not even good for us."* **Gaaba**

As a result of the doubt expressed by the nurses, they thought that the street might be the worst place to purchase herbal medicine and such herbal drugs might be denatured and poisonous. The nurses believed those herbal medications have been prepared by quacks at unapproved places for their financial gain. The nurses considered such herbal medicines unwholesome.

> *"As for the street, I think it is the worst place you can buy a drug. Such medications are sold in the hot sun and the sun alone can denature the drug and make it toxic. People should avoid such herbal medications."* **Hila**

> "*It could be an unqualified person somewhere who is preparing the herbal medicine himself without any research. They are not wholesome because I don't know where he prepares it, where he is getting it from; it hasn't gone through any research."* **Lina**

> *"Outside, there is unemployment in the system so somebody prepares something for himself just to go sell and get some money."***Gaaba**

One of the nurses had a view that it is by luck that people buy good herbal medicines outside health facilities;

> *"If you are lucky, you meet the good herbal medicines."* **Eaaba**

The nurses mentioned that passengers were just testifying and buying the drugs; some were so convinced about the drugs and the information delivered by the venders. Others were familiar with the drug and the vender.

> *"Passengers are always convinced by all the things venders tell them so mostly they buy the drug."* **Hila**

> *"The passengers knew the drug and the vender so they were convinced that the drug was effective. People were just testifying about the herbal drug and they were buying it."* **Lina**

However some passengers questioned or challenged the vendors and where necessary those who had knowledge about herbal medicine condemned some vendors.

"Some passengers would ask questions but those who are not knowledgeable about herbal medications just buy. Those who are knowledgeable in herbal medicine and know it is not good condemned it." **Gaaba**

"I saw one guy in the car who got up to challenge the seller that he thinks what he was saying was wrong so he should keep quiet and sit down. He didn't know who he was so the gentle man kept quiet and sat down and after a few meters, he got out of the car. " **Hila**

4.8.2 Packaging of herbal medicine

Herbal drugs were packaged differently within the hospital and outside the hospital. Some of the nurses believed herbal drugs were properly packaged at the hospital. The drugs were packaged in small and larger bottles with labels specifying side effects and dosages.

"I think in our herbal unit, the drugs there are well packaged. They come with literatures, dosages and side effect. Everything is available." **Hila**

"We have a centre for herbal medicine and with that one the packaging is okay, it is well packaged and you can say that you know what they are used for." **Faaba**

"The herbal medications are in bottles, small and bigger bottles, not in gallons anyway." **Nancy**

Some nurses reported that they could not guarantee the efficacy of the drugs without labels. The package of a nasal inhaler which was purchased at the herbal unit was described as fantastic.

"If the herbal drug the patient is taking has no label then I cannot be sure that the drug is good." **Kay**

"The packaging of the nasal inhaler I took from the herbal unit was fantastic, I just like it. You just press the side and it will go up like pipe not like the one you squeeze into your nose. You just press it and it will flash into your nose." **Mina**

The package of herbal drugs sold outside health facilities were also described by nurses. The nurses had contrasting views on the packaging of herbal medicines outside hospitals. Some of the nurses said that some of the herbal drugs in their communities were nicely packaged whereas others thought they were fake herbal drugs, not well packaged and predisposed to contamination.

> *"They have packed it nicely so with the packaging there is nothing wrong about it"* **Iaaba**

> *"Some are fake herbal medicines; some are also okay but not well packaged. They can get contaminated."* **Hila**

In the communities herbal drugs were packaged in different items during vending. Most of them were either in bottles, polythene bags, and plastic envelopes or tied in plastic materials;

> *"Some are in plastic containers and some too they put them in small plastic envelopes and seal them."* **Eaaba**

> *"Some come in polythene bags and some are in bottles."* **Hila**

> *"Some were tied in some plastic things"* **Aba**

A participant added that some of the vendors packed their herbal preparations in horrible bags and still people purchased them;

> *"They have the herbal medicines in horrible bags; they just bring them out and say all sorts of things yet the people accept it."* **Hila**

Also, herbal drugs sold within the communities were labelled but some of the information provided on the labels were scanty; no dosage, no ingredients and no instructions on how to use it.

> *"Mostly the ingredients are not written on the container, the dosage is not there, they won't even specify how to use it."* **Baaba**

> *"There was no dosage; they have not written dosages, it is simply not there."* **Caaba**

Some labels had company names and phone numbers meant for customers to call before they start using the medication. Other labels also had pictures of manufacturers, directions and locations.

> *"Some have company names and also telephone numbers on them that you can even call before you start using the medicine for you to know the lines are reliable."* Daaba

> *"The herbal medicines were labelled. They were very clear with numbers, pictures, direction and locations."* **Gaaba**

However, some labels were obscure and could not be read, others were not written in English although Ghana has English as its official language. Some of the drugs were labelled in Chinese which both vendors and customers could not read.

> *"Some were packaged in packs that you can't even read, you can't even see or read the writings very well."* **Aba**

> *"There is this Chinese drug, it does not have an English name but it has a Chinese name. Even the one selling it cannot pronounce the name because they have written it in Chinese."* **Caaba**

The labels on herbal drugs depicted the quality of that herbal medicine. Some nurses were willing to buy herbal drugs with the Food and Drugs Authority's logo and other necessary information.

> *"…They only put labels on the herbal medicine to make you know that what they are selling is quality that is what I think. They put the label there for you to know that the herbal drug is quality and also to make the packaging attractive."* **Gaaba**

> *"I will take the herbal medicine if it has the label of the Foods and Drugs Authority with everything on it because if anything happens they can trace the manufacturers of that herbal medicine."* **Baaba**

Nonetheless some of the nurses recommended herbal drugs should be well packaged with labels and drug literature. The labels were to specify dosage, side effects, desired effects, storage, expiry date, manufacturer, indications and how to maintain its wholesomeness.

> *"It must come in a well labelled form with leaflets, expiry date, how to store, the kind of diseases it can cure and side effects so that when you are giving you know why you are giving."* **Gaaba**

> *"Like all other drugs, the herbal medicines must come with the manufacturer, expiry dates, dosages, adverse effects, desired effects and how it is supposed to be stored. Everything should be available on the drug well packed because you know some of these drugs; they are supposed to be packed well and sterile."* **Hila**

Herbal drugs sold in the communities were presented in different forms. Different plants were combined for one product. Some herbal medicines were in the form of capsules, syrup, creams and tablets.

"They use different herbs and then make a capsule, different herbs and then make syrup. With that may be you may for instance have pawpaw leafs, bark of Nim tree, Moringa, all those things being compound and then made into one product". **Baaba**

"Some were creams, syrups, and tablet others too came in the form of capsules". **Gaaba**

Others were in the form of powder, soap, pellets and ointments.

*"Some were just powder and others were soap".***Daaba**

"Some may be in the form of soap or small pellets that you can swallow." **Hila**

"There is ointment which is in the usual tube." **Nancy**

Some herbal medicines also came in their natural state; leaves, branches, tree barks and roots;

"The herbal medicines outside the hospital, they came in the form of leaves, branches and the bark of the tree, not well packaged." **Faaba**

"Some are just roots cut it into pieces and covered in a bottle." ***Nancy***

4.9 Contrasting herbal and orthodox medicine

Participants reported the differences and similarities between herbal and orthodox medicines. They spoke about how the two were stored differently, how they differ in side effects, the cost of herbal and orthodox medicine in Ghana and how the two were prescribed; and their dosages. In their homes, herbal medicines were stored in pots and they were preserved by boiling. Orthodox drugs on the other hand were stored in fridges or cool, dry places. Whereas herbal medicines were said to be natural without side effects, orthodox medicines were said to be full of chemicals with many side effects. Orthodox medicines were more expensive than herbal medicine but herbal medicines had no dosage whereas orthodox medicine had dosages. Four subthemes emerged and they were storage of herbal and orthodox medicines, side effects of herbal and orthodox medicines, dosage of herbal and orthodox medicine and cost of herbal and orthodox medicines. This theme is

an additional theme which was identified through content analysis and it is not related to the TPB.

4.9.1 Storage of herbal and orthodox medicines

The nurses demonstrated that they were very conversant with the storage of orthodox medicine in the hospital. They mentioned that some of the orthodox medicines in the hospital were stored exclusively in peculiar refrigerators; while other drugs were also left at ordinary room temperature;

> *"For orthodox drugs we store it in refrigerator, we have a peculiar refrigerator in which we store those drugs. We store only orthodox drugs; we do not put anything, not food nor water in such fridges."* **Caaba**

> *"We have some of the modern medicines that when you open you have to keep in fridge. Some others, you are supposed to leave it as it is"* **Baaba**

Some of the drugs were kept in the patients' lockers or in the patients' medication boxes in which only individual patient's medications are kept.

