SCHOOL OF NURSING AND MIDWIFERY

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

ASSESSING THE BEHAVIOUR OF MEN TOWARDS CERVICAL CANCER SCREENING IN TAMALE METROPOLIS, GHANA

BY

JAMILATU BUKARI KAPPIAH

(10640058)

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MPHIL IN NURSING DEGREE.

DECLARATION

I Jamilatu Bukari Kappiah declare that this thesis is my original research with the exception of the referenced articles and textbooks which have been duly acknowledged. This research was conducted under the supervision and guidance of Dr. Florence Naab at the School of Nursing and Midwifery and Rev. Dr. Thomas Ndanu at the School of Dentistry, University of Ghana. This work has neither in part nor wholly been submitted to any institution for the award of a degree.

Signature…………………… Date: 2nd July, 2020

Jamilatu Bukari Kappiah

(Candidate)

Signature……………… Date: 20th July, 2020

Dr. Florence Naab

(Principal Supervisor)

Signature…………………… Date…20th July 2020…

Rev. Dr. Thomas Ndanu

(Co-Supervisor)

DEDICATION

I dedicate this thesis to my husband, Ing. Gilledo Abdul-Fatawu Naabo, my children, Fareed Zibur Naabo and Jasmine Wornyo Naabo and my parents, Mr Mumuni Bukari Kappiah and Madam Shetu Kappiah; you inspire me.

ACKNOWLEDGEMENT

I am eternally grateful to Almighty Allah for His grace throughout this master's programme.

I extend my gratitude to my supervisor, Dr. Florence Naab who has been a mother, a guardian, a mentor and more for her constructive suggestions and encouragement from the very beginning to this end.

I also wish to acknowledge Rev. Dr. Thomas Ndanu for his dedication, supervision, support and encouragement through the research process.

To the faculty and administrative staff of the School of Nursing and Midwifery, thank you for your support during the programme. I am grateful.

The class of 2019, MPhil students, it was a wonderful experience meeting you all. I appreciate your support.

In addition, I wish to thank the director and staff of the Tamale Metropolitan Assembly for permission to carry out the study in the metropolis. Nevertheless, am thankful to the respondents of this study who were kind enough to agree to be part of the study. I also acknowledge the contribution of the authors of the articles that were used for this study.

My family has been of immense support, I couldn't have made it this far without your encouragement and prayers.

God bless you all.

Table of Contents

DECLARATION i

DEDICATION ii

ACKNOWLEDGEMENT iii

LIST OF TABLES ix

LIST OF FIGURES x

LIST OF ABBREVIATIONS xi

ABSTRACT xii

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background of the Study 1

1.2 Problem Statement 5

1.3 Purpose of the Study 7

1.4 Specific Research Objectives 7

1.5 Research questions 7

1.6 Hypotheses 8

1.7 Significance of the Study 8

1.8 Operational Definitions 8

CHAPTER TWO 10

THEORETICAL FRAMEWORK OF THE STUDY AND LITERATURE REVIEW 10

2.1 Theoretical Framework [The Theory of Planned Behaviour (TPB)] 10

2.1.1 Description of The Theoretical Framework 11

2.1.2 Application of the Conceptual Framework to the Study 13

2.1.3 Justification of Theory 15

2.2 Literature Review 16

2.2.1 The Overview of CC and Male Involvement in CCS 17

2.2.2 The Knowledge level of CC and CCS among Men and Women 19

2.2.3 The Attitude of Men and Women towards CCS 26

2.2.4 The Beliefs and Perceptions (Subjective Norms) of Men and Women about CCS 31

2.2.5 The PBC of Men and Women about CC and CCS. 35

2.2.6 The Behavioural Intention of Men and Women about CC Screening 38

2.2.7 The Behaviour of Men and Women toward CCS 40

2.2.8 The Relationship between Knowledge, Attitude, Beliefs, PBC, Intention and the Behaviour of men and Women and predictors of men's and Women's behaviour towards CCS 45

2.2.9 Summary of Literature Review 48

CHAPTER THREE 50

METHODS 50

3.1 Study Design 50

3.2 Study Setting 50

3.3 Target Population 51

3.3.1 Inclusion Criteria 51

3.3.2 Exclusion Criteria 52

3.4 Sample size and Sampling Technique 52

3.5 Data Collection Tool 53

3.6 Data Collection Procedure 55

3.7 Data Management, Model Diagnostics and Analysis 57

3.8 Validity and Reliability 59

3.9 Ethical Considerations 60

3.10 Conclusion 61

CHAPTER FOUR 62

FINDINGS OF THE STUDY 62

4.1 The Socio-demographic Data of the Respondents 62

4.3 Knowledge of Men about CC and CCS 65

4.4 Attitude of Men toward CCS 70

4.5 Beliefs (Subjective Norms) of Men about CC and CCS 72

4.6 PBC of Men towards CCS 77

4.7 Behavioural Intention of Men towards CCS 79

4.8 Behaviour of Men toward CCS 80

4.9 The Relationship between Knowledge, Attitude, Beliefs, PBC and Behaviour of Men. 82

4.10 Predictors of Behaviour of Men towards CCS 83

4.11 Summary of findings 87

CHAPTER FIVE 89

DISCUSSION OF FINDINGS 89

5.1 The Socio-demographic Characteristics of Respondents 89

5.2 The Knowledge of Men about CC and CCS 91

5.3 The Attitude of Men towards CC and CCS..94

5.4 The Beliefs and Perceptions (Subjective Norms) of Men about CC and CCS 96

5.5 The PBC of Men towards CC and CCS 99

5.6 The Intention of Men towards CC and CCS 101

5.7 The Behaviour of Men towards CC and CCS 102

6.7 The relationship between Knowledge, Attitude, beliefs, PBC and Behaviour of Men 104

6.8 The Predictors of Behaviour of Men towards CC and CCS 106

CHAPTER SIX 110

SUMMARY, IMPLICATIONS, LIMITATIONS, CONCLUSION, AND RECOMMENDATIONS 110

6.1 Summary of the Study..110

6.2 Implications of the Study 112

6.2.1 For Nursing and Midwifery Practice 112

6.2.2 Health Education/Promotion on CCS..113

6.2.3 Nursing/Midwifery Research 113

6.2.4 Policy Formulation 114

6.3 Limitations of the Study..114

6.4 Conclusion..115

6.5 Recommendations 115

6.5.1 Ministry of Health (MOH) and Ghana Health Service (GHS)..............................116

6.5.2 Metropolitan, Municipal Assemblies and Health Directorates 116

6.5.3 Health Facilities and Health Professionals 116

6.5.4 Nurse/Midwife Researcher 117

REFERENCES 118

APPENDICES 157

Appendix A: Ethical Clearance 157

Appendix B: Introductory Letter- NMIMR-IRB 158

Appendix C: Introductory Letter-Tamale Metropolitan Assembly 159

Appendix D: Approval Letter-Tamale Metropolitan Assembly 160

Appendix E: NMIMR – IRB Consent Form 161

Appendix F: Data Collection Instrument 164

LIST OF TABLES

Table **Page**

Table 4.1a: The Socio-demographic Data of Respondents (N= 422)……………... .63

Table 4.1b: Socio-demographic Characteristics of Respondents……………………64

Table 4.2: Description of the Variables……………………………………………...65

Table 4.3a: Knowledge level of men about CC and CCS……………………………67

Table 4.3b: Knowledge level of Men about CC and CCS……………………………68

Table 4.3c: Knowledge level of men towards CC and CCS………………………….69

Table 4.4: Attitude of Men towards CCS…………………………………………….71

Table 4.5a: Beliefs (Subjective Norms) of Men about CC and CCS…………………74

Table 4.5b: Beliefs (Subjective Norms) of Men about CC and CCS…………………75

Table 4.5c: Beliefs (Subjective Norms) of Men about CC and CCS…………………76

Table 4.6: PBC of Men about CC and CCS…………………………………………78

Table 4.7: Behavioural Intention of Men towards CCS………………………………79

Table 4.8: Behaviour of Men toward CCS……………………………………………81

Table 4.9: Relationship Between, Knowledge, Attitude, Beliefs, PBC and Behaviour

of Men towards CCS…………………………………………………………………83

Table 4.10a: Predictors of Behaviour of Men towards CCS…………………………85

Table 4.10b: The Predictors of Behaviour of Men towards CCS……………………86

LIST OF FIGURES

Figure	Page
Figure 2.1 Theoretical Framework: Theory of Planned Behaviour (Ajzen,1991)	13

LIST OF ABBREVIATIONS

CC	Cervical Cancer
CCS	Cervical Cancer Screening
CINAHL	Cumulative Index of Nursing and Allied Health Literature
DALYs	Disability-Adjusted Life Years
DNA	Deoxyribonucleic acid
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HIC	High Income Countries
HPV	Human Papilloma Virus
IARC	International Agency for Research on Cancer
ICO	Catalan Institute of Oncology
KAP	Knowledge Attitude Practice
LMIC	Low- and Middle-Income Countries
MEDLINE	Medical Literature Analysis and Retrieval System Online
NPHRL	National Public Health Reference Laboratory
Pap Test	Papanicolaou Smear Test
SD	Standard deviation
SSA	Sub-Saharan Africa
SN	Subjective Norms
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
VIA	Visual Inspection of the cervix with Acetic acid
WHO	World Health Organization
YLLs	Years of Life Lost

ABSTRACT

Cervical cancer (CC) is a severe disease and one of the most prevailing and dreaded conditions which affect women all over the world with devastating effects, particularly in Low and Middle-Income Countries (LMICs). To prevent and reduce the morbidity and fatality linked with CC, the World Health Organization (WHO) has recommended cervical cancer screening (CCS). However, screening uptake in Ghana is low. Male participation in women's health issues and CCS is a significant factor in improving the utilisation of preventive health services in settings where decision making is the prerogative of men. Thus, this study assessed the behaviour of men towards CCS in the Tamale Metropolis using the Theory of Planned Behaviour (TPB) as an organising framework.

A descriptive cross-sectional design and quantitative approach were employed, and a multistage sampling method was used to reach a sample size of 422 men. The respondents were recruited using simple random sampling. Descriptive and inferential statistics (correlation and regression analysis) in the Statistical Package for Social Sciences (SPSS) 21 were employed for data analysis. The findings of this study revealed that the men had a moderate level of knowledge, good attitude, favourable beliefs, good perceived behavioural control (PBC), good intentions and moderate behaviour towards CCS. The results also showed a positive and a negative relationship between the knowledge level and attitude of the respondents and their behaviour, respectively. Similarly, their knowledge level and attitude predicted their behaviour. Despite the level of knowledge and attitude of these men, only a few of them were willing to allow their partners/women to engage in CCS. Therefore, Men should be considered as part of CCS programmes and policies to inform feasible and sustained strategies for CCS to maximise the number of women with access to screening. Information about CC and CCS should be made accessible to both men and women while increasing the number of CCS centres across the nation.

CHAPTER ONE

INTRODUCTION

The background of the study, problem statement, purpose of the study, objectives, research questions, significance of the research, and operational definitions are described.

1.1 Background of the Study

Cervical cancer (CC) is described globally as a severe gynaecological disease and placed second after breast cancer (World Health Organization [WHO], 2012). Statistics on CC show that worldwide, about 500,000 women are living with the disease, and over 250,000 deaths occur yearly (Haghshenas et al., 2013; WHO, 2012). The Global Burden of Disease Cancer Collaboration (2017) has also reported that in 2015, 526,000 women were diagnosed with CC while about 239,000 women also died from the disease. These statistics reveal the increasing trend of CC globally. Additionally, the disability-adjusted life years (DALYs) as a result of CC was 7million with years of life lost (YLLs) representing 96% and years lived with a disability representing 4%. Therefore, the quality of life of women living with CC together with their families is considerably affected.

Evidence revealed that among cancers affecting women in low and middle-income countries (LMICs), CC is the primary cause of death of about 230,000 to 266,000 women therefore prevention of the disease is of great importance (Ferlay et al., 2015; International Agency for Research on Cancer [IARC], 2013; Torre et al., 2015). As a result, CC has become a disease of urgent concern in most areas of the world, especially in LMICs. According to Torre, Siegel, Ward, and Jemal (2016) although CC is rare in high- income countries (HICs), regions like Sub-Saharan Africa, Latin America, the Caribbean and parts of Europe, have recorded very high cases and death rate of the disease. Subsequently, a global estimate of 1 out of every five women develop CC (Global Burden of Disease Cancer

Collaboration, 2015). Consequently, CC has become a threat to the sustained development of LMICs, making the disease a critical public health concern.

Literature has further revealed that the mortality, new cases and morbidity of CC are very high in most African countries including, Nigeria, Togo, Ghana, Burkina Faso Benin, Somalia, Chad, Gabon, Zimbabwe, Uganda and Malawi (Ginsburg et al., 2017; Global Burden of Disease Cancer Collaboration, 2015; Torre et al., 2016). Thus, the IARC (2014) has described CC in Africa as deadly, given the consistently high proportion of cases reported compared to other parts of the world. Even though CC has far-reaching consequences, the condition is preventable and treatable when detected early (Moyer, 2012; Murthy, Li, Azzam, Narasimhadevara, & Yezzo, 2010). Women in Ghana have a lifetime risk of 2.2% with an estimated 2,000 to 3,052 women living with CC, and 1,556 deaths annually (Calys-Tagoe et al., 2014; Catalan Institute of Oncology [ICO]/IARC Information Centre on HPV and Cancer, 2017).

Cervical cancer screening (CCS) has reduced the number of cancer cases significantly (Bosch et al., 2013; Handlogten et al., 2014; Herrero, González, & Markowitz, 2015; Thaxton & Waxman, 2015) because it leads to early diagnosis and desirable treatment of the disease. Yet in Ghana, there is no effective national CCS programme, resulting in most women reporting with the disease at a late stage even though there are a number of centres across the country (Ghana Health Service, 2015; Nartey et al., 2017; Ziba, Baffoe, Dapare, Shittu, & Antuamwine, 2015). Most women in Ghana do not have access to CCS, leading to only a few of them getting screened for the disease. About 2.8% of women in Ghana are reported to have taken part in CCS (ICO/IARC Information Centre on HPV and Cancer, 2019). Low CCS rates have been attributed to some challenges which include limited autonomy of women regarding their health, poverty, male health workers conducting the screening and

lack of knowledge about CC and CCS (Campos et al., 2017; Ngugi, Boga, Muigai, Wanzala, & Mbithi, 2012).

Across the globe, the majority of the literature on CC and CCS have explored the concept about females (Abboud et al., 2017; Ali, Skirton, Clark, & Donaldson, 2017; Binka, Nyarko, & Doku, 2016; Cadet, Burke, Stewart, Howard, & Schonberg, 2017). However, research on women's health has stressed the crucial contributions men make, suggesting that their participation in the health issues of women leads to improved health outcomes (Davis et al., 2018; Davis, Vyankandondera, Luchters, Simon, & Holmes, 2016; Ganle, 2014; Vouking, Evina, & Tadenfok, 2014). Hitherto few studies have explored the contribution of men towards CCS (Mutyaba, Mirembe, Sandin, & Weiderpass, 2009; Rosser, Zakaras, Hamisi, & Huchko, 2014; Verhoeven et al., 2006). To this effect, Verhoeven et al. (2006) have opined that male sexual behaviour about CC has not received much attention and may be considered unimportant. Hence, this has created a scarcity in the literature concerning the behaviour of men towards CCS. Thus, research in this area is essential.

The attitude of men towards CCS has influenced the uptake of CCS by women worldwide. In the USA, some men were found to provide support by accompanying their partners for CCS sessions, assisting them financially (Bocanegra, Trinh-Shevrin, Herrera, & Gany, 2012). However, not all men showed a positive attitude towards CCS. According to Garrett and Barrington (2013) men in Honduras did not permit their wives to engage in CCS, especially when the service provider was a male. Therefore, the attitude of men towards CCS would be dependent on the context and the culture of the society and other factors.

Culture and the belief system of a group are said to influence the behaviour of its people hence culture could affect the behaviour of men toward CCS. Some beliefs prevent men from getting involved in the health of women, making both men and women uncomfortable when issues of women's health are discussed resulting in fatalistic beliefs

about CC and screening (Bocanegra et al., 2012; Thapa & Niehof, 2013). These authors have outlined some of these beliefs to include, CC is caused by engaging in frequent sexual intercourse with an individual with a sexually transmitted infection (STI), poor personal hygiene of women, rupture of the vagina during childbirth and the belief that CCS is painful and virgins do not need to screen for CC.

The challenges men face and their perceived ability to allow their partners to engage in CCS describes their perceived behavioural control (PBC). Despite the difficulties which may be personal or environmental, the perceived will of men to enable their partners/women to attend CCS would lead to more women having the tests. The willingness/readiness (intention) of men to allow their partners/women to have access to CCS is relevant and determines whether women would engage in CCS or not. Moses et al. (2018) suggest that men in Uganda are willing to support their wives to screen for CC yet in Ghana, most men are hesitant to allow their partners/women engage in CCS mostly due to the presence of male health workers (Williams & Amoateng, 2012).

The increasing endorsement for male participation in the health of women, as a strategy for positive health outcome, has resulted in a need for more research to explore the behaviour of men towards CCS. However, quantitative enquiry exploring males and CCS in Ghana is very scarce coupled with the absence of a policy which makes it mandatory for women to get screened in both hospitals and other screening centres. Therefore, to understand the role men play in CCS, the study adopted the planned behaviour theory (TPB) to assess the behaviour of men towards CCS.

1.2 Problem Statement

Male dominance as a result of cultural norms, expectations and traditions in the Ghanaian society have resulted in men as decision-makers and women asking for permission from their partners and other men before seeking health care and engaging in other activities (Afful & Attom, 2018; Ghana Statistical Service (GSS), 2014a; Sakeah et al., 2014). Patriarchy emphasizes male dominance hence males are part of decisions made in almost every issue especially the health of women (Alabi, Bahah, & Alabi, 2013; Dumbaugh et al., 2014; Ezeonwu, 2014; Ganle et al., 2015b; Kwambai et al., 2013; Ministry of Gender, 2015; Sakeah et al., 2014).

The 2014 demographic and health survey reported that 99.1% of males compared to 52% of females in the Northern region have autonomy over their health (GSS, GHS, & National Public Health Reference Laboratory (NPHRL), 2015). Men do not need to consult their partners/women before making decisions about health. However, some women need to seek the opinion of their husbands/partners. In addition, the region has been classified as having the highest percentage of poor people (poverty index of 50.4%), a figure which is higher than the national poverty index (23.4%) with females deemed impoverished than males (Cooke, Hague, & McKay, 2016; GSS, 2013; Ministry of Gender, 2015). Most women, therefore, rely on males for support and livelihood. Men, in turn, are the decision-makers and females must gain permission to screen for CC as their approval or disapproval would determine their uptake of the service (Lyimo & Beran, 2012; Sawadogo, Gitta, Rutebemberwa, Sawadogo, & Meda, 2014).

Due to poverty, religious and cultural practices, most girls are given out in early marriage. The 2010 Population and Housing Census (PHC) suggests 58.7% of females in the Northern region who are aged 12 years and above are married (GSS, 2013). In addition, Islam

which is the predominant religion in the Tamale metropolis (90.1%) prescribes that women should dress modestly at all times by covering up almost all their body parts and apart from their husbands no man is allowed to see their naked body. In consequence, women find it challenging to use health services mainly when the service provider is a male (Ganle, 2015a; Modibbo et al., 2016; Sawadogo et al., 2014). Thus, the culture, tradition, religion, low level of education, poverty and patriarchy have resulted in women encouraged to be obedient and submissive to men resulting in the over-dependence of the women on men.

The Save Our Souls (SOS) Children's Village where the "save my mother'' programme is on-going, is the only facility offering free CCS services (Adjei, Wolterbeek, & Peters, 2015). The Tamale Teaching Hospital also screens for CC but on referral and comes at a cost (Opoku et al., 2016). Based on the female population of 1,249,574 in the Northern region, it is evident that these two facilities are not adequate to cater for their screening needs (GSS, 2013). Screening for CC in the Tamale metropolis is essential because the critical indicators for CC; early marriage, polygamy, poverty, and very few screening centres are challenges faced in the region (Adjei et al., 2015; GSS, 2015; Opoku et al., 2016). These challenges expose women and girls in the metropolis to a higher risk of CC, yet there is limited quantitative evidence on male involvement in CCS in the region. The focus has been on other women health programmes and research other than CCS (Ganle, Dery, Manu, & Obeng, 2016a; Ganle, Fitzpatrick, Otupiri, & Parker, 2016b). As a result, the role of men in CC and CCS is underexplored, creating a scarcity of literature in the area. Previous research in Ghana explored the incidence, awareness, knowledge, factors that influence CCS beliefs and perceptions of women (Adanu et al., 2010; Ebu, Mupepi, Siakwa, & Sampselle, 2015; Williams et al., 2013). While these studies provide insight into CC and its screening, they were qualitative studies carried out in urban areas of southern Ghana. Hence little is known quantitatively about the behaviour of men considering the relationship between the predictors

of the behaviour of men towards CCS. This study assesses the behaviour of men toward CCS quantitatively in the Tamale metropolis, using the theory of Planned Behaviour as an organising framework.

1.3 Purpose of the Study

The purpose of this study was to assess the behaviour of men toward CCS.

1.4 Specific Research Objectives

The specific objectives of this study were to;

1. Describe the knowledge and attitude of men toward CCS.
2. Describe the beliefs, (subjective norms) of men about CCS.
3. Assess the PBC of men about CCS.
4. Determine the behavioural intention of men about CCS.
5. Describe the behaviour of men toward CCS.
6. Examine the relationship between knowledge, attitude, beliefs, PBC, and intention and the behaviour of men towards CCS.

1.5 Research questions

The following research questions were asked to attain the above objectives;

1. What is the knowledge and attitude of men toward CCS?
2. What are the beliefs, perceptions, (subjective norms) of men about CCS?
3. What is the PBC of men about CCS?
4. What is the behavioural intention of men about CCS?
5. What is the behaviour of men toward CCS?
6. What is the relationship between knowledge, attitude, subjective norms, PBC and intention and the behaviour of men towards CCS?

1.6 Hypotheses

1. There would be a significant positive relationship between the knowledge, attitudes, beliefs, PBC and intention of men, and their behaviour towards CCS.
2. The socio-demographic characteristics, knowledge, attitude, beliefs, PBC and intention would predict the behaviour of men towards CCS.

1.7 Significance of the Study

The behaviour of men towards CCS is under-researched in Africa and Ghana. Significantly the high morbidity and mortality associated with CC require targeted research. Research that involves men is necessary to inform feasible and sustained strategies for CCS to maximise the number of women who have access to CCS. The findings from this study would give health professionals valuable information that would guide and determine strategies to increase the coverage of CCS. Policymakers in the health sector may use the findings to develop policies that involve men in CCS and CC treatment. The findings may also be used for the development of training modules for healthcare professionals to improve the care of women living with CC. Furthermore, the results of the study would contribute to the existing knowledge on CCS.

1.8 Operational Definitions

Behaviour: whether men allow/prevent women from going for CCS

Men: males who are 18 years and above and live in the Tamale metropolis

Women: females eligible (21years and above) for CCS.

Partners of men: females in a relationship with a man, legally married or not.

Attitude: beliefs and value (positive/negative) placed on CCS

Beliefs (subjective norms): influence of the perceptions of men about societal pressure and beliefs of people who influence their decision to allow or prevent their partners/women from going for CCS.

Perceived Behavioural Control (PBC): the perception of men's ability to allow/prevent their partners/women from going for CSS.

Behavioural intention: the willingness of men to allow their partners/women to engage in CCS

CHAPTER TWO

THEORETICAL FRAMEWORK OF THE STUDY AND LITERATURE REVIEW

This chapter illustrates the theory of planned behaviour (TPB) and relevant literature. Description of the TPB precedes a review of the empirical literature. Literature about the research problem is reviewed according to the constructs of the TPB and objectives of the study.

2.1 Theoretical Framework [The Theory of Planned Behaviour (TPB)]

Although several theories describe behaviour, the TPB (Ajzen, 1991) was used as the framework for this study. The TPB was developed in an attempt to predict and explain human behaviour. However, it can also be used as a tool for designing behavioural change interventions (Ajzen, 2011a). The TPB originated from the Theory of Reasoned Action (TRA) with an added construct, the perceived behavioural control (PBC) which shows the difference between the two theories (Ajzen, 2014; Ajzen & Fishbein, 1980). The TPB explains that human behaviour can be controlled consciously or unconsciously with attitude, beliefs (subjective norms), and intention influencing the behaviour. According to Ajzen (2006) behaviour is directed by three beliefs. These beliefs the author described as behavioural beliefs, normative beliefs and control beliefs. These beliefs are interrelated and influence attitude, subjective norms and PBC suggesting that intention and behaviour are also influenced; hence, the behaviour in question is a planned one (Ajzen, 2006).

The theory can guide individuals who may not perform a behaviour by motivating them and also guide those who have an intention (positive) to act or behave according to the intention (Ajzen, 2011a; Fishbein & Ajzen, 2010). Therefore, the theory helps to identify the beliefs that have to be adjusted to produce a positive intention. Ajzen (2014) has added that if beliefs (behavioural, normative and control) are changed, there would be a corresponding change in attitude, subjective norms and PBC, which would influence intention. Again, the

favourable intention would lead to a behaviour that is under an individual’s will (volition). Therefore, an intervention to alter intention and consequently, the behaviour must produce a considerable change in beliefs, provided with the required resources while barriers are removed. Additionally, Ajzen (2011) has explained that the information (knowledge) an individual has, whether accurate, untrue or biased influences the beliefs about a particular behaviour.

Although the theory predicts behaviour, it has some limitations. The TPB like other cognitive theories is not clear about these beliefs and the distinction between the beliefs about outcomes which is self-determined, and beliefs about outcomes that is through obligation [controlled] (Hagger & Chatzisarantis, 2009). Similarly, Webb and Sheeran (2006) have claimed that nothing is mentioned about a change in behavioural intention leading to a change in behaviour. The TPB also maintains that people make decisions using rational means and information is cognitively assimilated in making a decision (Ajzen, 1991; Miller, 2017). Nonetheless, some studies have suggested that this may not be entirely true as decision making is not entirely by rational means(Eagly & Chaiken, 1993; McCleery, 2009).

2.1.1 Description of The Theoretical Framework

The constructs of the theory are described as follows:

Attitude: It is the extent to which behaviour is positive or negative. According to Fishbein and Ajzen (1975), the attitude of an individual is influenced by the beliefs an individual hold and has developed. Behavioural beliefs describe the outcome of behaviour and the evaluation of the outcome which results in a favourable or unfavourable attitude. These beliefs and the value attached to the expected outcome determine attitude.

Beliefs (Subjective Norms): This refers to the pressure individual’s face from society/significant people to execute a behaviour. It is determined by the accessible normative beliefs about the expectations of the people the person holds dear; family, friends,

and spouse (Ajzen, 2006). Normative beliefs are beliefs about the norms and the motivation required to meet these expectations. These beliefs, together with the motivation to conform to the expectations of these important people determine subjective norms and results in perceived social pressure.

Perceived Behavioural Control (PBC): The theory describes PBC as having both a direct and indirect influence on behaviour. Indirectly, PBC influences behaviour through the motivation of behavioural intention while directly, it has actual control over behaviour without the intention being a mediator (Madden, Ellen, & Ajzen, 1992). Therefore, together with intention, PBC predicts behaviour. PBC is also the perception of an individual's ability to perform a behaviour and is determined by accessible control beliefs. Control beliefs are factors that may enhance or prevent a behaviour from being performed and the perceived strength of these factors. These beliefs together, with the perceived strength of the control factors result in PBC (Ajzen, 2006). The PBC of the theory has been described to be similar to self-efficacy (Glanz, 2012; Mimiaga, Reisner, Reilly, Soroudi, & Safren, 2009).

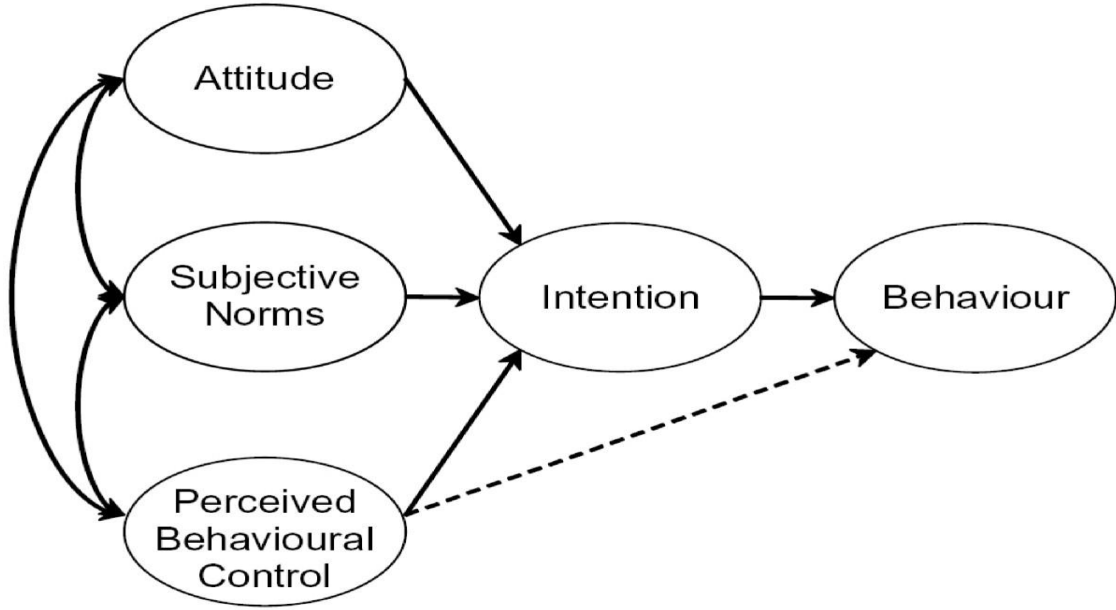
Behavioural Intention: Intention refers to a person's willingness to perform a behaviour. It is determined by the attitude, subjective norms and PBC. Ajzen (1991) also suggests that intention can be used as a measure of behaviour. PBC has a significant effect on intention and the intention of an individual to perform a behaviour can accurately predict the behaviour in question (Fishbein & Ajzen, 1975; Madden et al., 1992).

Behaviour: Behaviour refers to the observable response to a given situation concerning context and time. According to Ajzen and Madden (1986), knowledge plays an essential role in determining behaviour. To fully evaluate behaviour, it is necessary to assess knowledge. Ajzen (1991) has added that the behaviour of an individual is influenced by their level of confidence in their ability (PBC) to perform a particular behaviour and together with the intention to determine behaviour directly.