> *"We keep them in a box on the patient's locker."* ***Eaaba***

> *"We have patient's medication box which we keep individual medication in."* ***Jackie***

However, in their communities herbal medicines were stored differently. Almost all of them said herbal medicines were stored in pots and they were preserved by boiling or heating.

> *"You know those who prepare it in the house they have a pot in which they keep the herbal medicine but they boil it every morning to preserve it."* **Aba**

> *"He had this cooler, like a pot in which he keeps the herbal medicine but he boils it a little bit in the morning and evening. After taking some of the medicine when it is cold he covers the pot and keeps it the room. The herbal medicine was always kept in the pot."***Caaba**

The herbal medicines were kept in the pot continuously until the colour of the drug was changed upon which the herbs were replaced.

> *"I think they use the change of the colour to change the herbs otherwise they are always kept in the pot."* Jackie

Other herbal medicines were stored in a cool and a dry place upon the instructions of vendors.

> *"The only information they wrote in English was store at a cool place likewise, the malaria drug was also to be store at a cool place."* **Caaba**

Despite the different means by which orthodox drugs and herbal medicines were stored, nurses were willing to follow the instructions concerning storage of herbal medicines in the hospital as given by manufacturers.

> *"Depending on the manufacturers' instructions on how to store, you store it as such. It wouldn't be a problem. We have lockers and then fridges on the wards so if it demands that we keep it refrigerated we just keep it refrigerator."* **Baaba**

> *"The manufacturer's instructions are what we should follow. If the manufacturer says store in a cool dry place, store in a warm place, store in the fridge, wherever, we go by it."* Hila

Nonetheless, they indicated that herbal drugs that were to be stored in the fridge should be stored alone in the fridge. They were also concerned about the effectiveness of the herbal medicine after storage in the fridge.

> *"We should not mix orthodox medicine with herbal medicine. You should have a different refrigerator for herbal medicine and a different one for the orthodox ones. We should not mix it. It also depends on how effective the drug is going to be if the drug is placed in a fridge, if only its effectiveness could be maintained."***Caaba**

A participant recommended that, wheather herbal and orthodox medicines were to be stored together in a fridge or not, kept away from sunlight, or stored at room temperature, it should be based on research recommendations.

> *"If we can mix herbal medication and orthodox medication if they need to be refrigerated, if the two of them can be kept in the same fridge, fine. If they need separate places or they need special places to be stored, may be away from sunlight or stored at room temperature should be based on decisions; the decisions should be based on what researchers recommend."* **Jackie**

4.9.2 Side effects of herbal and orthodox medicines

The nurses mentioned that orthodox medicines have a lot of side effects than herbal medicine which are considered as natural without side effects.

> *"Orthodox medicine, some have side effect but that one is stated clearly on the label, even the doctor might tell you. Herbal medicine is the best, it is natural, has no side effects, me I don't see any side effect."* **Nancy**

> *"Herbal medicine is natural so it has no side effect but with orthodox medicine, though it will cure you, in the end it will give you some side effects."* **Lina**

A few of nurses also thought both herbal and orthodox medications have side effects.

> *"I think both herbal and orthodox medications have side effects"* **Daaba**

> *"Every drug has a side effect, everything that we take has a side effect but its adverse effect is what is not good."* **Jackie**

Although some of the nurses believed herbal medicine was natural and had no side effects some of the nurses had experienced some side effects of herbal medicines after usage. Side effects such as anuria and heart burns were reported.

> *"I took a herbal malaria syrup and according to the side effects written I was to urinate a lot. So I started urinating frequently; but a time came I was not urinating again even though I was taking the drug. In a whole day I could urinate once."* **Caaba**

> *"When I gave birth to my first child my mother gave me some herbal medication meant for healing all the wounds I suffered during delivery. I took the herbal mixture and I suffered a very severe heart burns. It was so severe that I couldn't do anything, I couldn't even breast feed that day."* **Gaaba**

Some of the nurses were witnesses to some people who had suffered the effects of herbal medicines and reported at the hospital with complications. Those patients came with complicated swelling conditions and typhoid perforations in very critical states; some of them lost their lives.

> *"What I see even in my ward, they always come in complicated and bad state. Sometimes we even lose some of them. In my ward a lot of people report with complicated swelling conditions. They attribute the swellings to witchcraft and they*

believe it can only be resolved by herbal medication not orthodox medication. So the moment they see swelling, they go and put all sorts of herbs on it. They always come in a bad state." **Hila**

*"I have seen people who take herbal medicine and they died, some in the theatre and they don't make it. I remember a patient came with typhoid fever and he was receiving treatment and decided to go home. The patient started treating with herbal medicine and reported back to the hospital a few weeks later. Immediately the patient was rushed to theatre for surgery but he lost his life."***Gaaba**

In their neighbourhoods, some of the nurses had heard of people whose conditions became worse after taking herbal medicine. One of such was a woman who became blind after using herbal medication for a simple eye problem.

"I heard of a woman who was having eye problem and she used a certain herbal preparation she bought in a car, she bought that drug for a simple eye problem but she became blind." **Faaba**

4.9.3 Dosage of herbal and orthodox medicine

In their communities, most of the nurses observed that herbal medicines that were taken in had no dosages; especially those who used leaves and barks of trees.

"People just cook bark of trees and leaves and then grind them. They were just drinking it anyhow without dosage." **Lina**

"There was no limit, what they do is that, they just take the herbal medicine, after boiling they just pour a calabash full and they will just be drinking." **Iaaba**

Although herbal medicines have no dosage, orthodox medicines had dosages which were clearly stated. Some participants feared the side effects of herbal medicines on the kidneys and liver because herbal medications had no dosage.

"Herbal preparations have no dosage unlike orthodox medicines; even if it is a paracetamol in a sachet you can read that each tablet contains 500mg acetaminophen so I know what I am ingesting. So that's why I am a bit shaky when it comes to herbal preparations. Usually the reason why I am not very comfortable is that because there is no dosage and we don't know if what it contains can affect the liver and the kidneys." **Aba**

The dosages of herbal medications were not supposed to be a problem in the clinical use of herbal medicine because herbal medicines at the hospital had dosages.

> *"Herbal medicines at the herbal unit have dosages so I do not see why it should be a problem if we are serving it in the hospital. If the patient is to take let say10mls three times a day, all we need is to check the cup and measure, it shouldn't be a problem."* **Nancy**

> *"I think it is the same thing with orthodox medicines too. They also pass through the same process and the dosages are adjusted for people to take."* **Jackie**

A few of the participants further indicated that if herbal drugs go through proper research, right dosages could be given for them to clinically use herbal medicine.

> *"If researchers take their time and go through herbal medicines properly, the right dosages will come out and we will use it because most patients like it and they even request for it"* **Jackie**

4.9.4 Cost of herbal and orthodox medicine

Some of the nurses believed herbal medicines were cheaper than orthodox medications although the prices of herbal medications kept on rising. They compared the cost of an orthodox drug and herbal medicine which served the same purpose.

> *"Comparing the herbal medicine I took for asthma to salbutamol, the salbutamol is expensive than the herbal medicine."* **Caaba**

> *"The cost is cheaper than the orthodox one. It doesn't cost much but the prices keep rising."* **Nancy**

Some also said herbal medications were expensive.

> *"You know the herbal medicines too they are very, very costly."* **Faaba**

> *"The herbal medicine I bought recently was expensive. "* **Eaaba**

Nevertheless, a participant thought that the cost of herbal medicine is relative because individuals may perceive the cost differently.

> *"It is relative, what might be expensive to me might not be expensive to the others. It all depends on the pockets of our patients. So it been expensive or not, we have to weigh the pockets of our patients to know if it is expensive or not"* **Jackie**

4.10 Summary of findings

The findings showed the subjective norms that influenced nurses in the clinical use of herbal medicine, their attitude towards it, the perceived factors influencing them and their behavioural intentions towards the clinical use of herbal medicine and these were consistent with the TPB. Other results that were discovered through content analysis included vending herbal medicine and contrasting herbal and orthodox medicine and these were not consistent with TPB.

The subthemes that emerged in this study were beliefs of nurses about herbal medicine, motivation to serve herbal medicine, positive attitudes towards the clinical use of herbal medicine, negative attitudes towards the clinical use of herbal medicine, facilitators of clinical use of herbal medicine, barriers to the clinical use of herbal medicine, serving of herbal medicine, marketing of herbal medicine, packaging of herbal medicine, storage of herbal medicine, side effects of herbal medicines, dosage of herbal medicine and cost of herbal medicine. The various subthemes provided a detailed description of participants' perceptions about the clinical use of herbal medicine and they were supported with quotes which portrayed participants' narrations.