Theoretical Framework

The relationships between the constructs of the TPB are shown in the figure below:

Figure 2.1: The theory of planned behaviour (TPB)



Source: Ajzen (1991).

2.1.2 Application of the Conceptual Framework to the Study

The purpose of applying the TPB in this study is to examine the influencing factors of the desired behaviour of men towards CCS. The intention of men is the willingness of the men to allow/prevent their partners/women from going for CCS. This intention is finally expressed as the behaviour of men towards CCS. According to the theory, attitude, subjective norms, and PBC also influence the intention of men toward CCS. Furthermore, each of these components of the theory is influenced by beliefs, which are internal or can be learned from the environment. For instance, a man who intends to allow his partner/a woman to screen for CC may change his mind if he has information which influences his belief that women who screen for CCS are immoral and promiscuous. Thus, whether men have an intention to allow their partner/women to engage in CCS or not depends on their beliefs about it. The attitude of men is described as being dependent on the outcome of women screening

for CC. That is, if the result is positive, then men would have a positive attitude towards CCS notwithstanding any beliefs they may have about CCS, and if it is negative, then men would have a negative attitude towards CCS.

In every society, people (men) regard some individuals as very important and highly respected. Motivation from such people would either allow men to allow their partners/women to engage in CCS or not. This motivation, societal pressure, socio-cultural and socio-economic influences are described as the subjective norms. Subjective norms are also influenced by beliefs. Therefore, men in a society where the people they respect, seek approval from and aspire to become do not approve of women going for CCS, then these men are likely to prevent their partners/women from going for the screening.

Conversely, if the men also feel that these same people approve of CCS, they would allow their partners/women to screen for CC. PBC, according to the theory can independently result in behaviour without an intention. PBC is described as the factors which prevent or enable the men to allow their partners/women to engage in CCS. Thus, PBC is the ability of men to have confidence in themselves to allow or prevent their partners/women from going for CCS despite the beliefs or barriers present to stop from doing so.

In summary, the attitude of men towards women screening for CC, the endorsement or support for CCS by people the men hold important (spouse, family and friends), the challenging or enabling factors that men face which may allow or prevent women from screening, the willingness/readiness of men to allow women to screen would explain the behaviour of men towards CCS. Since men have a significant influence on women's health behaviour, it is accurate to say that a positive attitude of men towards CCS which is accepted by family, friends, and people they hold important, the perception that he has control over CCS would influence their intention to allow women to access CCS.

The theory has been used extensively to predict health-related behaviour and attitudinal change; CCS (Marvan, Ehrenzweig, & Catillo-Lopez, 2016; Roncancio, Ward, & Fernandez, 2013), condom use (Asare, 2015; Protogerou, Flisher, & Wild, 2014), beliefs about verbal sexual coercion (Eaton & Stephens, 2016), and substance abuse (Zemore & Ajzen, 2014). The behaviour of men towards CCS is a behavioural action; thus, the TPB was adopted for the study is appropriate.

2.1.3 Justification of Theory

In the search for a model to serve as a theoretical framework, the Health Belief Model [HBM] (Rosenstock, Strecher, & Becker, 1988) and the TRA were considered necessary but not relevant to describe the behaviour of men towards CCS. The HBM, as a theory of preventive health behaviour has been used extensively to predict health behaviour and behaviour in other fields (Glanz & Bishop, 2010; Jones et al., 2015). According to the theory, the constructs (risk susceptibility, risk severity, benefits to action, barriers to action, self-efficacy, and cues to action) predicts and explains health behaviour (Champion & Skinner, 2008; Jones et al., 2015). However, empirical evidence, (Armitage & Conner, 2001; Bennett, Buchanan, & Adams, 2012; Gerend & Shepherd, 2012) comparing the predictive effectiveness of the HBM and the TPB have concluded that the TPB is superior.

The TRA was also developed to explain health behaviour in a research on attitude base on the Expectancy-Value Models. The theory explains the relationship and influence of attitudes, subjective norms and intention on behaviour. According to Trafimow (2009) TRA does not include the component of the extent to which an individual has control over behaviour or the ability to perform the behaviour (PBC) as a predictor of intention and behaviour. Also, the theory explains an individual’s behaviour but does not include the outcome of the behaviour (Sheppard, Hartwick, & Warshaw, 1988). The authors further suggested that behaviour is voluntary, as such factors that are not voluntary are not

considered in the TRA. These concepts mentioned above are relevant to this study since all possible factors that influence behaviour would be considered. However, the conceptual framework for the study, TPB described above has the constructs relevant to the study.

2.2 Literature Review

The review of literature pertinent to the behaviour of men towards CCS is discussed. The literature is organised according to the objectives of the study and constructs of the TPB. The search for literature included empirical literature from electronic databases such as SCOPUS, Science Direct, CINAHL, Wiley Online Library, MEDLINE, JSTOR, SAGE and Francis and Taylor. The search for literature was limited to peer-reviewed articles published in English. Words used for the search included, men and cervical cancer screening, ‘’attitude of men towards women health’’, ‘’culture and women health’’, ‘’culture and cervical cancer screening’’, ‘’male involvement in women’s health’’ ‘’attitude of men towards cervical cancer screening’’.

The literature review was organised according to the constructs of the TPB and the objectives of the study under the following headings:

- The Overview of CC and male involvement in CCS
- The knowledge level of men and women about CC and its screening
- The attitude of men and women towards CC and CSS
- The beliefs (subjective norms) of men and women about CC and CSS
- The PBC of men and women about CCS
- The behavioural intention of men and women about CCS
- The behaviour of men and women towards CCS
- The relationship between knowledge, attitude, beliefs, PBC, intentions and behaviour of men and the predictors of men’s behaviour towards CCS

2.2.1 The Overview of CC and Male Involvement in CCS

Screening for CC has been suggested globally as a means to prevent CC with available treatment options for women found to be positive (Jradi & Bawazir, 2019; Knaul et al., 2012; Smith et al., 2013; Tabnak, Muller, Wang, Zhang, & Howell, 2010). The Screening is a public health intervention to identify women at risk CC as well as women who have the disease at the early stage. In 2014, the WHO introduced and recommended a guide for comprehensive CC control and CCS across the globe especially in LMICs (WHO, 2014). In this guide, the WHO has suggested that in every country, programmes and activities which have been identified for CCS should be in line with the trend and figures about CC in the country. These plans and activities and should be built around giving of information to the public, counselling before the screening, and providing treatment for women found to be positive (WHO, 2014). These programmes should also be sensitive to the culture and traditions of the people. Without this, all interventions geared towards preventing CC and increasing the number of women who go for CCS would not materialise. In doing this, men are very significant figures in the fight against CC, especially in Africa and other parts of the world where males are the custodians of tradition.

The available screening methods for CC include; visual inspection with acetic acid (VIA), Papanicolaou smear test (Pap smear) and HPV (DNA) testing (Akhavan-Tabatabaei, Sanchez, & Yeung, 2016; Francis, Leser, Esmont, & Griffith, 2013; Markowitz et al., 2014; Schiffman, 2017; Tsu, Jeronimo, & Anderson, 2013). These methods have proven to be reliable options for detecting cancerous cervical lesions. The VIA has been recommended for LMICs where the disease incidence, prevalence, and associated morbidity and mortality is high. It is noted to be the most cost-effective option and yet effective means of preventing CC (WHO, 2014). However, these methods of CCS have not been very effective in reducing the number of women diagnosed with CC. Knaul et al. (2012) have attributed this ineffectiveness

to the health disparities across the globe, especially between HIC and LMICs. Most developed countries have in place well-structured health care systems with preventive health as a priority. Contrary to this, LMICs are burdened with issues of political, administrative, and social challenges which have set back the advancement of the health sector. The result of this is the high numbers of women with CC and a low number of women screening for the disease.

Additionally, the condition is often diagnosed between the ages of 30 to 50 years with the disease at an advanced stage coupled with its devastating effects (Eze, Emeka-Irem, & Edegbe, 2013; Moyer, 2012). Across the globe, the recommended age for women to have their first Pap test is 30years (WHO, 2013). Some developed countries including the USA, UK, Canada and the Netherlands recommend that young women should have their first Pap test between 21 to 30years (Krueger, Kwon, Sadownik, Ogilvie, & Martin, 2013; Murphy et al., 2012; Saslow et al., 2012). Many women in this age group are within their reproductive years, and a diagnosis of CC may have dire consequences for the family, especially in areas where women are the backbone for survival. Research evidence has shown that CCS has led to the low number of cases and reduced mortality of CC in HICs and would also reduce morbidity and mortality in LMICs (Firnhaber et al., 2013; Nwabichie, Rosliza, & Suriani, 2017; Partridge et al., 2010). CCS is therefore vital as a health promotion strategy for reducing the CC scare, especially in LMICs. Poverty, which is a barrier to access to healthcare, may also prevent women from having access to CCS. According to Akinyemiju (2012), more impoverished families are less likely to engage in CCS screening due to a low level of education and employment with low wages or income. Individuals with a low level of education are less likely to know the benefits of CCS, coupled with negative perceptions about it. This assertion is supported by Ntekim (2012), in a study to describe the incidence,

mortality, prevention and treatment of CC in Sub-Saharan Africa when it was revealed that CCS was opportunistic and women of low socioeconomic status had a higher risk of CC.

Sexual relation is one of the leading means of spreading the Human Papilloma Virus (HPV), which causes CC (Oakeshott et al., 2012; Schluterman et al., 2013). This means that a collective effort from both men and women is needed to prevent or reduce CC. Men have to be involved as women who have had sexual intercourse are less likely to have CC. Ultimately, male involvement leaves much to be desired as they are the heads of the family, breadwinners, and decision-makers. Significant barriers to CCS would be broken when these men are bought on board. More women would then have access to CCS.

2.2.2 The Knowledge level of CC and CCS among Men and Women

Knowledge significantly influences the perception and reaction of individuals to a given situation/health condition. Therefore, the knowledge level of men about CCS would change their behaviour towards CCS. Azam (2016) has indicated that knowledge plays a very significant role in the utilisation of preventive health services. However, literature about the knowledge of men towards CCS is inadequate despite the considerable contribution they make to the occurrence of the disease. Hoque and Van Hal (2014) reported that the desire of respondents in a survey in KwaZulu-Natal increased after they were provided information about CC and HPV.

A mixed-methods study involving both men and women in Zambia to examine their level of knowledge, attitude and the practice (KAP) of CC prevention revealed that both men and women had low levels of knowledge; only 36.8% of them had heard of CC (Nyambe, Kampen, Baboo, & Van Hal, 2019). Nevertheless, the men showed a higher level of knowledge than the women in the same study. Similarly, in a cross-sectional survey among 110 men in Kenya, the knowledge level of the men about CC and CCS was reported to be very low, yet they were very interested in learning more about the disease (Rosser et al.,

2014). Most men have shallow levels of knowledge about CC and CCS irrespective of the context. In South Africa and Singapore, it was reported in each study that the majority of the respondents had never heard of CC and CCS (Pitts et al., 2009; Rwamugira, Maree, & Mafutha, 2017a). Rwamugira et al. (2017a) explained that 66.3% and 67.3% of the men in the study have never heard of CC or CCS respectively and those who had heard have little knowledge about CC and CCS.

Across the globe, women have displayed higher levels of knowledge and awareness about CC and CCS than their male counterparts in the same studies (Marshall, Ryan, Roberton, & Baghurst, 2007; Oon et al., 2010). This assertion is confirmed by Ngwenya and Huang (2017) when 53.5% of women and 22.85 of men were able to give at least one symptom of CC and women were considered to be six times more knowledgeable than men. Hitherto men make decisions for most women. Likewise, Oon and colleagues (2010) in a qualitative survey among Malaysian women and men, revealed that the women in the study showed higher levels of knowledge than the men. The women correctly responded that the Pap test helps in detecting CC early, but most of the men did not have an idea about the purpose of the test and the men who had an idea about it got to know through their wives (Siti Waringin Oon et al., 2010). Women in Nepal were also indicated to have considerable knowledge about CCS, 25% of them knew the right age for screening and 7.3% also knew that the test should be done every three years (Shrestha & Dhakal, 2017). Comparatively, women have proven to have more knowledge than men, and this could be because of the social nature of women by way of sharing of knowledge, ideas, and experiences and also because CC is a disease which primarily affects women.

In Canada, Sauvageau and colleagues (2007) reported although there was no significant difference between women and men’s knowledge level, the women who had been screened for CC before had higher levels of knowledge. (Sauvageau, Duval, Gilca, Lavoie, &

Ouakki, 2007). Apart from other factors which may result in women having a higher level of knowledge, experience also counts while assessing the knowledge level of both men and women. Women who have been screened previously would be familiar and are likely to be educated or counselled before the procedure, making them have information about CC and CCS. It is also apparent that the lower levels of knowledge reported by these research work could be because CC and CCS are primarily issues of women's health. Thus, men may not have interest in them.

Adageba and colleagues in Kumasi indicated that female health workers had good knowledge about CC and 77% of the respondents reported that CC was preventable and 83% also concluded that CC was life-threatening (Adageba, Danso, Ankobea, Kolbilla, & Opoku, 2011). Furthermore, the respondents had poor knowledge about the interval and age to start CCS and the location of available CCS centres. Poor knowledge of CCS centres, the interval to screen for CC and age to start CCS may become barriers for CCS. It is expected that health workers should have excellent knowledge of CC and its screening. It can be inferred that as health workers who have this poor knowledge about a condition which affects women, then their male counterparts may not know better. This is expected in a country where there is little or no comprehensive CC control. Although some studies have reported that health workers have poor knowledge about CC and screening, some of the health workers have some knowledge about CC and screening. For instance, a descriptive study among nurses in India to evaluate their level of knowledge, attitude and practice of CCS indicated that generally, the nurse's knowledge was poor, however, 69% of them cited post-menopausal or irregular bleeding as symptoms of CC (Shekhar, Sharma, Thakur, & Raina, 2013). Similarly, another descriptive study in India revealed that 94% of nurses knew that CC was preventable and only 48% of them knew that post-menopausal bleeding was associated with CC even though the authors reported that their knowledge level was poor (Vishwakarma, Rawat,

Mittal, & Shree, 2018). Also, Kress et al. (2015) in a survey among 334 health workers in Addis Ababa, suggests that nurses and midwives showed high levels of knowledge about CC and its screening.

Studies which have assessed the knowledge level of women about CC and screening have reported encouraging results of their knowledge scores about CC and its screening (Abdul-Aziz, 2012; Liu, Li, Ratcliffe, & Chen, 2017; Nagamma, Seng, Leng, Alias, & Karim, 2016). The difference in both levels of knowledge and awareness in selected respondents may result from the demographic characteristics and different periods the studies were conducted, the experience of respondents as well as their interest in the subject matter. Nagamma et al. (2016), indicated that first-year female students within the ages of 18 to 21 years in Manipal had adequate levels of knowledge of CC, its prevention, treatment and CCS. The authors suggest that 97% of these respondents had heard of CC, 77% of them had also heard of the Pap test, 87% of them were aware that multiple sexual partners cause CC and 70% even knew that the Pap test is used to detect CC (Nagamma et al., 2016).