The study discovered that nurses believed herbal medicine was God-given for the healing of sicknesses. They considered the serving of herbal medicine in the future as an act that has been approved by the hospital authorities because they have allowed it to be served in the hospital. Some of the participants were self-motivated to serve it and others showed a positive attitude towards the clinical use of herbal medicine by patronizing herbal drugs from the herbal unit in the hospital. Conversely, some nurses were not interested in herbal

medicine and were not going to use it for anything. Some of the nurses believed their serving of herbal medicine in the future would be facilitated by doctors prescribing the herbal drug but they lacked the necessary knowledge on herbal medicine. Some of them had the intention to serve herbal medicine in the hospital but others were not willing and the rest were neutral.

In their communities, herbal medicines were sold mostly in buses but some of the venders deceived the public. The herbal drugs sold in cars were not well packaged but the ones in the hospital were considered to be well packaged with labels. The nurses said they would be able to store herbal medicine on the ward but then it would depend on the manufacturer's instructions. Both herbal and orthodox medicines were said to have side effects however herbal medicines normally came without dosage but orthodox medications had dosages. The cost of herbal medicine was also said to be less expensive compared with that of orthodox medicine.

CHAPTER FIVE

5.0 Discussion of Findings

5.1 Introduction

This chapter discusses the findings of the study with references to the relevant literature in order to relate findings to the context of nursing knowledge. The discussion commences with the demographic profile of the nurses and subsequently followed by the main themes in this study which were organised by the TPB. The themes included subjective norms influencing nurses in the clinical use of herbal medicine, attitudes of nurses towards the clinical use of herbal medicine, perceived factors influencing the clinical use of herbal medicine, behavioural intentions towards the clinical use of herbal medicine, vending herbal medicine and contrasting herbal and orthodox medications.

5.2 Demographic Profile of Participants

The nurses who participated in the study comprised both the young and the old; they were within 18 - 60 years age range. This means all participants were adults since one is considered an adult at age 18 in Ghana. All participants were urban dwellers with almost common educational background. Their number of years of practice was between four to forty years with their average number of years in the field of nursing being 11.6 years which means the participants were rich in nursing experience.

Participants were all female because male nurses did not volunteer to be participants. A lot of studies on CAM have shown much female involvement than men. Although all the nurses were female, to some extent it was consistent with the studies by Shorofi and Arbon,(2010) and Hussain et al., (2012) since the female participants are more than the males. In the study by Shorofi and Arbon, (2010) the percentage of female who participated were 90.1%, with

male being 9.9%. According Hussain et al., (2012) 81% of participants in their study were female whereas the male participants were 66%. Therefore, researchers in herbal medicines and CAM in general should device means to get more male involved in herbal medicine studies so that their opinions could be explored.

All fourteen participants in this study were Christians. This may suggest that Christianity advocates herbal medicine use which is consistent with the study by Ngetich, (2014) in Kenya. She indicated that most of the participants were Christians, Hindus and African Traditional Religion. All participants in the Christian, Hindu and African Traditional Religion were using herbal medicine. All participants being Christians may originate from the fact that Ghana is largely dominated by Christian religion that is 74.1% of Ghanaians are Christians (Ghana Statistical Service, 2012).

5.3 Subjective Norms that Influenced Nurses in the Clinical use of Herbal Medicine

Societal norms such as beliefs and practices, opinions of significant people and motivational factors within one's immediate environment may influence his/her quest to enact a behaviour. The beliefs expressed by the majority of the nurses in this study were not related to healthcare delivery system rather their religion and tradition. The nurses believed herbal medicines are God-given which are for healing; and their ancestors used it before the onset of orthodox medication. The finding is supported by a scripture in the Bible which states in Ezekiel chapter 47 verse 12 that "All kinds of trees providing food will grow along both banks of the river. Their leaves will not wither and fruits will not fail. Each month they will bare fresh fruits because the water comes from the sanctuary. Their fruits will be used for food and their leaves for medicine" (Holman Christian Standard Bible, 2005 p.1186). It can be inferred that because the nurses were Christians they were influenced by what their bible taught them and this might have contributed to their positive subjective norm towards the clinical use of

herbal medicine. The nurses' belief about their ancestors use of herbal medicine is consistent with the study by Adjei, (2013) which discovered that participants believed that their ancestors exclusively used herbal medicine in the past. The nurses believed that the only drug that was available during the era of the ancestors was herbal medicine and their ancestors preferred herbal medicine as their choice of treatment. This may mean that their ancestors used herbal medicine for their healing and treatment of ailments in the past and survived. This may suggest that the nurses may believe there is some amount of efficiency in herbal medicine and that might contribute to their positive subjective norm.

The finding in the study depicted that nurses believed patients, nurses, the nursing profession, hospital authorities and the government would approve their clinical use of herbal medicine. The nurses mentioned that their profession permits serving of medications and the patient also has a right to decide which form of treatment to use. Once the patient decides to use herbal medicine, it connotes the patient's approval and the profession requires that they serve the herbal medicine. The patient approving the use of herbal medicine by making a decision to be served with it means the patient has made a choice and this is consistent with the finding by Wilson and White, (2011) who also suggested that some patients may approve of the use of CAM. In the study by Trail-Mahan et al., (2011) the nurses believed patients have the right to make a choice; whether to be treated with CAM therapies or orthodox medicine. Meaning the patient is responsible for his choice of treatment and nurses respect that. This stems from the fact that the ethics of nursing profession teaches its professionals to respect the autonomy of their patients (Rahmani et al., 2010). Nurses do not impose therapy upon their patients. The caring nature of the nursing profession makes nurses interested in the wellbeing of their patients which is directly linked with the care nurses give to their patients (Papastavrou et al., 2014). So long as the choice of therapy is going to help in the recovery of

the patient, the profession allows nurses to use their discretion and serve that medication (Adipa et al., 2015; Aziato & Adejumo, 2014). However approval from the government and the hospital authorities were not supported in the study by Wilson & White, (2011).

The factors that were going to motivate the nurses in the formation of their intentions whether to serve or not to serve herbal medicine in the future were both extrinsic and intrinsic factors. Extrinsically, the nurses would be motivated by the packaging of herbal medicines, patients' recovery and their previous or past experiences with herbal medicine. Intrinsically, the nurses were self-motivated to serve herbal medicine in the future. The nurses expected herbal medicines to be properly packaged with labels, indications and dosages in order to serve the herbal medicine. Once the patient recovers after taking the herbal medication it was expected to motivate nurses to serve herbal medicine. Some of them would also be motivated to serve based on their experiences with herbal medicine; that is when the herbal medication works for them and others. The finding on previous experience being a motivational factor was supported in the study by Ngetich, (2014) who also discovered that previous use of herbal medicine motivates pregnant women in Kenya to use it again in their subsequent pregnancies. The previous experiences of the nurses would inform their future use of herbal medicine hence the finding in this present study is consistent with the finding of Ngetich, (2014) .

It can be inferred from the study by Godin et al., (2010) who reported that the intentions to encourage CAM therapies among general practitioners would be motivated by the effectiveness of CAM. That is the general health practitioners were expecting CAM to be effective to make it easier for them to encourage it. In this present study, the nurses were expecting patients' recovery from their ailment after taking in herbal medicine to motivate them to serve. This means the nurses in this study were expecting herbal medicines to be effective and this was to be evident by their patients' recovery. Although patients' recovery

was a motivational factor to comply with serving of herbal medicine in this present study, belief in the effectiveness of CAM was a facilitator for general practitioners to encourage the use of CAM. The finding in this study is indirectly supported by the study by Godin et al., (2010). The expectation of the nurses about the effectiveness of herbal medicine suggests that some nurses are not cognizant of the state of herbal medicine's effectiveness hence they may be indecisive in their intentions towards the clinical use of herbal medicine. Therefore producers of herbal medicines should explicitly declare how effective herbal medicines are to clear the minds of health professionals towards herbal medicine use in the hospital.

5.4 Attitudes of Nurses towards the Clinical use of Herbal Medicine

The feelings and thoughts of an individual constitute his attitude which is revealed in his actions. The majority of the nurses demonstrated positive attitudes towards the clinical use of herbal medicine. Some of the nurses were confident in the effectiveness of herbal medicine so they used it. A few of the nurses combined both orthodox and herbal medications and were ready to discuss herbal medicine with their physicians. Some of them were willing to give herbal medications to their children; others were already giving it to their relations. The nurses report of their personal use of herbal medicine is similar to the findings in a number of studies which indicated that health professionals use of CAM (Avino, 2011; Holroyd et al., 2008; Kanadiya et al., 2012; Stange et al., 2008). This may indicate that there is a worldwide use of herbal medicine among health professionals and nurses in Ghana are not exempted.

The nurses who combined herbal medications with orthodox medicine is consistent with the finding by (Holroyd et al., 2008; Osemene et al., 2011; Stange et al., 2008) whose participants also combined CAM therapies with orthodox medications. Such nurses might not be sure of the effectiveness of herbal medicine hence they combined with orthodox medicines so the herbal medicine would complement the orthodox medications. The nurses might have

also had an exposure to herbal medications in the past and were confident they would not suffer any drug to drug interaction. Like the participants in the study by Holroyd et al., (2008), the majority of the nurses in this study were sure of the safety and efficacy of herbal medications and that was why they combined herbal and orthodox medications.