Notwithstanding, previous studies have also cited that the knowledge level of women about CC and its screening in different settings was poor (Lyimo & Beran, 2012; Mabelele, Materu, Ng'ida, & Mahande, 2018; Ndejjo, Mukama, Kiguli, & Musoke, 2017). The findings of these research clearly illustrate the situation in most LMICs where the concept of CCS is not widely known and accepted suggesting that the context of the study may also be relevant in the level of knowledge. Also, a qualitative study among educated women in Dubai to examine their perspectives of CCS revealed that most of the women felt that they did not need CCS since they had no symptoms (Khan & Woolhead, 2015). In contrast, the level of awareness of CC among women in various countries is generally high; Ethiopia (78.7%), Kenya (29%), Botswana (77%), and (70.8%) China(Getahun, Mazengia, Abuhay, & Birhanu,

2013; Hong, Zhang, Li, Lin, & Liu, 2013; Mingo et al., 2012; Sudenga, Rositch, Otieno, & Smith, 2013).

Research has also reported that knowledge is influenced by several factors such as educational level, age, and source of information (Hyacinth, Adekeye, Ibeh, & Osoba, 2012; Jia et al., 2013; Liu et al., 2017; Urasa & Darj, 2011). Rosser and colleagues (2014), found that the knowledge level of Ugandan men was found to be influenced by their educational level since the men with higher educational level displayed excellent knowledge about CC and its screening. Aside from the educational status, age has also proven to influence knowledge level about CC and its screening. In a study in Tanzania to determine the awareness of CC and screening practice among nurses, the majority of the respondents in the survey were aged above 40 years but 80% of the nurses who were less than 30 years were more knowledgeable compared to their colleagues between ages 30-40 (36.4%) and above 40years [47.1%] (Urasa & Darj, 2011). The same study also reported that the cadre (qualification) of nurses was directly related to their knowledge level. For instance, registered general nurses had a higher level of knowledge of the symptoms of cervical cancer (43.3%) compared to enrolled nurses [21.4%] (Urasa & Darj, 2011). However, another study involving 398 nursing students in Egypt to assess their knowledge about CC and the association between education and knowledge reported conflicting results (Fouly & Gomaa, 2015). In that study, the senior students were reported to have higher levels of knowledge than the junior student nurses. Qualified nurses tend to focus on work and rely on practical experience and may forget the theory of practice, however, students, on the other hand, are still in school, and the senior students have advanced in knowledge than the junior students. As suggested above by Rwamugira et al. (2017a), in South Africa, the average age of men with limited knowledge 39 years and more than half (59.4%) of them were not married. Congruent with Rwamugira and colleagues (2017a), studies conducted in USA and Ibadan

have reported similar average ages among the respondents as 30-39 years and 36 years respectively by (Adegboyega, Aleshire, Dignan, & Hatcher, 2019) (Asuzu, Akin-Odanye, & Adejumo, 2014).

Men and women in different settings have also cited diverse sources of information about CC, CCS and HPV. The dominant source of knowledge/information was the media (television, radio newspaper), health workers, family and friends (Getahun et al., 2013; Hyacinth et al., 2012; Kim, Kim, & Kim, 2018; Maree, Wright, & Makua, 2011; Mbamara, Ikpeze, Okonkwo, Onyiaorah, & Ukah, 2011). Generally, health education addressed at the hospital by health professionals and also given on radio and television. This form of disseminating information reaches a broader populace than the newspaper because one has to be able to read and write to get the information. An additional source of information suggested by women in a study in Ethiopia by Getahun et al. (2013) was information from women who were diagnosed with CC (23.5%) apart from television and radio (60.8%), health professionals (34.9%), and family and friends (34.9%).

Ramathuba, Ngambi, Khoza, and Ramakuela (2016), cited nurses as the respondents' source of information about CC and screening. Similarly, about half (50%) of women in a KAP study in Nigeria where most of the respondents were less than 35years suggested health workers as their source of information (Mbamara et al., 2011). There are varied sources of information available to most people. In Nigeria, studies revealed that the sources of information were from the media and health workers. For instance, a survey conducted by Hyacinth et al. (2012) showed about 50% of the study respondents revealed that the significant source of information was the media while Nwankwo, Aniebue, Aguwa, Anarado, and Agunwah (2011) reported in urban communities the source of information was from health workers while in rural communities their cause was the media (Nwankwo et al., 2011). Even though the newspaper is also a source of information, Nattembo and Schumacher

(2018) suggest that this source of information may not be useful because most of the respondents in their study get their information from online sources and prefer that, information about CC and its screening should be given by the doctor. The media as a means of information dissemination reaches a lot of people. Also, some rural areas are not privileged to have well-equipped hospitals with staff to attend to them creating a challenge, which makes it difficult for both men and women have access to health education.

The educational level and qualification are also significant factors in the knowledge and awareness level of CC and its screening. Research conducted in Italy, China and Nigeria suggests that men and women who have attained higher levels of education and qualification tend to have high level of knowledge compared to their counterparts with lower qualifications (Donati et al., 2012; Liu et al., 2017; Nwankwo et al., 2011; Owoeye & Ibrahim, 2013). According to Owoeye and Ibrahim (2013) in a quantitative study among female students and staff of a tertiary institution in Nigeria, the authors indicated that the awareness of the respondents was high with students (80%) and staff (70%). This high level recorded was attributed to the level of education of the students and the community both students and staff found themselves. Likewise, the male counterparts of the respondents of the study could also have a similar level of knowledge of CC and its screening due to the influence of the females or by being part of the university community. Additionally, access to information about CC and screening by these males may also be effortless. Furthermore, Shiferaw et al. (2018) have asserted that women with higher education levels had a higher knowledge than women with lower education levels and that women who were employed have a higher knowledge than those who were not employed. This assertion conforms with Abudukadeer et al. (2015) in Xinjiang during a cross-sectional study of 5,000 women. In the study, the authors assert that high knowledge of CC and screening was among women of higher educational status, and more illiterate women were often diagnosed with CC (Abudukadeer et al., 2015). Poor health

outcomes of these illiterate women could be related to their lower educational status couple with smaller sources of income. As a result of this, men/partners of these women are more likely also to have a low level of knowledge of CC and screening. It is therefore compelling to conclude that the knowledge level of individuals is associated with their educational status even though it may not always right.

2.2.3 The Attitude of Men and Women towards CCS

The attitude of individuals toward a health service is influenced by the level of knowledge/information they have, which would also affect the use of the service. Literature from studies conducted in Ethiopia and Thailand supports this assertion (Geremew, Gelagay, & Azale, 2018; Grandahl et al., 2018). According to Maree and colleagues, in a quantitative survey of 980 men in South Africa, the men lacked knowledge about CC with 90% of these men having more than one sexual partner in the last 5years (Maree et al., 2011). The lack of knowledge of the disease coupled with their sexual behaviour defines the magnitude of risk the partners of these men are exposed to especially in a region where HIV is prevalent. Even though the literature has proven that most men do not have adequate knowledge about CC and screening, men may likely have a positive attitude about CC and screening.

Researchers in Kenya have asserted that about half of the men in a study perceived their partners to be at risk of the disease and a positive test result would be stressful for them yet these men wanted to be part of decisions made about CC and its screening (Rosser et al., 2014). Consistent with this finding is that of Swapnajaswanth, Suman, Suryanarayana, and Murthy (2014) suggesting that 89.6% of nurses and midwives have a positive attitude about CC and its screening but did not engage in CCS. However, Ahmed, Sabitu, Idris, and Ahmed (2013) have reported that even though women showed a positive attitude (80.4%) towards CCS, only 15.4% engaged in CCS. In contrast to this finding, Ranabhat, Tiwari, Dhungana, and Shrestha (2014) assert that favourable attitude results in desirable behaviour as the

respondents in the study who perceived Pap test to prevent CC were 2.4 times likely to engage in CCS.

A positive attitude towards CCS would likely lead to more men to enable their partners to screen for CCS. A number of studies have described the attitude towards CCS as positive as the respondents in the survey appreciated CC as a severe disease and early screening and diagnoses could lead to good outcomes (Bansal, Pakhare, Kapoor, Mehrotra, & Kokane, 2015; Mukama, Ndejjo, Musabyimana, Halage, & Musoke, 2017). For instance, Geremew et al. (2018) in Ethiopia concluded in a quantitative study among 1,137women aged between 30-49 years that women with comprehensive knowledge about CC and its associated factors are likely to have a positive attitude towards CCS. The authors further reported that respondents with higher educational status above college level were more likely to have a positive attitude towards CCS (Geremew et al., 2018). In like manner, males with a higher educational status would have a positive attitude towards CCS because such men are likely to have unlimited access to different sources of information on CC and CCS. According to Nattembo and Schumacher (2018) the males among 90 students revealed that they did not know men were the carriers of the HPV and suggested that females should be responsible for knowing about CC. Similarly, a qualitative study in Korea to examine the awareness of CC reported that the men in the study had poor knowledge and were not interested in women's health issues and these men became uncomfortable when intercourse matters are discussed (Kim et al., 2018).

Another study in Ethiopia revealed that knowing an individual who has CC was associated with a positive attitude towards CCS. Getahun et al. (2013). The first-hand experience of seeing the devastating effects of CC, coupled with its burden on the family and friends, would prompt men to allow their partners/women and to go for the CCS. Both men and women with knowledge of preventive health services would take advantage of such

services to continue to be in good health. The devastating effect of CC with its associated symptoms would prompt men with such knowledge to encourage and allow their partners/women to go for preventive measures. Women would also be empowered to go for CCS, resulting in a positive attitude towards CCS by both men and women, and a weak/fatalistic attitude would therefore, hinder CCS. In Sothern Ethiopia, a qualitative study revealed that the women in the study perceived themselves to be of low risk for CC and thought that CCS is meant for married people (Gebru, Gerbaba, & Dirar, 2016).

Comprehensive knowledge about CC and its screening have been related to a positive attitude to CCS. Even though higher educational status may not always be associated with high levels of knowledge especially about CC and CCS, studies have indicated that the educational status of women is related to their attitude towards CCS (Belete, Tsige, & Mellie, 2015; Ezechi, Gab-Okafor, Ostergren, & Pettersson, 2013). In a cross-sectional study among 1,517 HIV positive women in Nigeria, tertiary level education influenced the acceptance of CCS compared with women with lower educational level (Ezechi et al., 2013). Therefore, men with high educational status are likely also to exhibit a positive attitude to preventive health services, especially CCS. As such, the attitude of both men and women toward CCS would influence the uptake of CCS by women. It is especially true in communities where socio-cultural, traditional and religious practices are highly valued and men are regarded maximum respect. Also, the decision of men in such communities can be equated to ‘’Law’’ and this is usually binding. Khan and Woolhead (2015) in Dubai and White et al. (2012b) in Zambia reported that some women described CCS as uncomfortable, embarrassing and painful. According to Khan and colleagues (2015) some of the respondents in the qualitative study stated that they felt pain the first time they screened for CC and were afraid to go for subsequent screening sessions. The women also preferred a female medical practitioner to a male one due to issues of privacy and embarrassment (Khan & Woolhead, 2015). Concerns

of women about HIV testing being carried out without their consent, infection with HIV, violation of their privacy and the ability to have children because it is believed that the instrument used in the procedure is used to remove the cervix to clean during CCS have been raised (Teng et al., 2014; White et al., 2012b).

Apart from knowledge and the educational status, other factors may influence men to allow their partners/women to go for CCS and also women appreciating the need to attend CCS. Ezechi et al. (2013) have described the cost of CCS as one of the reasons women in a study in Nigeria did not go for CCS. This assertion is supported by similar studies in Ethiopia among HIV positive women, in Ghana among nurses and Kenya among 219 non-pregnant women (Belete et al., 2015; Were, Nyaberi, & Buziba, 2011; Williams, Kenu, Dzubey, Dennis-Antwi, & Fontaine, 2018). Belete and colleagues explained that 35.8% of respondents perceived CCS to be time-consuming and 30% claimed it was expensive (Belete et al., 2015). Other studies about CC and screening among women Muslim in Canada and the USA revealed that CCS fringe on the modesty and privacy of women because of the absence of female health workers privacy and consumes time (Padela, Peek, Johnson-Agbakwu, Hosseinian, & Curlin, 2014; Vahabi & Lofters, 2016; Vu, Azmat, Radejko, & Padela, 2016). According to Vahabi and Lofters (2016) in a community-based study of 30 migrant Muslim women's views of CCS, the respondents described CCS as time-consuming even after they booked an appointment earlier.

Similar studies conducted in Nigeria, Kenya and Malawi among women have also reported that the respondents of the survey considered the Pap test to be expensive (Ezechi et al., 2013; Fort, Makin, Siegler, Ault, & Rochat, 2011; Were et al., 2011). The expression of emotional and physical support has a significant role to play in CCS. Williams and colleagues (2012) suggest that the lack of the need for CCS, spousal and financial support create challenges for CCS. To this end, Adegboyega et al. (2019) have classified support as

emotional; care, trust and empathy, informational; advice, provision of information, and instrumental; financial assistance. According to Were et al. (2011) in a study to assess the perception of risks and barriers to previous CCS of women indicated that, lack of financial resources was a barrier to CCS. The authors also, added that the support of the women's spouses would enable them to go for CCS. As such the perceived high-cost CCS served as a barrier for them to screen for CC.

The socialisation of most cultural groups sets men as heads of households. Men wield authority in most homes and are the decision-makers. Therefore, permission to engage in CCS, transportation, working clinic hours is vital for women being allowed to go for CCS (Kress et al., 2015; Mbamara et al., 2011). Some women do not engage in CCS due to lack of permission. According to Feyisa and Temesgen (2019) less than 1% of women in the study had gone for CCS because they lacked approval from their husbands. These barriers/challenges faced by these women and in extension their partners/men could lead to an unfavourable attitude towards CCS. In contrast, Adegboyega et al. (2019) in a survey in the USA among 21 men disagreed that their partners needed permission from them to engage in CCS though they would prefer the women make their own decisions and inform them.

Furthermore, Erku and colleagues in Ethiopia among 302 women living with HIV to assess their knowledge level and CCS practices reported that 68.8% of the women indicated that they did not engage in CCS because it disturbs privacy and causes embarrassment associated with the Pap test (Erku et al., 2017). Privacy and modesty are of concern because women do not have the privilege of a female practitioner attending to them subsequently, the HPV self-sampling was preferred to deal with this concern (Vahabi & Lofters, 2016). The nature of the CCS process makes most women feel embarrassed, especially when these women do not experience any symptoms of CC. Additionally, some women perceived themselves to be at a low risk of CC especially when they do not have any symptoms viewing

themselves to be healthy (Fort et al., 2011; Khan & Woolhead, 2015; Nwankwo et al., 2011). Fort et al. (2011) complement this by adding that usually, women who went for CCS experienced symptoms of CC. However, a study involving women in Zambia indicated that some women were aware that CC could exist without symptoms. Also, most women who had just screened for CC felt that CCS was a diagnostic test meant for women with symptoms and need further evaluation (White et al., 2012a). In like manner women in Nigeria, London and Zambia submitted that it is better not to screen for CC because they had no symptoms, no risk for CC, CCS was for the educated women and CC was a death warrant, worse than HIV and a diagnosis of CC leads to pain and depression (Budkaew & Chumworathayi, 2014; Marlow, Waller, & Wardle, 2015; Ndikom & Ofi, 2012; White et al., 2012a)

2.2.4 The Beliefs and Perceptions (Subjective Norms) of Men and Women about CC and CCS

Culture, tradition and religion have prescribed the beliefs and perceptions of individuals about health care services. Some of these beliefs and perceptions eventually become barriers to engaging some health services. To clarify this, Wigle, Coast, and Watson-Jones (2013) have disclosed that sociocultural, health systems and political barriers posed a threat to CC prevention and these barriers cut across both HICs and LMICs. Several authors have revealed that gender inequalities prescribed by our traditional systems place females at a disadvantage (Kangmennaang, Onyango, Luginaah, & Elliott, 2018; Knaul et al., 2012; Namasivayam, Osuorah, Syed, & Antai, 2012). According to these authors, females are made subservient to men resulting in women seeking permission before seeking health care. This practice is part of the belief system of these societies and would influence women's reproductive health. Culture has also resulted in some barriers to CCS which include language barrier and issues of modesty and feeling embarrassed (Adunlin, Cyrus, Asare, &

Sabik, 2019; Brown, Muller, & Olsen, 2019; Darj, Chalise, & Shakya, 2019; Gallo et al., 2017; Petkeviciene, Ivanauskiene, & Klumbiene, 2018).