The nurses who were willing to give herbal medications to their children and those who were already giving it to their relations is in conformity with the finding by (Osemene et al., 2011). They reported that some parents give herbal bitters to their children in Nigeria. Among the nurses who were willing to give or were giving herbal medicine to their children were those who were already using herbal medicine and felt it was effective. This may suggest why they will give or were giving the medication to their children because herbal medicine worked for them. However such parents should be educated to beware of the appropriate herbal drugs to be given to their children.

Whereas some nurses were not sure of the effectiveness of herbal medicine, other nurses were confident in the effectiveness of herbal medicine. These nurses mentioned that herbal medications are potent. This finding is in line with (Adjei, 2013) who also discovered that the people that is the general public in Wassa, Ghana believe that herbal medicines are potent. However (Jarvis et al., 2015; Lie et al., 2008) reported that the effectiveness of CAM is not absolute and it is dependent on the person who uses it and the condition it is used for. Holroyd et al., 2008 reported that some nurses in Australia (79.9%) believe that CAM therapies cannot treat acute conditions. This may imply that nurses and the general public hold diverse views on the effectiveness of herbal medicine. For instance those who suffered dysmenorrhoea and catarrh which were all acute conditions and recovered by the use of herbal medicine would believe in its effectiveness against acute conditions. Nevertheless, a

participant whose relative recovered from stroke after using herbal medicine would believe herbal medicine is effective for chronic conditions (Adjei, 2013).

Some nurses knew people who treated infertility with herbal medicine and it was effective. Herbal drug treating infertility was supported by (Adjei, 2013; Quiroz et al., 2014; van Andel et al., 2012). They indicated that some vendors and the public believe herbal medications can treat infertility. There may be very active ingredients in herbal medications that may cure or heal certain conditions as suggested in this study. It is important for much investigation to be conducted into herbal medications to identify their active ingredients.

Some of the nurses also believed that herbal medications are effective for about 20% of the conditions in Ghana; implying orthodox medications may not be healing all conditions as such herbal medications may be very important. This finding is in sharp contrast with the finding by (Bjerså et al., 2011) who reported that some health professionals in Sweden thought the available western medications are sufficient hence there is no need for additional therapies to be included in the care of patients. This may imply that herbal medicine may or may not be of importance to all health workers in the world.

The majority of the nurses in this study were optimistic that herbal medications served at the hospital were scientific. However in Sweden, Australia and Israel, CAM therapies used in hospitals were not considered scientific (Bjerså et al., 2011; Holroyd et al., 2008; Samuels et al., 2010). Although the scientific basis for some types of CAM are difficult to determine Antigoni & Dimitrios, (2009), the scientific basis for herbal medicine which is a type of CAM can be determined. In Ghana, there is a centre for investigating plant medicine; that is Centre for Scientific Research into Plant Medicine (CSRPM) and they supply hospitals with herbal medications; and that might have contributed to the positive attitude of nurses. It is

important for the CSRPM to be maintained for more research into plant medicine since the majority of the countries worldwide have not reported such facilities. Again, the vegetation in Ghana might have helped in the maintenance of the compositions of herbs making them very potent with all its active ingredients intact.

The nurses demonstrated that the herbal doctors at the herbal unit were credible. This was because the nurses knew that they trained at one of the state owned universities and they were qualified and certified to practise herbal medicine. The nurses trusted that the herbal doctors were not counterfeit and some believed that the presence of herbal doctors at the hospital prescribing herbal medications was safe. Jarvis et al., (2015) reported that some health practitioners were not aware of the qualification of CAM practitioners however Audet et al., (2012) reported that some traditional medicine service providers had little formal education. These suggestions are inconsistent with findings in this present study however Maha and Shaw, (2007) reported a CAM service provider at Bristol was a qualified medical doctor who specialised in CAM. This may imply that worldwide the academic qualification of herbal medicine service providers may vary.

The onset of herbal medicine services in the hospital of study was going to be of benefit to patients. Some of the nurses assumed that they would be responsible for educating patients about their herbal mediations. This may suggest that patients who patronise the herbal unit would now receive free health education on herbal preparations. The nurses were sure that the hospital was the safest place to administer herbal medicine. The nurses being aware of their responsibilities is inconsistent with the finding by (Trail-Mahan et al., 2011) who reported that some nurses were not aware of their responsibilities in the integration of CAM into conventional health care delivery system. The nurses were not aware of their responsibility to educate patients on their choice of CAM. Nevertheless, the nurses in this

current study knew that nurses would educate patients who opted for herbal medications as their choice of treatment. Education of patients is a very important routine activity of nurses in the hospital (Friberg et al., 2012). Therefore once nursing services are obviously needed in the care of patients on herbal treatments, nurses must reflect on all their responsibilities and discharge them one after the other and above all educate their patients (Friberg et al., 2012). However, nurses cannot educate their patients on a therapy they are not knowledgeable about. Before assigning any responsibility on herbal medications to nurses; authorities must first find out how prepared the nurses are (Shorofi & Arbon, 2010).

Another benefit that was to be enjoyed by patients upon clinical use of herbal medicine was an improvement in the quality of care received by patients who were formally receiving herbal medical care from unapproved places. Joos et al., (2008) reported a similar finding which is related to the thought expressed by the nurses in this study. Joos et al., (2008) suggested that some health practitioners in Germany believe that the integration of CAM services into the mainstream health care would augment the quality of care received by patients who opt for CAM. This suggests that because only qualified personal trained in herbal medicine would administer or prescribed it in hospitals, the quality of care would improve since providers would administer specialist care. Again, it may imply that healthcare professionals are looking forward to the improvement in the quality of care received by patients on CAM.

A few of the nurses had some resentment towards the clinical use of herbal medicine. Some of them were not interested in herbal medicine unless that was their last option. The nurses had no interest in herbal medicine because they were influenced by the nursing training they had. They believed they were only trained to administer orthodox medications. This is similar to what Lie et al., (2008) reported that some medical students were not interested in any

CAM therapy and mentioned that CAM would not be their first option if they had to select a therapy. However Lie et al., (2008) did not report why the medical students were not interested in CAM. It may be suggested that lack of interest in herbal medicine or CAM among health professionals might have existed right from their period of training. It may be important to review the curriculum for training health professionals to enhance their attitudes towards herbal medicine.

The nurses also had no confidence in the places where herbal medications were produced. Although the CSRPM was rigorously investigating into plant medicines, some of the nurses had no trust in herbal medications. Some of them thought that herbal medicine was not good for the current health system and this was supported by Hussain et al., (2012). They reported that some pharmacy students in Pakistan believe herbal medicine is dangerous to the health status of the general public. It implies that some health professionals and health trainees fear that herbal medicine and CAM can have a negative effect on patients. This may negatively impact the clinical use of herbal medicine.

The finding that some nurses were only interested in administering orthodox medication and not herbal medicine is almost similar with findings by (Bjerså et al., 2011). They reported that physicians maintain that the current orthodox medications in the health system are enough and there is no need for additional therapies. This may suggest that some nurses likewise the other health practitioners (Bjerså et al., 2011) believe that the current orthodox medicines are enough for healthcare delivery. They may not see the need for herbal medicine integration into conventional healthcare and that may impede the clinical use of herbal medicine.

5.5 Perceived factors influencing the clinical use of herbal medicine

These are the factors that will enable or impede the nurses' ability to administer or recommend herbal medicine in the future. The nurses revealed that when the doctor prescribes the herbal medication they would serve. The patients' willingness to take the herbal medication and their beliefs about herbal medicine were to facilitate nurses' administration of herbal medicine and finally the availability of the herbal medication was also going to motivate the nurses.

The finding on doctors' prescription of herbal medication facilitating the clinical use of herbal medicine is similar to the finding by (Aziato & Adejumo, 2014). They discovered that prescription of medication is a responsibility of a doctor by law. Nonetheless, during emergency, when doctors are not around, nurses give some emergency drugs such as analgesics using their discretion (Aziato & Adejumo, 2014). For nursing care activities in Ghana, nurses take prescriptions from doctors because it is the doctors' responsibility (Aziato & Adejumo, 2014). In Ghana before nurses can serve a familiar medication in the hospital, it is first prescribed. Since serving of herbal medicine is something new being integrated in the hospital, the nurses would need the prescription to make it easier for them to serve.

The patients' willingness to take the herbal medication was also expected to make it easier for the nurses to serve. This finding is similar to the finding by Wilson et al., (2012) who reported in their study that some psychologists are not willing to refer their clients to CAM practitioners. The psychologists are thinking that they would be forcing their clients into CAM if they refer them to CAM practitioners. Patients have the right to make the choice of treatment they prefer (Trail-Mahan et al., 2011). Once a patient is willing to take the herbal

medication it would be easy for the nurse to serve. It may be necessary for health professionals to know how willing patients are if they have to take CAM or herbal medicine.

The patients' belief about herbal medicine is also very important in facilitating serving of herbal medication in the hospital and it is consistent with the finding by Lie et al., (2008). They reported that individuals with positive belief about CAM are likely to experience a good outcome with CAM use. A patient with a positive belief about herbal medicine may express request for it before the doctor prescribes. Once the opportunity is given to the patient to decide on the choice of treatment, he may not question the type of treatment or show resistance towards the medication because that is the choice he/she has made. Once a patient's positive belief about CAM would yield a good result Lie et al., (2008) then it may imply that the patient may readily take the herbal medication and that would facilitate the clinical use of herbal medicine.

Herbal medication availability is also an important factor to facilitate the clinical use of herbal medicine. According to Ngetich, (2014) the availability of herbal medications motivated some pregnant women to use it again in their subsequent pregnancies. Implying that, the availability of herbal medicines is important to both health personnel and patients. In this present study the nurses were expecting herbal medications to be available to facilitate its administration. However pregnant women in Kenya needed herbal medicine to be available to motivate them to use it again Ngetich, (2014). This may mean that herbal medication availability may be of different importance to nurses and patients. The present finding is indirectly consistent with Ngetich, (2014) since the need for the availability of herbal medication is facilitator for clinical use of herbal medicine in current study. Nonetheless the need for herbal medicine to be available was a motivational factor in the study by Ngetich,(2014).

The majority of the nurses felt that they were not knowledgeable about herbal medicine and its administration in the hospital; thus the nurses reported lack of staff training as a challenge to the clinical use of herbal medicine. This finding is consistent with a number of studies which have reported lack of staff training on CAM (Avino, 2011; Godin et al., 2008; O'Connor & White, 2009; Wilson et al., 2013). This may suggest that the curriculum for training nurses and other health professionals does not have enough content on herbal medicine and herbal pharmacology hence it would impede their serving of herbal medicine. If nurses are supposed to educate patients on their choice of therapy Trail-Mahan et al., (2011) and they lack the necessary training and knowledge then it would be difficult for them to educate patients.

The nurses further recommended that they should be trained in the form of workshops and not necessarily going back to school. They thought that education on herbal medicine would erase the negative thinking on herbal medicine. This finding was not supported by (Hussain et al., 2012; Wilson & White, 2011) who submitted that their participants; pharmacy students and practising psychologists respectively were not willing to learn about CAM. The students were not willing for CAM to be added to their curriculum whereas the practising psychologist thought they have spent too many years learning to become professionals. In Sweden, some health care professionals resisted CAM and were not ready to hear or learn anything about it (Bjerså et al., 2011). However some physicians in Jordan were enthusiastic to learn about CAM Al-Omari et al., (2013) and this is not different from the finding in the present study. This may be an indication that the level of readiness of health workers to learn about herbal medicine may differ among health personnel. Whereas others are ready and willing to learn about herbal medicine others are not ready to learn about it.

Some nurses thought that the herbal doctors must have their colleague herbal nurses to administer the herbal medications. This finding is consistent with van Haselen et al., (2004) who submitted that some primary health care providers suggested that CAM services should be provided by people who are not registered by the state. This means, the primary health care providers were not expecting current health professionals in their hospital to administer CAM. This is comparable to the present findings in which the nurses were expecting some new group of nurses; that is herbal nurses and not current nurses to administer herbal medicine to patients.

The nurses again reported that the herbal unit was not well publicized. They thought that the hospital was not promoting herbal medicine and where the unit was located obstructed its publicity. In Sweden because funds are not available to research into CAM, it is not well publicized Bjerså et al., (2011). On the other hand in Nigeria herbal medicine is better known than orthodox medicine (Osemene et al., 2011). The present study did not report why publicity of herbal medicine was a challenge; it may be due to lack of staff training at the hospital. Since the nurses lacked knowledge on herbal medicine and its pharmacology, they might not have been aware of what they were to tell the public. The inability to advertise the herbal unit is consistent with Bjerså et al., (2011), but this finding is not similar to that of (Osemene et al., 2011).

Another challenge discovered was about the integration of herbal medicine into the mainstream health care. The nurses reported that they were not clear about the integration hence it was difficult for them to tell people about the clinical use of herbal medicine. It was as if there was a barrier between the herbal unit and orthodox care. The herbal unit appeared standing alone and separated from the hospital. The nurses expressed the need for collaboration and tolerance between the staff at the herbal unit and those in conventional

health care. The finding is comparable to what Bjerså et al., (2011) reported that some health professionals in Sweden stress the need for a cooperation between CAM practitioners and mainstream health care providers. They were expecting the conventional health workers to initiate the collaboration in order for them to acquire knowledge. Health care professionals work as a team because it is very important in the delivery of healthcare (Leggat, 2007). The staff at the herbal unit will need the medical doctors, nurses, laboratory, pharmacy and x-ray department otherwise they cannot give complete healthcare (Manser, 2009). This may imply that healthcare professionals are looking forward to working in collaboration with herbal medicine practitioners.

The patients' mind-set about the herbal medication was an additional hindrance to the clinical use of herbal medicine. The mind-set of the patient may be informed by the beliefs and norms in their societies. If the beliefs are positive about herbal medicine then the patient may have a positive attitude towards it because the patient would be certain of recovery. However patients with negative beliefs would refuse the herbal medication and that would be a limitation. This finding is analogous to Lie et al., (2008) who proposed that some medical students believe that individuals who believe in CAM experience positive results. It is very necessary for patients to make their choice rather than health staff imposing herbal medications on them (Wilson & White, 2011). They proposed that practising psychologists thought patients may feel coerced when they are referred for CAM.

Herbal medications were not covered by NHIS and that was considered an obstacle to the clinical use of herbal medicine. This may indicate that patients pay for their herbal treatment. Considering the cost of healthcare currently, it may be difficult for patients to afford herbal medications and this may prevent nurses from serving the herbal drug. The nurses thought that because of the cost of herbal drugs sold in the hospital, patients' attendance to the herbal

unit has reduced. This finding is similar to a number of studies which have submitted lack of insurance cover for CAM (Avino, 2011; Elrlich et al., 2013; Godin et al., 2010; Jarvis et al., 2015; Milden and Stokols, 2010). This might indicate that lack of health insurance cover for herbal medications is a challenge to the global integration of CAM therapies into the mainstream healthcare. Health authorities must push for CAM to be covered by NHIS.

Legally the nurses felt they were not empowered to serve herbal medicine because there were no policies in place that warranted them to serve. This finding was supported by (Avino, 2011; Milden & Stokols, 2010); denoting that even if the nurses were willing to serve, the lack of legal backing may prevent them. If current policies mandate nurses to serve all medications and herbal medicine is a type of medication then it may suggest that nurses can serve herbal medicine. The nurses not being aware of policies mandating them to serve may be an indication that the nurses do understand the existing policies.

5.6 Behavioural intentions of nurses towards the clinical use of herbal medicine

Some of the nurses were ready to serve herbal medicine in the future. They were ready to serve herbal medicine confidently and comfortably. Godin et al., (2008) indicated that some health professionals are interested in CAM use as such they are willing to suggest it to their patients. Even though the nurses in this study lacked knowledge on herbal medications, they were willing to serve. This may imply that the nurses in this study likewise the health professionals in the study by Godin et al., (2008) would serve herbal medicine willingly.

Some of the nurses were not willing to serve herbal medicine, they sounded very confident that nurses were never going to serve herbal medicine in the hospital. They were also concerned about the consequences of treating patients with herbal medicine. Lie et al., (2008) supporting this finding revealed that some medical students who were not interested in CAM

said CAM will not be their first option as a therapy they would give to their patients. Some practising psychologists were also not willing to refer their clients for CAM (Wilson and White, 2011). It may be inferred that some of the nurses in this study are not different from the medical students and the psychologists. The nurses in this study thought that the use of herbal medicine has a bad outcome which was based on their experiences with herbal medicine.

Some nurses expressed that recommending herbal medicine was not going to be easy because people complain about it. Some psychologists in Australia felt relaxed endorsing CAM to their clients Wilson et al., (2013) and this is in sharp contrast with the finding in the current study. The nurses in this study felt uncomfortable recommending herbal medicine due to their lack of training and knowledge on herbal medicine. However Wilson et al., (2013) purported that the knowledge of some psychologists on CAM influenced their intention to recommend it. It can be inferred from the finding of Wilson et al., (2013) that when a nurse is knowledgeable about herbal medicine, the possibility of the nurse recommending herbal medicine would be very high. Once again training for the nurses is very important in the clinical use of herbal medicine.