Abiodun and colleagues have attributed men allowing women to attend CCS and women also willingly going for the screening to their beliefs and perceptions about CCS (Abiodun, 2014). Numerous researches across Africa and beyond have reported various beliefs and perceptions held by both men and women (Birhanu et al., 2012; Castro, Peuker, Lawrenz, & Figueiras, 2015; Kelly-Hanku et al., 2017; Nwobodo & Ba-Break, 2015). An exciting belief held by some men in South Africa about CC was that the disease was meant solely for white-skinned people and not black-skinned people (Rwamugira, Maree, & Mafutha, 2017b). These men still hold the seeming archaic mentality that cancer and certain diseases belong to the developed, the rich and affluent. In Ghana and most African countries, it is culturally not right to discuss issues relating to sex openly and to a large extent most people do not discuss their ‘’sickness.’’ According to Mwaka et al. (2015), the beliefs and perceptions of both men and women in research carried out in Uganda involving 448 participants were mainly influenced by the culture and tradition. In that study, the beliefs and perceptions of the participants about CC and sex were numerous; having sex during the menstrual cycle, failure to wash/clean the genitalia after sexual intercourse, trauma from rough sex, and having sex with polygamous men (Mwaka et al., 2015).

Even though most people hold fatalistic beliefs about CC and screening, Di, Rutherford, and Chu (2015) in China and Mwaka et al. (2015) in Uganda and Rwamugira et al. (2017a) in South Africa have reported that CC is believed to be a preventable and curable disease. The question posed now is whether these men allow their partners/women to engage in CCS and possibly support them after revealing these facts about the disease. Beliefs about the causes of CC have also been reported in Ghana, Kenya, Malawi and South Africa as CC is caused by infertility, HIV, having excessive sex, inserting various materials into the

vagina, forceful sex, washing the vagina with chemicals, use of libido boosters witchcraft, poor body hygiene, CCS (VIA) and, uncircumcised men, the abuse of alcohol and drugs (Maree et al., 2011; Munthali, Ngwira, & Taulo, 2015; Ngugi et al., 2012; Williams & Amoateng, 2012; Williams et al., 2013). Furthermore, Ansari, Agarwal, Singh, Nutan, and Deo (2019) exemplifies the diverse beliefs of individuals across the world in a research conducted in India when the respondents suggested that CC is caused by having several abortions, having a home delivery and prolonged labour during childbirth. Notwithstanding, other beliefs are tied to the culture and traditions where both males and females believed that CC is caused when a taboo which depicts abstinence before marriage is broken and also when the dead are angry with someone (Mwaka et al., 2015).

Culture and religion have set the tone for practices regarding sex and marriage. In Africa and beyond sex outside marriage is frowned upon however, depending on the culture, traditions and religious beliefs, early marriage and multiple marriage partners are allowed. Some studies across the world have affirmed that indeed, early marriage and numerous marriage partners are risks for CC. For instance, Schluterman and colleagues in a study in Mali to assess the differences in the HPV infection rates between the urban and rural setting suggested that early sex and fewer pregnancies were associated with increased risk of infection with the HPV which causes CC (Schluterman et al., 2013). Also, the same study found that age, polygamy and level of income did not have an association with a risk for HPV infection (CC). Interestingly, Oakeshott et al. (2012) suggest contrasting findings in a study in the UK among 2,185 young women to investigate the frequency and risks for HPV infection. The authors revealed that multiple sexual partners were a risk for HPV infection (CC). The conviction of individuals about the will of the Almighty God in their lives is explicitly displayed when Gebru and colleagues (2016) reported that respondents considered

CC as deadly despite the availability of treatment and considered God's will as the determining factor of CC.

The beliefs and perceptions of women about CCS have been explicit about their knowledge of CC and screening. Some women believe that CCS breaks virginity, is painful, embarrassing and at the same time they also perceive themselves to be at a low risk of the disease they describe as incurable (Mutambara et al., 2017; Rees et al., 2017; Salman, 2012; Teng et al., 2014). Apart from these perceptions, Mutambara et al. (2017) add that most of the respondents in a study did not have an idea about the age at which their risk for CC is higher and women between the ages of 18 to 29 did not also have an idea about when to go for CCS. Nonetheless, researchers in Swaziland have suggested that 58.1% of their study participants believed that witchcraft, only women with multiple sexual partners, and birth control were risks for CC (Ngwenya & Huang, 2017). Akin to these findings, 72.3% of Kenyan men believed that contraception and 90% also believed that HIV positive diagnosis is risks for CC (Rosser et al., 2014).

Similarly, some educated women also who are likely to be knowledgeable about CC and CCS have fatalistic beliefs about CCS. A study in Saudi Arabia carried out by Salem and colleagues (2017) among 506 female teachers to assess their perceptions about their risk for CC and the associated barriers to CCS revealed that the women felt they were in good health. Subsequently, they held the belief that they had low risks for CC, the disease was incurable and CCS was painful (Salem, Amin, Alhulaybi, Althafar, & Abdelhai, 2017). In contrast, female nursing students in research in the US to examine their beliefs about CCS felt that they were at risk for CC, however some of the students did not believe that the Pap smear test is beneficial and also did not think the test could detect abnormal cervical cells (Ackerson, Zielinski, & Patel, 2014).

Teng and colleagues (2014) indicated that women throw more light on the kind of embarrassment that they feel about CCS. The respondents explain that they face personal embarrassment due to the potential smell of the sample and the nature of the CCS process. Furthermore, the community embarrassment has got to do with the way other community members would see them since CCS is not widely accepted (Teng et al., 2014). A survey in Malawi to evaluate the views of 13 district coordinators and 40 service providers revealed several barriers to CCS; inadequate functional equipment and supplies, males as service providers, long distance to health facilities, lack of awareness of CC and CCS, shortage of staff and lack of male partner involvement (Munthali et al., 2015).

Consistent with the finding of a lack of trust in the Pap smear test is indicated in a Ghanaian study conducted among female college students (Abotchie & Shokar, 2009). Several research works have associated fear with women going for CCS even though some of these women did not specify the reason for the fear while others suggested the fear was due to embarrassment, pain or discomfort associated with the disease (Ackerson et al., 2014; Anaman-Torgbor, King, & Correa-Velez, 2017; Ogunsiji, Wilkes, Peters, & Jackson, 2013). In Ibadan, Ndikom and colleagues explicitly described the fear women associate CCS with as the fear of a positive result of the screening (Ndikom & Ofi, 2012).

2.2.5 The PBC of Men and Women about CC and CCS.

The perceived difficulty or ease men have to allow women to go for CCS is influenced by several factors. The level of either of these perceptions would result in allowing/ supporting women to go for CCS or decline to do so. For instance, Ma et al. (2013) describe the significant effect of self-efficacy on CCS when it was suggested that confidence to engage in CCS, manage the outcome of the result and previous CCS influenced CCS. The perceived difficulty faced by these men may be considered as barriers which prevent men from allowing their women to go for CCS. A few of such barriers which prevent women from

engaging in CCS include, culture, financial constraints, language difficulty between the health worker and the client and educational level, age, concern for modesty, embarrassment and the gender of the healthcare provider (Adunlin et al., 2019; Gallo et al., 2017; Petkeviciene et al., 2018; Redwood-Campbell, Fowler, Laryea, Howard, & Kaczorowski, 2011). Gallo et al. (2017) explain that language as a barrier hinders the communication between the client and the health worker. Provision of culturally competent care is compromised because there is an absence of cultural mediators and the preference of female health workers (Gallo et al., 2017).

In Zambia, research involving 300 men and 300 women to assess their knowledge, attitude and prevention of CC suggested that the knowledge level of the respondents positively influenced women going for CCS and men endorsing their screening (Nyambe et al., 2019). According to the authors, the respondents also explained that an acquaintance with someone who had screened before was a motivating factor for women to engage in CCS. Furthermore, men who were aware of CC and its screening provide support to women for CCS (Nyambe et al., 2019). Moses et al. (2018) also added that in Uganda, more than half (70%) of 62 men claimed that their partners had never screened for CC, meanwhile, however before these men were educated on CC, 93% of them compared to 98.2% of these men after the education would support their wives to screen for CC if available in the community.

Support has proved to be very vital to how individuals respond to health services and men are very instrumental in women going for CSS. Kung et al. (2019) have also submitted that, family support resulted in many women seeking preventive health services especially CCS. This conclusion was made in a qualitative study of 40 respondents in India to describe the barriers and factors influencing women living with HIV to screen for CC. Additionally, Kung et al. (2019) suggest that information about CC and its screening increases the support needed for women to test for CC. The help could be from their spouses, family members and

friends in the form of assistance, providing money so that these women can go for CCS. The support of the family and the community as a whole is essential to prevent the social and cultural stigma attached to CCS (Gallo et al., 2017). Women have significant people in their lives they emulate in terms of the utilisation of CCS. According to Ngugi et al. (2012) in a qualitative research among women in Kenya, women go for CCS after a close relative or friend is diagnosed with CC or when the women have ever gone for the screening themselves. To enable women to go for CCS, the information and the source about CC and its screening also helps to allow women to engage actively in CCS as well as gain support from their family. Additionally, the services of a family physician contribute significantly to CCS since the issue of embarrassment, the gender of the health worker, language barrier and little or no information about CC and its screening are usually handled (Petkeviciene et al., 2018; Redwood-Campbell et al., 2011).

Culture and religion continue to influence the participation of individuals in some preventive health programmes. Some authors have added that religiosity limits the rate at which women go for CCS (Nyambe et al., 2019; Salman, 2012). As a result, young spinster Muslim women are not expected to engage CCS due to; the Islamic code of modesty and virginity, shyness and embarrassment and the disease being a punishment for sin (Jradi & Bawazir, 2019; Salem et al., 2017; Salman, 2012). Another study about the barriers to CCS among women in Nigeria suggests that respondents who were Muslim were reluctant to participate in health care programmes (Modibbo et al., 2016). The Muslim women in the study had never heard of CC compared to their Christian counterparts among whom the majority had heard of the disease. This assertion was supported by other researchers who suggested that Muslim women tend to have lower knowledge of CC and CCS compared their Christian counterparts (Kangmennaang et al., 2018). Since religion has a significant influence on behaviour, Muslim men would likely have the same inclination towards CC and CCS.

This is further explained in a research carried out by Matin and LeBaron (2004) in the USA to explore the attitudes of Muslim women toward CCS. The respondents of the study reported that the health professionals had little or no respect for Muslim values of modesty and virginity resulting in very few of them going for CCS.

2.2.6 The Behavioural Intention of Men and Women about CC Screening

According to the TPB, behavioural intention is an antecedent to behaviour. Therefore, before women practice CCS, men would have to be willing/ be ready to allow them to engage in the screening practice. In this situation, to perceive CCS as necessary and not challenges to get screened may result from previous experience. However, it must be noted that intentions may not result in actual behaviour. In a focus group discussion of 29 men, Williams and Amoateng (2012) indicated that the men were willing to encourage their wives to for CCS and also pay for the service if they could afford but the married men explained that they would not be comfortable with a male doctor offering the service. In contrast, Asuzu and colleagues (2014) claimed that between 51% to 58% would encourage their wives to go for CCS irrespective of the nature of the test. Another 64% of these men were willing to pay for their wives to go for CCS (Asuzu et al., 2014).

These studies show that the intention of men to allow their partner/women to go for CCS may not necessarily lead to the women going for CCS. However, women who had screened for CC before are likely to have more knowledge about the benefits of the screening test and would therefore, participate in subsequent CCS. According to Mingo et al. (2012), 72% of women who participated in a study in Botswana had previously screened for CC and were willing to screen if the opportunity is given. Similarly, literature in some African countries about the intention to go for CCS was reported as Ethiopia (62.7%), Nigeria (96.5%), Mozambique (86%) and Thailand [10.4%] (Audet et al., 2012; Belete et al., 2015; Budkaew & Chumworathayi, 2014; Odafe et al., 2013). In Sudan, a study among 500married

women between the ages of 14 to 58 years revealed that only 15.8 % have gone for CCS and 68% also had the intention to for the screening (Almobarak, Elbadawi, Elmadhoun, Elhoweris, & Ahmed, 2016).

Intentions as described earlier, are antecedents to behaviours and may not necessarily lead to behaviour. This is exemplified by Belete and colleagues (2015) in Addis Ababa when 62.7% of the respondents were willing to go for CCS but only 24.8% accepted to screen for CC. A community -based survey in Uganda among 416 women to describe the low level of CCS revealed that 86% of the respondents intended to go for CCS but only 7% of them have gone for CCS (Twinomujuni, Nuwaha, & Babirye, 2015). Also, related studies about the intention to have the HPV vaccine and actual acceptance revealed that in Cambodia, 62% against 1% and in Denmark 49% against 24% respectively (Mortensen, 2010; Touch & Oh, 2018). However, Donati and colleagues (2012) indicated in a study in Italy reported that all 58% of the participants who initially were not sure of having the HPV vaccine finally went it. Olubodun, Odukoya, and Balogun (2019) in Nigeria also reported that 88.9% of the respondents were willing to go for CCS.

Furthermore, the intention to allow women to go for CCS would be influenced by several factors. Jia et al. (2013) in a study in among 7929 respondents in China to describe the knowledge level of CC and the barriers to CCS reported that age, knowledge level, income and socio-economic status determined the willingness of women to screen for CC. Also, women who were younger and those with a high level of knowledge of CC and its screening were more willing to go for CCS (Chidyaonga-Maseko, Chirwa, & Muula, 2015; Jia et al., 2013; Matejic, Vukovic, Pekmezovic, Kesic, & Markovic, 2011). The perceived high cost of CCS also determines the number of women who go for CCS. Therefore, CCS may be increased if the service was perceived to be less expensive or free. Thus, Gupta and colleagues in India indicated that more than 76.2% of the respondents were willing to go for

CCS if the service was free (Gupta et al., 2019). This assertion is similar to a community-based study in Ethiopia where 87% of the respondents and a hospital-based study in India the respondents also confirmed that they were willing to go for CCS if it was available and free (Bansal et al., 2015; Feyisa & Temesgen, 2019). Other studies have reported that additional cost According to, associated with CCS was a demotivating factor for CCS and the perception of women that they were at risk of CC is also associated with their intention to go for CCS (McAlearney et al., 2010; Mukama et al., 2017; Twinomujuni et al., 2015).

2.2.7 The Behaviour of Men and Women toward CCS.

The behaviour of men towards CCS is described as whether men are ready to allow women to go for the screening. Notwithstanding, the knowledge level, attitude, beliefs, barriers or enablers and the intention of men would determine the behaviour of men. Naturally, women worldwide are caregivers of the family. In doing this, most women do not give priority to their own health leading to low levels of CCS, especially in Africa. Fort and colleagues clarify this in a study among Malawian women when the only respondent who screened for CC did so because two of her children were living with HIV and she believes that early screening saves lives (Fort et al., 2011). Although SSA is the most significant contributor to the CC burden globally, evidence about the current trend illustrates that CC is not peculiar to Africa alone. According to Tapera et al. (2017) in Botswana, only 27.5% of female students in a university had screened for CC. Ebu et al. (2015) in Ghana, Gupta et al. (2019) in India and Touch and Oh (2018) in Cambodia have also reported lower rates of CCS; 0.8%, 16%, and 7% respectively.

Several research works have established that rate of screening in most developing countries is low and the reason is attributed to the lack of knowledge of CC and its screening (Ndikom & Ofi, 2012; Williams et al., 2013). Tello and colleagues in the USA also suggested that 22% of the respondents had not screened for CC even though they did not indicate that

they planned to do so later. To increase the participation of women in CCS, Tung, Granner, Lu, and Sohn (2019) suggests that more attention should be given to young and unmarried women because women aged between 21-65 years, older and married women were likely to go for CCS. In like manner, young and unmarried men should also be targeted to participate in CCS programmes to increase the rate of CCS. Would men who know about CC and its screening be able to encourage more women to go for CCS? Rwamugira et al. (2017b) reveal that regardless of the knowledge acquired by 120 men in a study only 30 women reported for CCS even though 66men claimed they had taught their partners or female relative about the disease. Despite the high knowledge level of the respondents in the study, Singh, Seth, Rani, and Srivastava (2012) reported 11% had screened and 47% had never screened for CC. Research by Obročníková and Majerníková (2017) in Slovakia revealed that 43% of the respondents admitted having a Pap smear once a year and another 44% once in three years. The low rate of CCS was because CCS is associated with sexually active women and engaging in CCS causes shame and stigma. A cross-sectional study indicated that 5.2% of the women screened and 40% claimed they needed permission from men and the men also had a preference for a female health worker to allow women to screen (Ngwenya & Huang, 2017).

In LMICs, established programmes for CCS are non-existent resulting in opportunistic CCS and most women who go for CCS do so on the recommendation of a health worker (Assoumou et al., 2015; Chamani, Charandabi, & Kamalifard, 2012; Nwankwo et al., 2011; Williams et al., 2013). According to Nwankwo et al. (2011) in a cross-sectional study among urban and rural women in Nigeria, only 4.2% of women have ever had CCS and these women were all referred by a doctor to go for the screening. The situation in Ghana is no different, only 16% of women with cancer and 2.3% of women without cancer have ever been screened for CC and all these women screened because a doctor asked them to go for CCS (Williams et al., 2013). Likewise, in China, Abudukadeer and colleagues revealed that

only 33% of the study participants had screened for CC during a quantitative study from 2013 to 2014 (Abudukadeer et al., 2015). This trend throws light on the prioritised curative health care other than preventive healthcare and poorly organised CCS programmes in most African countries. Advanced counties like the USA record higher rates (84%) of CCS due to opportunistic CCS and well-structured and organised CCS services which are available to all eligible women (Padela et al., 2014).

A systematic review of the literature to assess the interventions to encourage women to go for CCS reported that strategies used by developed countries like Sweden, UK and Italy to increase CCS would not be possible in LMICs (Everett et al., 2011). Such strategies like inviting women through letters for CCS would not be sustainable due to shallow levels of literacy and increase information/awareness of CC and its screening may not lead to increase in CCS (Everett et al., 2011). Even though CCS is known to be low among immigrant populations, 53% of Vietnamese women in America have been suggested to have had CCS in a randomised controlled trial of 1,450 women (Ma et al., 2013). The reasons given for the rate of screening was because the women perceived themselves to be at low risk with only 4% of them considering themselves to be at risk and 38.8% claimed their partners were not comfortable with the test (Ma et al., 2013). Additionally, 403 Inuit women in Canada revealed that only 4% of them have never screened for CC (Cerigo, Coutlée, Franco, & Brassard, 2013). Even though these studies were conducted among minority groups, it is evident that the health care system in the developed world accounted for the high rates of CCS reported. Almost all women have similar challenges, regardless of where they are found. However, women in advanced countries have a better chance at CCS than their counterparts in LMICs.

Another systematic review of 8 studies to examine the barriers to CCS, Lim and Ojo (2017) suggests that even though women in Africa have diverse cultural orientation, they

shared similar barriers to CCS. Some barriers common to these women in Africa include, inadequate spousal support, low levels of knowledge, cost of CCS, poor access to CCS centres, stigma, modesty and privacy among others (Lim & Ojo, 2017; Williams et al., 2013). Khan and Woolhead (2015) indicate that even though some educated Muslim women in Dubai went for CCS when their doctors asked them to, their knowledge of CC and its screening was not enough to encourage women to go for CCS. The fear of the partners of these women labelled as promiscuous and unfaithful men stopped these women from going for CCS (Khan & Woolhead, 2015). Contrary to this, Botswanan women who go for CCS are deemed to have multiple sexual partners (Major et al., 2018). Such women would be considered to be unfaithful to their husbands and may be asked to leave their marital home.

Cleary, the complexities of culture in some societies with regards to the status of men is enormous and women create the picture of a successful marriage at the detriment of their health. Men have to be critical players in the fight against CC to make progress. Major et al. (2018) in a qualitative study in Botswana during a focus group discussion, indicated that fear of the diagnosis of CC deterred most participants from CCS. A study in Ghana also supports this, to determine the sociocultural factors influencing CCS among women where the participants in the study claimed they preferred not to know their CC status because the possible diagnosis of CC caused fear and anxiety (Williams, 2014). Similar studies in Ethiopia, Iran, Gabon, Sudan and Nigeria, have also suggested that a positive result of CCS have prevented most women from engaging in the service (Almobarak et al., 2016; Assoumou et al., 2015; Chamani et al., 2012; Gebru et al., 2016; Idowu, Olowookere, Fagbemi, & Ogunlaja, 2016).

Coupled with lack of time fear, painful examinations, rude health workers, being a virgin, poor communication, male gender of the health worker, women still need the permission of men to allow them to go for CCS (Darj et al., 2019; Jradi & Bawazir, 2019;

Ramathuba et al., 2016; Rees et al., 2017). The men have the final say, when they refuse then it means, women cannot go however, when they agree women are allowed to go for CCS. Interestingly, Teng et al. (2014) added that women in another study stressed that though it was essential to get permission from their husbands to go for CCS, they would still go for the screening with/without the consent of the men since their health was important. Still, other women could not engage in CCS because their husbands did not give them permission (Feyisa & Temesgen, 2019; Idowu et al., 2016). According to Darj et al. (2019) in a qualitative study to assess the perceptions of the barriers to CCS in Nepal, it was concluded that the culture of the people which restricts the exposure of intimate regions of the female body especially to males other than their husbands leads to embarrassment when it is exposed during CCS or during discussions about it. In such a community where patriarchy is practiced few women are likely to be allowed by their husbands, in-laws to go for CCS. This assertion is supported by other researches suggesting that, apart from these women feeling embarrassed when a male health worker attends to them, their husbands were also not in support of males examining their wives resulting in the men not allowing them to go for CCS (Chidyaonga-Maseko et al., 2015; Matejic et al., 2011; Wong & Kawamoto, 2010).

In a study to examine the knowledge, attitude and perceived risk of CC among Kenyan women, Sudenga et al. (2013) put forward that women who perceive themselves to be at risk of CC are more likely to go for CCS. Also, 65% of women who had ever gone for CCS expressed their willingness to go for CCS again. Therefore, the authors concluded that women who have ever screened for CC were more likely to screen again compared to those who were yet to go for CCS (Sudenga et al., 2013). Even though some Chinese women in Australia believed that CCS was relevant in the early detection of CC, they still considered it a diagnostic test (Kwok, White, & Roydhouse, 2011). Innovation approaches must be implemented to improve access and use CCS services. Referrals by health workers to women

to go for CCS, organisation of free CCS institution of measures to follow up and remind women for their next CCS seems to improve the rate of CCS.

2.2.8 The Relationship between Knowledge, Attitude, Beliefs, PBC, Intention and the Behaviour of men and Women and predictors of men's and Women's behaviour towards CCS

According to Ajzen (1991), attitude, beliefs and PBC influence intention toward a behaviour which also affects the behaviour being described. Indeed, positive attitude, favourable believes and enabling factors influence intention (positive) which would be expressed as a positive behaviour. Waller, McCaffery, and Wardle (2004) indicated that knowledge is the precursor to behaviour, nonetheless, this relationship is not linear. According to Chamani et al. (2012) although only 27.1% of respondents in an Iranian study had gone for CCS, there existed a positive relationship between attitude and CCS. Kahesa and colleagues (2012) in Dar es Salaam in a survey among 804 women reports that there was an association between women accepting to go for CCS and being married, an older age, having 4 children or less and being educated. Even though there was a significant relationship between knowledge of CC and its screening and educational level, this did not result in CCS (Mbamara et al., 2011).

Additionally, being knowledgeable about the benefits of CCS has a positive relationship with CCS and women with higher educational level are associated with CCS (Kahesa et al., 2012; Morema, Atieli, Onyango, Omondi, & Ouma, 2014). Contrary to this, some women with high knowledge levels of CC and its screening do not engage in CCS (Coskun, Can, & Turan, 2013; Tran et al., 2011). Correspondingly, research work in Saudi Arabia suggested that even though the respondents of the survey showed a positive attitude by expressing great benefits and motivation and few barriers to CCS, they still did not engage in CCS (Aldohaian, Alshammari, & Arafah, 2019). Also, Bansal et al. (2015) have described

the level of knowledge of the women in the study to be suboptimal and a resultant low 9.5 % of them had gone for CCS.

High levels of knowledge of CC and its screening may not result in CCS. For example, a research to examine the knowledge, attitude and practice of CCS in a teaching hospital in Nepal reported that a negative correlation exists between knowledge of CC and its screening and the practice of CCS (Shrestha & Dhakal, 2017). Gebreegziabher, Asefa, and Berhe (2016) also suggests that nurses in a survey had high levels of CCS and CC knowledge but only 10% of them had ever gone for CCS. They believe in a superior force controlling who is diagnosed with CC is clarified by Padela and colleagues (2014) when they examined the relationship between religion and CCS and revealed that prayer was associated with CCS and the women who felt that health problems (CC) were from God did not bother to go for CCS. Similarly, fatalistic beliefs about CC and its screening are common with women of lower educational status and a shorter stay in the USA (Padela et al., 2014). In Saudi Arabia, it was reported that a lack of knowledge resulted in fatalistic beliefs and a poor attitude concerning CC and CCS (Jradi & Bawazir, 2019). The authors explained that the respondents' attitude was such that they described themselves as a very religious people and conservative people who do not engage in sex outside marriage as such the spread of sexually transmitted diseases is almost non-existent.

Furthermore, the respondents also believed that women without symptoms should not go for CCS, CC is a genetic disease, it has no cure, it is caused by poor personal hygiene, unkempt bathrooms and toilets, as well as some spices (turmeric and musk) believed to provide protection against the disease (Jradi & Bawazir, 2019). These fatalistic beliefs and poor attitude would limit the number of women who would go for CCS. Men who are also aware of these beliefs would not allow their partners/women to go for CCS.

Other factors have been reported to influence/result in the ease with which women screen for CC. Related studies about CC and CCS have equally suggested that knowledge and attitude influence intention to go for CCS and whether to engage in CCS or not (Abamecha, Tena, & Kiros, 2019; Mokhele et al., 2016). Sudenga et al. (2013) have concluded in a cross-sectional study among 488 women conducted in Kenya that time, fear, lack of knowledge and money influenced/served as a motivation to go for CCS. The fear expressed by participants resulted from their perceived risk of CC resulting in their going for CCS. The study further revealed that age, level of education and regular income (money) were factors they perceived to aid in their practice of CCS (Sudenga et al., 2013). These findings were supported by Mingo and colleagues (2012) in a research which involved 289 women in exploring CC and screening awareness. Both studies revealed that older women were likely to screen because they feared they had a higher risk of cancer. As such they found it easier to screen compared to the younger females in the study. Yet again the level of education also influences their ease of screening, both studies had respondents with at least secondary education of 65% and 61% which informed their ease of screening for CC since about 91% of participants in the study had information about CC. Even though both studies had similar findings, there were contrasting findings as well. The educational level of the women did not translate to high income (Mingo et al., 2012; Sudenga et al., 2013). Research among women of different backgrounds has also reported similar findings in US-Mexico and South Africa (Castrucci et al., 2008; Francis et al., 2010).

Abudukadeer et al. (2015) have also suggested that little or no knowledge about CC and its screening and unfavourable attitude also leads to reduced levels of CCS. Engaging in CCS by women and men allowing their partners to go for CCS is dependent on information that is available to them. More men and women with information on CC and its screening would increase CCS. In Uganda, several other factors associated with the intention to go for

CCS have been reported to include marital status, discussion of CC with a health worker and the occupational status of respondents (Twinomujuni et al., 2015). Obi (2015) in a study among women in Benin city revealed that the predictors of CCS were parity, marriage and employment status. However, in a cross-sectional survey among Nurses in Ethiopia, attitude and place of work of the respondents predicted CCS (Gebreegziabher et al., 2016). Other predictors of CCS include, age, knowing someone with CC, parity and discussion with health worker (Cerigo et al., 2013; Ncube, Bey, Knight, Bessler, & Jolly, 2015). However, Swapnajaswanth et al. (2014) reported that occupation and marriage predicted CCS in a study involving women in India.

2.2.9 Summary of Literature Review

Evidence gathered from the review of literature bared that male involvement in CC and its prevention (CCS) have received attention globally as a strategy to scale up the rate of CCS. The recommendation by stakeholders in healthcare about the inclusion of men in women's health is because their involvement has led to positive health outcomes. In spite of this, the literature on male perspective on CCS is very scarce. HICs have higher rates of CCS due to policies, functional and efficient healthcare systems compared to LMICs. Even though some of the LMICs have policies and programmes with regards to CCS, there are challenges with practical implementation.

Several factors including knowledge, attitude, beliefs, PBC and intention, are significant in determining the behaviour of men and women towards CCS. These factors outlined differ according to the context, culture, age, and educational level. Also, other factors influence the behaviour of men towards CCS but not limited to a low level of knowledge, poor attitude; perceived embarrassment and pain, cost, male gender of health worker among others, few screening centres, the need for permission from men to allow their partners/women. Consistently, the male gender of the health worker and the fear of a positive

CCS result was responsible for few men letting their spouses go for CCS and women also feeling less empowered to go for CCS.

The significant facilitators/predictors of CCS were also found to be the knowledge level and attitude of both men and women. These factors were however influenced by their level of education. The knowledge level of both men and women and women's experience of CCS could affect most people to get involved in CCS. The available literature on the behaviour of men about CCS in Ghana is limited, resulting in a limitation in determining male involvement in CCS in Ghana and precisely Tamale metropolis. Few studies were quantitative studies and randomised controlled trials with the majority of these studies being qualitative studies. Also, most of these researches did not use TPB creating a gap in the literature. To this extent, there is an existing gap about the behaviour of men toward CCS and this study seeks to fill this gap.