A few of the nurses were neutral, they did not know whether they would serve or not serve herbal medicine. Godin et al., (2008) discovered a similar finding in Quebec; that some general health practitioners were neutral about their intentions to encourage CAM. Some of the nurses in this study were indecisive because they do not know whether herbal medicine is good or bad. This might be due to their lack of knowledge on herbal medications; once again it behoves on herbal medicine practitioners to establish credible information on herbal drugs so that the use of herbal medicine in the country will be widely accepted.

5.7 Vending herbal medicine

This refers to the means through which herbal medicines are sold in the communities of the nurses. Herbal drugs are sold at different places such as the street, inside buses and sometimes by head potters. Vendors normally speak about conditions their herbal drugs could heal. Vending herbal medicine in buses was supported by (Quiroz et al., 2014; van Andel et al., 2012; Yusuff & Wassi Sanni, 2011). Some of the nurses were not interested in herbal medications because of the places they are sold. The potency of herbal medications sold outside health facilities may be questionable because they may be exposed to the sun. Where a medication is kept may or may not maintain its potency (Masand et al., 2014). It very important that during vending activities, vendors are sure of the atmospheric conditions so that the potency of the herbal medications are maintained. Once the potency of the medicine is intact it may be easy for the nurses to use it or recommend it to patients. It is important for the activities of vendors to be regulated effectively so that herbal drugs sold outside health facilities do not compromise in quality.

Some vendors also used deceitful messages during vending activities to entice passengers to buy their drugs. Some other information delivered during vending were said to be funny. The use of deceitful messages were also identified in Nigeria and in Ho; a town in Ghana (Azila-Gbettor et al., 2014; Yusuff &Wassi Sanni, 2011). This means some vendors of herbal medicine may not be reliable and this may jeopardise the lives of individuals. The use of deceitful information may kill the trust of the public; the victim may be a nurse or a patient and this may influence his/her future decisions about herbal medicine whether administered in the hospital or by vendors.

Some of the conditions that were claimed to be healed by the use of herbal medications included haemorrhoids, menstrual disorders, sexual weakness, hypertension, diabetes and

stomach pains. Some vendors also mentioned that their herbal drug boosts the immune system. This finding was supported by (Adjei, 2013) who also discovered that herbal medicines can cure all the conditions mentioned by the nurses. The use of herbal medicine to boost the immune system was also supported by Kehr, (2014) who reported a herbal medication used for treating cancer also boosts the immune system.

Most nurses did not buy the herbal medications sold in buses because they had no confidence in them. They also thought that those who sold outside health facilities were quacks and were just interested in exploiting people. Practising psychologists in Australia were worried about CAM service providers. The psychologists thought that CAM service providers are imposters who are into the business for money (Wilson and White, 2011). The finding that vendors were quacks and only interested money is related to what was discovered by (Wilson and White, 2011). This may suggest that health professionals doubt the credibility of CAM service providers; they may think herbal medicine service providers are imposters.

Some passengers readily bought the herbal medications whereas others questioned the vendors. This finding is not similar to what happened in Ho, Ghana during vending activities. Azila-Gbettor et al., (2014) reported that some individuals were not buying vended herbal medicine because they thought it had expired, and not prescribed by doctors.

Herbal medicines in the hospital were in small and large bottles with labels specifying dosage, side effects, and all other necessary information. The packaging of herbal medicine in the hospital was described as adequate. Outside the hospital, herbal medicines were packaged in polythene bags, plastic envelops and others were in bottles. The packaging was described as fake, not well packaged and predisposed to contamination. Homsy et al., (2004) suggested that vended herbal medications should not be packaged in polythene bags, therefore what

vendors practised during marketing is inconsistent with what Homsy et al., (2004) proposed. That is why the nurses mentioned the vended herbal drugs were predisposed to contamination and could endanger the lives of individuals. As a result the nurses thought that herbal medications were fake and this is analogous to what was discovered by (Azila-Gbettor et al., 2014) who reported that vended herbal medicines were perceived as counterfeit in the Ho municipality.

The nurses mentioned that the labels on herbal medicine outside hospitals were obscure, not written in English although English is the official language of Ghana and some were not labelled at all. The labels had scanty information and sometimes contact numbers of the producer. However some labels had no dosage, literature and instructions on how to use the product and nothing on ingredients suggesting inadequacy of information on herbal products vended. As suggested by Jordan & Haywood, (2007) some herbal products advertised on the internet in the United States often have insufficient information and they are not meaningful. Some websites did not list the active ingredients in the drug, had no literature and no contact information. This finding is partially related to what happens with labels on vended herbal medications in Ghana. This may signify that consumers of vended herbal medicines may either take overdose or under dose of the medication. Hence the effectiveness of the medication may not be experienced by the consumers. Homsy et al., (2004) proposed that the labels on herbal medicines must have information on dosage, indication, and instructions on how to use the medication, contraindications and other necessary information. However some of the herbal medications sold in buses had no dosage, ingredients and all other necessary information which is not consistent with the finding by Homsy et al., (2004).

Herbal medicines sold on the market were in the form of powder, capsule, tablet, leaves, branches, roots and bark of trees. The finding is consistent with Abebe, (2002) who also

discovered herbal medications in the form of capsule and tablet in Nigeria. Abebe, 2002; Aniah, (2014) also suggested herbal medicine in the form of powder which is similar to the current finding that herbal medications were presented in the form of powder. Herbal medicines in their natural state such as leaves, bark of trees and roots were discovered by Quiroz et al., 2014; van Andel et al., 2012) and it is consistent with current finding that herbal drugs were sold in their natural state such as leaves, roots and bark of tree .

5.8 Contrasting herbal and orthodox medicine

This refers to the nurses' thoughts and feelings on how herbal and orthodox medications are different in terms of their storage, dosage, cost and side effects. Orthodox medicines were stored in fridges, medication boxes, and in dry places. Nevertheless herbal medications were stored within the vicinities of the nurses. Herbal medications were stored in pots and they were kept until the colour of the leaves was changed. Other herbal medications were stored in cool dry places. The nurses were ready to learn about the storage for herbal medications despite the differences in the method of storage of both medications. The finding is similar to what Homsy et al., (2004) reported. They suggested that herbal medications that have been processed should be kept in pots.

The nurses believed herbal medicine was natural without side effects; however orthodox medicine was perceived to be full of side effects. This finding was supported by (Adjei, 2013) who reported that some people in Wassa, in Ghana thought herbal medicine was natural without side effects. Holroyd et al., (2008); Osemene et al., (2011) supporting the present finding also indicated that some people in Australia and Nigeria respectively were optimistic that herbal medicines were harmless compared with orthodox medicine. However some of the nurses suffered side effects of herbal medications previously and that influenced their negative intentions towards the clinical use of herbal medicine. Showande and

Amokeodo, (2014) supporting this finding revealed that some tertiary students in Nigeria experienced some side effects after ingesting herbal bitters. It may be possible that herbal medicines have side effects; however necessary investigations must be carried out on herbal medicine to clearly state expected side effects.

Herbal medications used in the communities of the nurses had no dosage; but the dosage of orthodox medicines were clearly stated. Some nurses feared the effects of herbal medicine on the liver and kidneys because they had no dosage. Van der kooi & Theobald, (2006) discovered a similar finding in South Africa; participants reported that herbal medicine has no dosage and it made them uncomfortable to use it. According to (Fong, 2002) when the appropriate dose of herbal medications are taken, individuals do not experience side effects. He mentioned that the side effects are normally experienced in the gastrointestinal tract and integumentary system. The current finding is partially related to Fong, (2002) since the nurses feared the possibility of side effects in the liver and kidney.

Herbal medicine was said to be cheaper than orthodox medications. Some people in the United States used CAM because they wanted to keep their money (Wang et al., 2012). In Nigeria, individuals preferred herbal medicine to orthodox medicine because of cost and in Ghana, herbal medicines were said to be cheaper than orthodox medicine (Adjei, 2013; van Andel et al., 2012). If herbal medications are cheaper and people have experienced their effectiveness, then research should be conducted in that area to ensure its safety and efficacy. This may help to get more people to use it to reduce the cost of importing orthodox medications.

In summary, previous works looked at the intentions of health workers towards the integration of CAM into mainstream healthcare (Godin et al., 2010; Milden & Stokols, 2010;

Wilson et al., 2012; Wilson et al., 2013; Wilson & White, 2011). Most of the researches used all the constructs of the model in quantitative studies. However this current work is a qualitative study which looked at the perceptions of nurses on the clinical use of herbal medicine using all the constructs of the theory of planned behaviour (TPB). The findings of the study were consistent with other works and support the need for nurses to be educated on herbal medicine. Again, this work supports the need for health workers worldwide to collaborate with CAM or herbal medicine service providers and finally the need for CAM therapies or herbal medicine to be included in the nation-wide health insurance scheme. The findings of this study also support the need for the activities of vendors of herbal medications to be regulated effectively. If possible, there should be a policy by the Ministry of health to regulate the activities of herbal medicine vendors and have herbal medicine administered only in the hospital.