CHAPTER THREE

METHODS

This chapter describes how the research problem was studied and the rationale behind the design and techniques that were employed. The setting in which the study was carried out has also been described. The sampling technique, the tool for data collection, data gathering procedure, analysis, validity and reliability, and ethical issues are all described in this section.

3.1 Study Design

A quantitative approach using the cross-sectional design was used to collect data about the behaviour of men towards CSS. This design is described as an objective way of studying a problem that requires a solution by using measurements and a fixed research design (Babbie, 2015; Creswell, 2013; Moule, Aveyard, & Goodman, 2017; Parahoo, 2014). The cross-sectional survey also guided the researcher to acquire a clear description of the behaviour of men and the relationships among the influencing factors of this behaviour within the time frame for the study (Polit & Beck, 2013). Furthermore, using the cross-sectional design was relatively cost-effective and the data collected was large enough to make generalisations and information widely applicable (Babbie, 2015; Creswell, 2013; Parahoo, 2014; Polit & Beck, 2013; Timmins, 2015).

3.2 Study Setting

The study was conducted in the Tamale Metropolitan Assembly (TaMA). The metropolis consists of two Sub-Metros; Tamale Central Sub-Metro and Tamale South Sub-Metro. TAMA is situated in the Northern Region, which is the largest region in Ghana in terms of landmass [70,384 square kilometres] (GSS, 2013). The metropolis is one of the local government units in the Northern Region. Tamale serves as the capital for both the TaMA and the Northern region (GSS, 2014b; GSS, 2013). TaMA is located in the heart of the Northern Region and lies between latitude 9o16 and 9o34 North and 0o36 and 0o57 West.

East Gonja also bounds it to the south, Central Gonja to the south-west, Mion district to the east and the Sagnarigu district to the west and north (GSS, 2014b). TAMA is also the most populated (371,351) amongst the areas of the Northern Region; between 111,109 to 185, 995 males and 112,143 to 185, 356 females (GSS, 2012, 2014b; GSS, 2013).

The metropolis is home to people of different ethnic groups like the Gonjas, Dagombas, Mamprusis, Dagaabas, Akan, Ga-Dangme, Ewe, Guan, Gurma, Grusi, Mande and Frafras. The Dagombas make up the majority among the ethnic groups. The predominant religions in the metropolis are Islam (90.5%), Christianity [11.6%] (Ghana Statistical Service, 2014b; GSS, 2013). Most of the inhabitants are farmers, craftsman and traders. The Tamale Teaching Hospital (TTH), which is the only tertiary health facility in the Northern Region, is located in the TaMA. The hospital serves as a referral facility for clients from neighbouring countries and the other regions in the northern part of the country. Cerebrospinal meningitis is common during the dry season due to high temperatures of 40℃ and above. The dry season is usually from November to April with the rainy season from May to October. Festivals celebrated include the Damba and Bugum festivals.

3.3 Target Population

The target population for the study were all males 18years and above and live in the TaMA. To ensure a good representation of both urban and rural dwellers, both sub-metropolises were considered.

3.3.1 Inclusion Criteria

Men who were 18 years and above, consented to be part of the study, live in the TaMA, and spoke English, Dagbani, Dagaare or Twi were included in the study.

3.3.2 Exclusion Criteria

Men who were ill and weak but fall within the age limit, live in TaMA and spoke English, Dagbani, Dagaare or Twi were not included in the study.

3.4 Sample size and Sampling Technique

The TAMA has a total number of 111,109 males (GSS, 2014b). To arrive at the sample size for the study, the accessible population of men (total number of males 18years and above), and the significance level were computed. The closest age range of men available to the researcher was 15 years and above. According to GSS (2014b) the male population of 15 years and above is 36,205. Therefore, this figure was used as the accessible male population. The sample size was calculated using the Yamane sample size formula below;

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

Where: n = required sample size, N= accessible population, e = alpha level or significance level

N= 36,205 e= 0.05

$$\text{n} = \frac{36{,}205}{1 + 36{,}205(0.05)^2}$$

n = 396

The least sample size was calculated as 396 however, 10% of the calculated sample size was added to 396 to accommodate respondents who may not answer all the questions on the questionnaire and also for non-response. Therefore, the sample size for the study was 436 respondents. This was done to make the sample size representative of the target population, make generalisation of the findings and minimise sampling errors (Ary, Jacobs, Irvine, & Walker, 2013; Polit & Beck, 2013). The two sub-metropolitan areas were considered as clusters. Five communities were chosen randomly from each cluster and within each

community, systematic random sampling was used to select each house and simple random sampling used to select the respondents who met the inclusion criteria and agreed to be part of the study. A total of 422 questionnaires were completed out of the 436 administered indicating a response rate of 97%. Fourteen questions were not returned after several attempts to retrieve them.

3.5 Data Collection Tool

A questionnaire consisting of adapted scales from several validated questionnaires was used as the tool for data collection. The authors granted permission for the use of these questionnaires. Even though the questionnaire was not developed based on the TPB, it covers all the relevant constructs of the theory modified to suit this study. The questionnaire was divided into seven sections; (A) Socio-demographic data, (B) Knowledge, (C) Attitude, (D) Beliefs and perception (subjective norms), (E) Perceived behavioural control and (F) Intention and (G) Behaviour.

The **socio-demographic data** were obtained from literature. It was made up of eight (8) items. For instance, age, marital status and educational level.

The knowledge attitude practice (KAP) questionnaire subscale component for **knowledge** was used to assess the knowledge level of men about CC and CCS. Knowledge was measured by twenty 20 items scored on True, false and I don't know responses. Items measuring knowledge was modified to suit this study. For instance, ''what was the reason for not doing Pap smear regularly'' was modified to ''what was the reason for not allowing your partner/women to go for Pap smear regularly'' Knowledge of CC was scored by considering a binary response and based on the answer provided, True (1) = high knowledge and False and I don't know (0) = low knowledge. For each respondent, the sum of the scores of each item gives the total knowledge score for high knowledge and low knowledge. The respondents are considered to have high knowledge if the value is above the median score

and low knowledge if below the median score. The overall coefficient of Cronbach's Alpha for the questionnaire was 0.90 and knowledge 0.80. The KAP was validated by (Hadji, Khosravi, Weiderpass, Taghizadeh, & Zendehdel, 2015).

The Attitude of men about CC and its screening was measured using the attitude subscale of the KAP questionnaire (Khosravi et al., 2012). The attitude subscale was made up of 9 items scored on a 5-point Likert scale from completely agree (5) to completely disagree (1). Items on the scale were modified to suit the study. For instance, ''I prefer doing Pap smear test before experiencing CC symptoms'' was modified to ''I prefer my partner/women doing Pap smear test before experiencing CC symptoms''. The coefficient of Cronbach's Alpha for this subscale was 0.82.

The beliefs of men about CC and CCS assessed using Creencias, Papanicolaou, Cancer -28 (CPC-28) Questionnaire. The questionnaire was developed by Urrutia and Hall (2013) to assess the beliefs of women about CC and its screening. It consists of three parts; beliefs about the Pap test and CC, need to have the Pap test and risk for CC and reasons for having a Pap test. The questionnaire consists of 28 items scored on a 5-point Likert scale from strongly agree (5) to strongly disagree (5). The extent to which the respondents agree to the questions asked would determine their beliefs about CC and its screening. The statement, '' to take care of my health'' was modified as ''to take care of my partner/women's health''. The Cronbach's Alpha of the questionnaire was reported as 0.735 and validated by (Kim & Ko, 2013; Szabóová, Švihrová, Švihra, Rišková, & Hudečková, 2018).

PBC was measured using the Pap-Test Self-Efficacy Scale developed by Fernandez et al. (2009) as a measure of women's self-efficacy for the Pap test. According to Glanz (2012) and Mimiaga et al. (2009) self-efficacy is similar to PBC described in the TPB. The scale is made up of eight items measured on a 5-point Likert scale from very unsure (1) to very sure (5). ''How sure are you that you can get a Pap test even if a friend discouraged you from

having one’’ was modified to ‘’how sure are you that you can allow your partner/women to get a Pap test even if a friend discouraged you from allowing her to have one’’. The Cronbach Alpha for the questionnaire is reported to be 0.95.

The Intention subscale of the Colorectal Cancer Screening Adherence Questionnaire was used to measure the intention of men toward CCS. The questionnaire was developed by Vernon, Myers, and TiIley (1997) to assess the predictors of colorectal cancer screening adherence. The intention to screen subscale consists of 2 items on a 4-point Likert scale from strongly agree (5) to strongly disagree (1). The statement ‘’I do not intend to go through colorectal screening’’ was modified to ‘’I do not intend to allow my partner/women to go through CCS’’. The Cronbach Alpha for this subscale is reported as 0.79.

Behaviour toward CCS will be measured using the mammography and ultrasound subscale in the Health Behaviours and Stages of Change Questionnaire (HBSCQ). The subscale consisted of six items to measure the behaviour of men about CCS. Behaviour is scored on a 4-point Likert scale from strongly agree (5) to strongly disagree (1). Items on the scale were modified. For instance, from ‘’I have never had a mammogram/breast ultrasound and I don’t plan on ever having either test done’’ to ‘’I have never allowed my partner/women to go for Pap test and I don’t plan on ever allowing her to have the test done’’. This questionnaire was constructed and validated by Gonzalez-Ramirez et al. (2017) to promote healthy behaviours defined to the stage of change.

3.6 Data Collection Procedure

Ethical approval (appendix A) from the Institutional Review Board (IRB) of the Noguchi Memorial Institute (NMIMR) at the University of Ghana, a letter of introduction from the School of Nursing (appendix C) and the data collection tool (appendix F) were presented to the Tamale Metropolitan Assembly (TaMA). The TaMA granted permission (appendix D) to recruit respondents for the study from communities under the metropolis.

The research, together with five trained research assistants, collected data in ten communities (five communities under each sub-metropolis). Teachers with a minimum qualification of a first degree were recruited as research assistants. These research assistants were trained in research ethics, communication skills and how to administer the questionnaire in the local languages. The questionnaire was translated into a local language for respondents who could not speak English or read and write and the response provided was documented.

In each community, systematic random sampling was employed to select forty-four houses. At a reference point (mosque, school and church), the first house to the right was included in the study and a responded was recruited. Every other house was then included in the study. In the selected house, the respondents for the study were recruited by simple random sampling. In a house where more than one household resides, sampling by balloting was used to select the household and the man who met the inclusion criteria and consent to be part of the study was recruited. Respondents who consented to be part of the study signed the volunteer agreement of the consent form (appendix E). For respondents who could not read and write, a witness was called to counter-sign the consent form before the questionnaire was administered. Preceding, this the purpose of the study, confidentiality, the right to withdraw at any point of the study and the benefits of the study were explained to the respondents. An appropriate and convenient place where respondent privacy is maintained would be identified for the questionnaire to be administered. The questionnaire was then administered in English, Dagbani, Dagaare or Twi based on the respondents' preference. These were the languages the researcher and assistants spoke fluently. Each respondent used between 15 to 20 minutes to answer the questionnaire.

3.7 Data Management, Model Diagnostics and Analysis

Each respondent was given an identification number which corresponded to their questionnaires to facilitate verification of information. To ensure anonymity and confidentiality of respondents their names were not required as part of the demographic data collected. The collected data were then secured under lock and key accessible to only the researcher and supervisor. The soft copy of the data was stored on passworded pen drives to ensure data is not lost. Also, a copy of the data was sent to the personal email of the researcher. The data were entered into a software by the researcher and cross-checked severally to ensure the right data is captured. Additionally, data were reviewed for accurate data entry, quality and patterns of missing data.

The Statistical Package for Social Sciences (SPSS) version 21 software was used for data analysis. Data cleaning was done after the entry of the collected data into the software. Negatively worded statements were reversed coded and model diagnostics run. Tests of normality; histogram, normal Q-Q plots and box plots indicated the data were approximately normally distributed. Assumptions for correlation and regression analysis; outliers, homoskedasticity, collinearity, were met before the tests were carried out. A sample size of 422 was deemed adequate to carry out correlation and regression analysis.

Descriptive statistics, correlation and regression analysis were used to answer the research questions posed and test the hypothesis. According to Parahoo (2014) data analysis aids in giving meaning/making sense of the data collected and presenting them in an understandable manner. Items on the **knowledge** scale were recoded as True (1) and False and I don't know (0). A composite score for knowledge was then used to run analysis and the mean, standard deviation, minimum and maximum values of the knowledge level was calculated using descriptive statistics. A high mean score showed a high knowledge level and a low mean score showed a low knowledge level of respondents.

Some of the items measuring **attitude** were reversed coded because they were negatively worded. For instance, ''Pap smear is not effective for CC prevention'' was reverse coded. Thus, the 5-point Likert scale became completely agree (1), to completely disagree (5). A composite attitude scale was then arrived at and descriptive statistics; mean, standard deviation, minimum and maximum values were calculated. The High mean score for attitude represented a good/positive attitude whereas a low mean score represented poor/bad attitude of respondents

The overall **belief** score was computed after reverse coding of negatively worded statements. An example was '' I do not have time to assist my partner/women to get a Pap test'' was reverse coded. The scale therefore, became strongly agree (1) and strongly disagree (5). Descriptive statistics; mean, standard deviation, minimum and maximum values were calculated. A high mean score signified favourable /good beliefs and low mean value signified unfavourable/poor beliefs about CC and its screening.

Respondents **PBC** about CCS was computed by summing up the PBC items and dividing by eight (composite). The mean, standard deviation, minimum and maximum and other descriptive statistic were calculated. Good PBC of the respondents about CC was equivalent to high mean PBC score and poor PBC of the respondents was equivalent to low mean score. To arrive at the **intention** of the respondents about CCS, one of the items measuring intentions was reverse coded. ''I do not intend to allow my partner to go through CCS was reverse coded''. The scale thus became strongly agree (1) to strongly disagree (5). The overall intention of respondents was computed and descriptive statistics including the mean, standard deviation, minimum and maximum values were calculated. Good intentions about CCS was represented by high mean scores and poor intentions about CCS was represented as a low mean score.

The **composite behaviour** of the respondents was calculated after some items were reverse coded. For instance, ''I have never allowed my partner/women to go for a Pap test but I plan on doing so in the next six months was reverse coded''. Thus, the scale became strongly agree (1) to strongly disagree (4). Descriptive statistics; mean standard deviation, minimum and maximum values were calculated. High mean scores showed good behaviour and low mean scores showed poor behaviour towards CCS.

Descriptive and inferential statistics were computed to explain the findings. Pearson correlation analysis was employed to describe the relationship between knowledge, attitude, beliefs, PBC and the behaviour of the respondents. Hierarchical multiple regression was also conducted to determine the predictors of the behaviour of men about CCS.

3.8 Validity and Reliability

Polit and Beck (2013) defined the validity of a questionnaire as the degree to which the tool measures what it is anticipated/proposed to measure. Even though the questionnaire was not developed based on the TPB, it covered all the relevant constructs of the theory and was modified to suit this study. In an attempt to enhance validity, the constructs of the TPB covered the objectives of the study. Thus, the questionnaire covers all aspects of the research questions being asked.

Babbie (2015) has also suggested that the reliability of a questionnaire indicates the quality of the measurement method which shows that the same information/results would be achieved in repeated observations of the same phenomenon. The questionnaires adapted for this study has been used in similar studies in health care and is therefore considered to be valid and reliable (Hadji et al., 2015; Kim & Ko, 2013; Szabóová et al., 2018).