CHAPTER SIX

6.0 Summary, Implications, Limitations, Conclusion and Recommendations

6.1 Introduction

This chapter is centred on the summary of the study, implications of the findings for nursing practice, nursing education and nursing research. The limitations of the study, conclusions and recommendations are also presented in this chapter.

6.2 Summary of the study

The study explored the perceptions of nurses on the clinical use of herbal medicine at LEKMA hospital and it was guided by the theory of planned behaviour (TPB). The study employed an exploratory descriptive qualitative design using purposive sampling technique. Data collection begun after ethical approval was obtained from the Institutional Review Board of the University of Ghana; Noguchi Memorial Institute of Medical Research. The instrument for data collection was a semi structured interview guide which was pre-tested at Ridge hospital to avoid any ambiguity and to ensure that the instrument is in line with objectives and purpose of the study. Fourteen participants were involved in the study; recruitment of the participants, interviewing and transcription of data was done from July 2014 to December 2014. All participants who agreed to be part of the study signed a consent form. With the permission of participants, each interview was recorded on a voice recorder and transcribed verbatim. Thematic content analysis was employed to analyse the data.

The study revealed that the nurses believed that herbal medicine was given by God and has been used since creation. Some of them felt the government has approved administration of herbal medicine in the hospital and they were self-motivated to serve it in the future. Others also thought that the patient's recovery after the intake of herbal medicine was going to

motivate them to serve. Some of the nurses were interested in herbal medicines as such they used it. Some of the nurses were confident about the effectiveness of herbal medicine and trusted that the clinical use of herbal medicine was beneficial to patients. However, some of the nurses were not interested in herbal medicine and thought that the clinical use of herbal medicine was going to jeopardise the lives of patients.

The factors that would facilitate the administration of herbal medicine to patients were doctor's prescription and the financial state of the patient. Conversely, there were some factors that hindered the clinical use of herbal medicine. The factors included lack of staff training and inadequate knowledge, lack of insurance cover for herbal medicine, poor publicity of herbal medications and perceived lack of legal backing for nurses if they have to serve herbal medicine.

There were other findings which were inconsistent with the theory of planned behaviour (TPB) which equally influenced the intentions of the nurses towards the clinical use of herbal medicine. These were issues within the communities of the nurses and included marketing of herbal medications, packaging of herbal medications and the state in which some herbal medications were presented. These made some nurses uncomfortable with herbal medicines. Lastly the contrast between herbal and orthodox medications; their storage, side effects, dosage and cost also influenced the nurses in the clinical use of herbal medicine.

6.3 Implications

The findings of this study revealed some implications that must be attended to. The implications are related to nursing education, nursing practice and nursing research.

For Nursing Education

The findings of this study have several implications for nursing education. It is important for the issue on lack of staff training on herbal medications to be addressed. The fundamentals of the nursing profession or practice are largely dependent on the training one acquires at school. It is necessary to enhance the curriculum in nursing training to expand the content on herbal or traditional medicine to include types, storage, route of administration; packaging, labelling and all necessary information on herbal pharmacology so that nursing trainees would be equipped with the appropriate skill and knowledge to discharge their duties towards herbal medicine use in the hospital. Health tutors at the nurses training colleges must guide students in acquiring the necessary knowledge on herbal pharmacology and skill in administering herbal medicine.

Another finding with an implication for nursing education is the lack of collaboration between staff at the herbal unit and the nurses in general. It is important for the curriculum for training nurses to be enhanced to include principles of collaboration between nurses and other health workers. This would help nurses to acquire skills on how to collaborate with health workers with unfamiliar health care delivery modalities.

For Nursing Practice

Findings of the study revealed a barrier between nurses and staff at the herbal unit. However nurses are supposed to educate patients on their choice of therapy, be it herbal or orthodox medication. If the nurses keep away from the herbal unit, patients will suffer the lack of being educated by nurses on their choice of therapy. Nurses must bridge the gap through good interpersonal relationship between the nurses, patients and staff at the herbal unit.

For Nursing Research

This study has discovered the need for further research into perceptions on clinical use of herbal medicine. This current study explored the perceptions of nurses on the clinical use of herbal medicine. In the future, this study can be repeated in other hospitals with herbal units in Ghana to further explore nurses' perceptions on clinical use of herbal medicine. However, the perceptions of other health workers and patients are important to be investigated.

6.4 Limitations

The qualitative approach used in the study allowed few participants to be studied so that in-depth descriptions of the perceptions of nurses could be explored. The findings of this study cannot be generalized. Nonetheless, the study can be repeated within the same context to allow for transferability. In order to generalize the findings of the study, a quantitative or mixed method approach would be necessary with a larger sample.

6.5 Conclusion

Some findings of the study were consistent with the constructs of the theory of planned behaviour (TPB); that is the subjective norms that influenced nurses in the clinical use of herbal medicine and this included the beliefs of the nurse about herbal medicine and motivation to serve herbal medicine. Attitudes of nurses towards the clinical use of herbal medicine comprised the positive and the negative attitudes of the nurses towards the clinical use of herbal medications. Also, the perceived factors including facilitators and barriers that influenced nurses in the clinical use of herbal medicine and the behavioural intentions of nurses towards the clinical use of herbal medicine. There were other findings that were

inconsistent with the constructs of the TPB and it included vending herbal medicine and contrasting herbal and orthodox medicine.

The findings revealed the nurses' beliefs about herbal medicine; that they believed it was God-given and has been used by their ancestors since creation. Most of the nurses were confident in the effectiveness of herbal medicine, so they used it; others thought that the clinical use of herbal medicine would be beneficial to patients. This was because the nurses thought that the clinical use of herbal medicine was going to promote monitoring of patients. The nurses felt that their administration of herbal medicine to patients in the future would be made easier by doctors prescribing the medication and patients' willingness to take it. Nonetheless, the nurses' administration of herbal medicine in the future was met with some challenges such as lack of training and legal backing.

Moreover the nurses who participated in this study were all urban dwellers with almost similar educational background. Their lack of knowledge in herbal pharmacology has made it necessary for the content on herbal medicine in the curriculum for training nurses to be expanded. The nurses and their relatives were also found to be using herbal medicine indicating that the general public is also using herbal medicine. Since some hospitals are now administering herbal medicine, a policy restricting herbal medicine to only hospitals would be beneficial to the people of Ghana since herbal medicine service providers would be monitored.

6.6 Recommendations

Based on the findings of the study, recommendations were made to the following; the nurses, Ministry of Health and LEKMA hospital.

Nurses

Nurses should acknowledge the clinical use of herbal medicine and team up with staff at the herbal unit to help promote the course of patients who opt for herbal medicines.

Nurses should look for opportunities to be educated on herbal medicine. The nurses can participate in workshops organised on herbal medicine. Nurses who are interested in specializing in herbal medicine can enrol in courses on herbal medicine.

Ministry of Health

- The Ministry of Health should collaborate with the stakeholders of nursing education in Ghana and revisit the curriculum for training nurses to include more on herbal medicine since the Ministry approves its clinical use.
- The Ministry should develop a policy that would allow the Ministry of Health to regulate the activities of vendors of herbal medicine or a policy that herbal medicines should not be taken anywhere apart from the hospital to enhance the image of herbal medicine in the hospital and among the public.
- The MOH can also find a way to get all traditional herbal practitioners on board so that workshops and intermittent training can be organised for them to upgrade their knowledge.
- The Ministry must together with the stakeholders revise the drugs covered by NHIS. Herbal medications should be included in the drug list covered by NHIS so that patients who are interested in herbal medications would be taken care of.
- The Ministry of Health must disseminate any policy that legally permits nurses to serve herbal medicine to all hospitals in Ghana. Nevertheless, if there is none, then the

Ministry can advocate for such a policy so that when implemented the nurse will feel covered by law to administer the medication.

LEKMA Hospital

- The findings showed insufficient commercialization of herbal medicine by the hospital. In the past, hospitals condemned herbal medications and discouraged patients from patronising them. If hospitals are now serving herbal medicine then it is necessary for it to be publicised for patients to be aware of the hospital's acknowledgement of herbal medications.
- The nurses in the hospital reiterated that they lacked the necessary knowledge on herbal medicine; some were not willing to serve because they thought they were not knowledgeable enough. The nurses were looking forward to some form of training to enable them to serve herbal medicine in the future. The authorities in LEKMA hospital can help meet this need of the nurses by organizing workshops or in-service training on herbal medicine monthly for the nurses; perhaps all other staff at the hospital should be included except those at the herbal unit.

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Appendix A

Demographic Information

Pseudonym ……..

1. Age 18 – 28 ( ), 29 – 39 ( ), 40 – 50 ( ), 51 – 60 ( )
2. Sex
3. Ward
4. Speciality
5. Number of years work
6. Marital status
7. Residence
8. Nationality
9. Tribe
10. Language (s) spoken
11. Religion

Appendix B

Interview Guide

1. Tell me what you think about herbal medicine?

   Probe

   What are the types?

   What are the uses?

   How are they prepared?

   What about the packaging, cost and availability?

2. Tell me what you think about the use of herbal medicine in the hospital?

   Probe

   Prescription

   Patronage

   Efficacy

   Patients' feedback

3. What do you think about nurses administering herbal medicine on the ward in the future?

   Probe

   Feasibility

   Documentation

   Storage

   Continuity of care

4. What do you think could influence your administration of herbal medicine on the ward?

   Probe

Policies

Team work

Education

Effective packaging and storage

5. Please tell me some particular herbal medicine used within your sociocultural context?

   Probe

   Dosage

   Expiry date

   Side effects

6. Tell me some challenges you have with medications on the ward?

   Probe

   Cost

   NHIS

   Storage

   Availability

7. What will you require for effective medication on the ward

   Probe

   Clear policies/protocol

   Training on pharmacology

   Storage facilities

   Availability of drugs

Commitment of health personnel

8. Please, is there anything you would like to tell me?

Appendix C

Information Sheet

Title: Perceptions of Nurses on the Clinical use of Herbal Medicine at LEKMA Hospital.

Principal Investigator: Comfort Asare

Address: School of Nursing, College of Health Sciences, University of Ghana

General Information about Research

I will like to seek information on what you feel or think about the use of herbal medicine in the hospital to patients. The information that will be gathered will help understand the beliefs and attitudes of nurses towards serving herbal medicine in the hospital. I will have a conversation with you which will last for forty five to sixty minutes in English. There is no wrong or right answer, so you should feel free to give out your views on the questions posed to you. The conversation will be centred on what you know about how herbal medicine is used, your feelings about it and what you think is affecting herbal medicine use in the hospital. You will sign a consent form before the interview begins. With your permission the interview will be recorded with an audio-tape.

Possible Risks and Discomforts

It is not expected that your participation in this study will expose you to any harm.

Possible Benefits

You may not have a direct benefit at the moment; however your participation in this study will help the researcher to understand what nurses' perceive and know about serving herbal medicine at the hospital. It will also help the researcher to understand the possible factors that may make it easy or difficult to serve herbal medicine in the hospital. The study may help in effective planning on how to help in integrating herbal medicine at the bedside.

Confidentiality

Though the conversation between you and I will be recorded, your name and any other identifying information about you will be deleted. However you will be given a false name that will be attached to the information you give during the interview. The false name will be used in any report generated from the study. The only other people who can have access to the information will be my supervisors.

Compensation

There is no compensation for this study; however you will be given a snack after the interview.

Voluntary Participation and Right to Leave the Research

Your participation in this study is voluntary therefore; you have the right to withdraw at any point in time in the course of the study without giving any explanation. Your withdrawal will not affect your employment status.

Contacts for Additional Information

In you have any questions, please contact any of the following:

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Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of Noguchi Memorial Institute for Medical Research (NMIMR-IRB). If you have any questions about your rights as a research participant you can contact the IRB Office between the hours of 8am-5pm through the landline 0302916438 or email addresses: nirb@noguchi.mimcom.org

Appendix D

Consent Form

Volunteers Agreement

The above document describing the benefits, risks and procedures for the research title "Perceptions of Nurses on the Clinical use of Herbal Medicine at LEKMA" hospital has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Date Name and signature or mark of volunteer

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

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

_____ _____

Date Name and signature of witness

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

_____ _____

Date Name Signature of Person Who Obtained Consent

Appendix E

Table 1 General Characteristics of Participants

Pseudonym	Age Range	Sex	Marital Status	Residence	Ward	Specialty	Years of Service	Tribe	Languages Spoken	Religion
Aba	29-39	Female	Married	Spintex	ART Unit	General Nurse	4years	Akuapim	English Twi, Ga	Christian
Baaba	18-28	Female	Single	Teshie	ART Unit	General Nurse	4years	Twi	English Twi	Christian
Caaba	18-28	Female	Married	Manet Court	Medical Ward	General Nurse	2years	Ewe	English Ewe, Ga	Christian
Daaba	29-39	Female	Married	Tema	Medical Ward	General Nurse	5years	Ewe	English Twi, Ewe	Christian
Eaaba	18-28	Female	Married	Agblezaah	Surgical Ward	General Nurse	5years	Twi	English, Ga, Twi	Christian
Faaba	51-60	Female	Married	Teshie	Paediatric Ward	General Nurse	34 years	Ga	English, Ga	Christian

Gaaba	29-39	Female	Married	Tema	Surgical Ward	General Nurse	5years	Ga Adamgbe	English, Twi, Ga	Christian
Hila	29-39	Female	Married	Spintex	Surgical Ward	General Nurse	8years	Bono	English Twi, Ga	Christian
Iaaba	5-60	Female	Married	Teshie	Maternity Unit	Midwife	40years	Ga	English, Ga, Twi	Christian
Jackie	29-39	Female	Married	Teshie Grada Estate	OPD	General Nurse	8years	Twi	English Twi, Ga	Christian
Kay	29-39	Female	Single	Manet	OPD	General Nurse	5years	Twi	English Twi	Christian
Lina	18-28	Female	Married	Teshie	Paediatric Ward	General Nurse	5years	Twi	English, Twi, Ga	Christian
Mina	40-50	Female	Married	Batsona	Maternity Unit	Midwife	15 years	Ewe	Ewe, Ga, English	Christian
Nancy	51-60	Female	Separated	Adogono Nunguah	Herbal Unit	Enrolled Nurse	20 years	Fante	English Fanti	Christian

Appendix F

Table 2 Summary of themes

Themes	Subthemes
Subjective norms that influence nurses in the clinical use of herbal medicine	• Beliefs of nurses about herbal medicine • Motivation to serve herbal medicine
Attitudes of Nurses towards the clinical use of herbal medicine	• Positive attitude towards the clinical use of herbal medicine: Effectiveness of herbal medicine Credibility of herbal medicine service provider. Benefits of clinical use of herbal Medicine. • Negative attitude towards the clinical use of herbal medicine.
Perceived factors influencing the clinical use of herbal medicine	• Facilitators of clinical use of herbal Medicine. • Barriers to the clinical use of herbal Medicine.
Behavioural intentions of nurses towards the clinical use of herbal medicine	• Serving of herbal medicine
Vending herbal medicine	• Marketing of herbal medicine • Packaging of herbal medicine
Contrasting herbal and orthodox medicine	• Storage of herbal and orthodox Medicines. • Side effects of herbal and orthodox Medicines. • Dosage of herbal and orthodox Medicines. • Cost of herbal and orthodox Medicines.

Appendix G

Ethical Clearance (Noguchi Memorial Institute for Medical Research- Institutional Review Board)

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH
Established 1979
A Constituent of the College of Health Sciences
University of Ghana

INSTITUTIONAL REVIEW BOARD

Phone: +233-302-916438 (Direct)
+233-289-522574
Fax: +233-302-502182/513202
E-mail: nirb@noguchi.mimcom.org
Telex No: 2556 UGL GH

Post Office Box LG 581
Legon, Accra
Ghana

My Ref. No: DF.22
Your Ref. No:

6th May, 2015

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824 **IRB 00001276**

NMIMR-IRB CPN 103/13-14 *amend. 2015* **0000908 IORG**

On 6th May 2015, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting conducted continuing review and and amended your protocol titled:

TITLE OF PROTOCOL : **Perceptions of Nurses on the clinical use of herbal medicine at LEKMA hospital**

PRINCIPAL INVESTIGATOR : **Comfort Asare, Mphil Cand.**

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 5th May, 2016. You are to submit annual reports for continuing review.

Signature of Chair: .....
Mrs. Chris Dadzie
(NMIMR – IRB, Chair)

cc: Professor Kwadwo Koram
Director, Noguchi Memorial Institute
for Medical Research, University of Ghana, Legon

Appendix H

Introductory Letter

SCHOOL OF NURSING
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA
LEGON

Telephone: 021-513255 (Dean)
Ext. 6206
021-513250 } Secretary
028 9531213
Fax: 513255
E-mail: nursing@ug.edu.gh

P. O. Box LG 43
LEGON, GHANA

Our Ref: SON /F11

Your Ref:

July 14, 2014

The Director
Lekma Hospital
Teshie

Dear Sir/Madam,

INTRODUCTORY LETTER

I write to introduce to you Comfort Asare, an M.Phil student of the University of Ghana, School of Nursing. She is seeking your permission to collect data for her research on the topic **"Perceptions of Nurses on the Clinical use of Herbal Medicine at Lekma Hospital."**

I would be grateful if you could kindly assist her with the information that she may require for her thesis.

Thank you.

Yours faithfully,

Dr. Lydia Aziato
SUPERVISOR