In harmony with Timmins (2015) the tool for data collection was pre-tested to ensure its contextual applicability and also increases confidence in the tool even though it has been used

previously. Pre-testing was conducted using forty-four men within the Sagnarigu District to ensure its reliability by ensuring clarity and understanding of the questions asked.

According to Crutzen and Kuntsche (2013) and Taber (2017) Cronbach's alpha is an accepted measure of reliability. Therefore, the Cronbach's alpha value of the adapted tools for the study were reported as knowledge 0.8, attitude 0.82, beliefs 0.735, PBC 0.95, intention, 0.79 and Behaviour, 0.71. Similarly, the Cronbach's alpha value for the various subscales of this present study was knowledge 0.7, attitude 0.73, beliefs 0.71, PBC 0.87, intention 0.34 and behaviour 0.69. Literature has shown that the acceptable limits of Cronbach's alpha value are greater than or equal to 0.9 to 0.5 (Mun, Mun, & Kim, 2015; Nunnally, 1978). Therefore, the scales used for this present study were considered reliable except for the intention subscale with an alpha value lower than 0.5 hence not considered to be reliable. The intention of men was therefore not added to the correlation analysis.

3.9 Ethical Considerations

This was to seek the interest of the respondents and also to protect them during the research. Ethical issues to be considered in research include keeping the participants of the study informed of the purpose of the study, explanation of the consent form and the right to withdraw from the study as well as the methods, the benefits of the research and anonymity and protection of the respondents from harm (Babbie, 2015; Polit & Beck, 2013).

Ethical clearance (appendix A) was sought from the IRB of Noguchi Memorial Institute of the University of Ghana before the study began. Together with the ethical approval, an introductory letter from the School of Nursing and Midwifery was also obtained (appendix C) for permission (appendix D) from the Tamale metropolitan assembly to carry out the study in the metropolis. The purpose of the study was explained to the respondents including the right to leave the study at any time or decide not to answer a particular question before their consent to participate in the study was obtained.

Confidentiality of the respondents was maintained by explaining to them that the data collected were to be used for research. However, if the need arises to use the data for other purposes than what was explained, their consent would be sort before such is done. Also, the researcher and her supervisors were the only persons who had access to respondents' information. Identifying information of respondents was not collected as data. To further maintain confidentiality, the data gathered were kept under lock and key and the electronic version passworded.

Privacy of the respondents was maintained through anonymity by avoiding the use of respondents' names. The administration of the questionnaire was also conducted in an environment where the respondent was comfortable, free from interferences and unapproved persons. Respondents were made to understand that in this study there were no risks however, the respondent was free to withdraw at any point of the study. Also, respondents were compensated for their time.

3.10 Conclusion

This cross-sectional quantitative study assessed the behaviour of men about CCS in the Tamale Metropolis with data collection and analysis between November, 2019 and April, 2019. Officially the study ended in July 2019. The study would throw more light on the determinants of the behaviour of men about CCS and also offer feasible and sustainable strategies to increase the number of women who go for CCS while involving men.

CHAPTER FOUR

FINDINGS OF THE STUDY

This chapter describes the results of the study. The results are presented according to the study objectives. The socio-demographic characteristics, knowledge, attitude, subjective norms (beliefs), PBC, intention, and the behaviour of men towards CCS are the variables which are described.

4.1 The Socio-demographic Data of the Respondents

The mean (average) age of the respondents was 28.61 years (SD±10.1). A significant percentage of the respondents 56.2% (n=237) were single, another 38.4% (n=162) were married. However, a greater percentage of the men 56.2% (n=237) suggested that they were in other forms of marriage other than monogamy and polygamy. Among the respondents, 25.4% (n=107) of them were married to one wife compared to 18.5% (n=78) of them who were married to two or more women. Islam was the predominant religion, 79.1% (n=334) of the men were Muslims. Christians represented 19.9% (n=84), Traditionalist 0.7% (n=3) and one respondent (0.2%) did not practice any of these three religions. The major ethnic group was Dagomba, and they constituted 62.1% (n=262). This was followed by Akan 8.5% (n=36) and Mamprusi 7.8% (n=33). The Dagaaba, Frafra, and Ewe ethnic groups were the minority, and together, they constituted 9.3% (n=39). Other tribes included Gonja, Bimoba, Chorkosi, Kusasi, and Hausa all constituting 12.3% (n=52).

Most of the respondents had formal education with tertiary level as the highest level 41.9% (n=177), followed by senior high school 39.8% (n=168) and basic level 11.6% (n=49). Concerning their employment status, nearly half of the respondents were unemployed, 43.4% (n=183). Those who were self-employed represented 33.4% (n= 141). The other respondents were either employed in the public sector 16.4% (n=69), the private sector 5.0% (n= 21) or other forms of employment 1.9% (n=8). The results also showed that 19.6% (n=83) of the

respondents considered their occupation as students. However, teachers formed the majority of the professionals 14.21% (n= 60). Farmers represented 10.19% (n=43), artisans 9.24% (n= 39), traders/businessmen 6.64% (n= 28), and nurses 3.79% (n= 16). Also, some occupations such as bankers, electricians, army officers, engineers, footballers, and shoemakers were the minority and accounted for 6.16% (n= 26). Table 4.1a and 4.1b below shows the summary of the socio-demographic data of the respondents.

Table 4.1a

The Socio-demographic Data of Respondents

Variable	**Frequency**	**Percentage (%) N=422**
Age Mean (±SD)	28.61(±10.10)	
Marital status		
Married	162	38.40
Single	**237**	**56.20**
Divorced/separated	3	0.70
In a relationship	19	4.50
Other	1	0.20
Type of marriage		
Monogamous	**107**	**25.40**
Polygamous	78	18.50
Other	237	56.20
Religion		
Christianity	84	19.90
Islam	**334**	**79.10**
Traditional religion	3	0.70
Other	1	0.20
Ethnicity		
Dagomba	**262**	**62.10**
Akan	36	8.50
Dagaaba	15	3.60
Mamprusi	33	7.80
Frafra	11	2.60
Ewe	13	3.10
Other	52	12.30

Source: *Respondents data, 2018*

Table 4.1b

Socio-demographic Characteristics of Respondents

Variable	Frequency	Percentage (%) N=422
Educational level		
Tertiary	**177**	**41.90**
SHS	168	39.80
JHS	25	5.90
Primary	24	5.70
Other	28	6.60
Employment Status		
Public sector	69	16.40
Private sector	21	5.00
Unemployed	**183**	**43.40**
Self-employed	141	33.40
Other	8	1.90
Occupation		
Teacher	**60**	**14.21**
Farmer	43	10.19
Trader	28	6.64
Student	**83**	**19.67**
Nurse	16	3.79
Carpenter	14	3.31
Driver	11	2.61
Artisan	39	9.24
Other	26	6.16

Source: *Respondents data, 2018*

To describe the behaviour of these men, the mean scores for the independent variables were computed. Table 4.2 below shows the details of these variables.

Table 4.2

Description of the Variables

Variable	Mean(±SD)	Range	
		Minimum	**Maximum**
Knowledge	1.81(±0.28)	1	3
Attitude	2.97(±0.499)	2	5
Subjective norms (beliefs)	3.32(±0.35)	3	4
Perceived Behavioural Control (PBC)	3.63(±0.92)	1	5
Behavioural Intention	3.45(±0.87)	1	5
Behaviour	2.51(±0.44)	1	4

4.3 Knowledge of Men about CC and CCS

The mean score for knowledge level was moderate *(M=1.81; SD=±0.28*), suggesting that these men have some knowledge about CC and its screening. Details of the mean scores are presented in table 4.2. More than half of the respondents, 77% (n=325) answered that one of the most common cancers among women is CC. The results also revealed that respondents considered most of the statements assessing their knowledge level of CC to be true. Thus: CC is preventable (74.4%; n=314), CC is curable (66.60%; n=281), CC risk is increased by genitourinary infections (55.00%; n=232), a symptom of CC is spotting between menstrual periods (44.30%; n=187), symptoms of CC are bleeding and spotting after menopause (42.90%; n=181), bleeding and pain after intercourse may be symptoms of CC (46.00%; n=194), early-stage CC may be without signs (48.80%; n=206), and pelvic pain is a symptom

of CC (45.70%, n=193). In contrast, 37.70% (n=159) of the respondents indicated that the statement marriage under 18years is a risk for CC was false.

Furthermore, a large proportion (53.8%; n=227) of the men indicated that a Pap smear test before symptoms helps to detect CC earlier. On the other hand, nearly half (47.20%; n= 199) of the respondents suggested that the first Pap test should be done at 20 years of age and more than one-third 45.5% (n= 192) of these men added that the Pap test after 60 years was necessary. A high proportion (55.90%; n=236) of these men also suggested that women should go for the Pap test every three years. Most of the respondents (44.80%; n= 189) indicated that the statement that only older women are recommended to have the Pap test is false. The respondents consistently suggested that the Pap test should be done when infection and bleeding are seen (43.80%; n=185) and the Pap test can cause cervical infection (36.50%; n= 154) were false. The respondents, also added that, pregnant women can have a Pap test (38.40%; n= 162). Table 4.3a and 4.3 b indicate the details of the knowledge level of the respondents.

Table 4.3a

Knowledge level of Men about CC and CCS

Knowledge items	True		False		I don't know	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Mean(±SD)	*1.81(0.28±)*					
CC is one of the most common cancers among women	**325**	**77.00**	36	8.50	61	14.50
CC is preventable	**314**	**74.40**	53	12.60	55	13.00
CC is Curable	**281**	**66.60**	53	12.60	88	20.90
Genitourinary Infections increase the risk of CC among women	**232**	**55.00**	57	13.50	133	31.50
Spotting between menstrual period may be a symptom of CC	**187**	**44.30**	68	16.10	166	39.30
Bleeding and spotting after menopause may be associated with CC	**181**	**42.90**	78	18.50	163	38.60
Bleeding and pain after intercourse is a symptom of CC	**194**	**46.00**	69	16.40	159	37.70
CC may be without signs in early stage	**206**	**48.80**	73	17.30	143	33.90

Table 4.3b

Knowledge level of Men about CC and CCS

Knowledge Items	True		False		I don't know	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Pelvic pain is a CC symptom	**193**	**45.70**	63	14.90	166	39.30
Marriage under 18years increases risk for CC	134	31.80	**159**	**37.70**	128	30.30
Pap test before symptoms detect CC earlier	**227**	**53.80**	39	9.20	128	30.30
First Pap test is done at 20 years	**199**	**47.20**	85	20.10	138	32.70
Pap test after 65 years is necessary	**192**	**45.50**	91	21.60	139	32.90
Women should have Pap test every 3years	**236**	**55.90**	53	12.60	132	31.30
Pap test is recommended for only older women	152	36.00	**189**	**44.80**	81	19.20
Pap test is done if infection and bleeding is seen	147	34.80	**185**	**43.80**	90	21.30
Pregnant women can have a Pap test	**162**	**38.40**	100	23.70	160	37.90
Pap test can cause cervical infection	150	35.50	**154**	**36.50**	118	28.00

To further describe the knowledge level of these men, their answers to two open-ended questions were analysed. The majority of the respondents 67.77% (n=286) stated that they did not know the Pap test when the question ''how did you know of Pap smear?'' was asked. However, some of these men who had heard about it revealed that they heard it from the media (9.95%; n= 42), from school (4.27%; n=18) and health personnel (2.84%; n=12). Additionally, 46.92% (n= 198) of the respondents stated that the reason for preventing/ not allowing their partners/women to go for a regular Pap test was because of insufficient knowledge about the test. This was followed by 22.75% (n=96) of the respondents suggesting they had not prevented their partners/women from getting a Pap test when the same question was asked. Table 4.3c shows the details of the knowledge level of the respondents.

Table 4.3c

Knowledge level of men towards CC and CCS

Knowledge Item	Frequency	Percentage
How did you know about the Pap test		
I do not know anything about it	**286**	**67.77**
Health personnel	12	2.84
Friends	5	1.18
Media	42	9.95
School	18	4.27
Other	59	13.98
Reason for not allowing your partner/women to go for Pap test regularly		
I do not have knowledge	**198**	**46.92**
I do not trust the health worker	7	1.66
I have not prevented her from testing	**96**	**22.75**
To avoid infections	21	4.98
It consumes time	12	2.84
It is painful	5	1.18
It is expensive	36	8.53
It invades privacy	13	3.08
Other	31	7.35

4.4 Attitude of Men toward CCS

In this study, the attitude of men refers to the beliefs and value (positive/negative) placed on women going for CCS. The total mean for attitude was high *(M=2.97; SD= ±0.499)* indicating that respondents had a positive attitude towards CCS. Table 4.2 presents the details of the mean scores. Several questions were asked to assess the attitude of these men, as indicated in Table 4.4 below. Approximately 46% of the men (n=196) agreed that a Pap test was expensive, and another 46.4% (n=196) of them had no idea whether the Pap test was painful. However, with regards to the Pap test consuming time, an equal proportion of these men agreed (41%; n=172) and at the same time, had no idea (41%; n=172) about it. The majority, 55.70% (n=235) of the men, agreed that the Pap test disturbs the privacy of women. Similarly, more than half (54%; n= 228) of the men believed that the Pap test helps to detect CC early and approximately 37% (n= 155) of the men answered they had no idea whether the Pap test is not effective for CC prevention. Even though the majority 56.70% (n= 239) of the men preferred that their partners/women should have a Pap test before CC symptoms, they indicated that they had no idea about the following statements: Pap test is not necessary for asymptomatic individuals (41%; n= 173), and equipment for Pap test do not have good quality (49.80%; n= 210). Table 4.4 gives the details of the attitude of men towards CSS.

Table 4.4

Attitude of Men towards CCS

Attitude items		Frequency	Percentage
Mean 2.97(±0.499)			
Pap test is expensive	Agree	**196**	**46.40**
	No idea	174	41.20
	Disagree	52	12.30
Pap test is painful	Agree	155	36.80
	No idea	**196**	**46.40**
	Disagree	71	16.80
Pap test is time-consuming	Agree	**173**	**41.00**
	No idea	**173**	**41.00**
	Disagree	76	18.00
Pap test disturbs the privacy of women	Agree	**235**	**55.70**
	No idea	138	32.70
	Disagree	49	11.60
Pap test helps to detect CC early	Agree	**228**	**54.00**
	No idea	145	34.40
	Disagree	49	11.60
Pap test is not effective for CC prevention	Agree	129	30.60
	No idea	**155**	**36.70**
	Disagree	138	32.70
I prefer my partner to have a Pap test before experiencing CC symptoms	Agree	**239**	**56.70**
	No idea	138	32.70
	Disagree	44	10.40
Pap smear test is not necessary for asymptomatic individuals	Agree	112	26.60
	No idea	**173**	**41.00**
	Disagree	137	32.50
Instruments used for Pap test does not have good quality	Agree	84	19.90
	No idea	**210**	**49.80**
	Disagree	128	30.40

4.5 Beliefs (Subjective Norms) of Men about CC and CCS

The beliefs (Subjective norms) of men describe the influence of their perceptions about societal pressure and expectations of people who influence their decision to allow their partners/women to engage in CCS. To illustrate the beliefs of these men, their ideas about CC and the Pap test, the need for the Pap test and the reason they allow/would allow their partners/women take the Pap test were examined. The mean score ($M=3.32; SD= \pm 0.34$) for their beliefs was high, indicating that the men had favourable beliefs that would influence them to allow their partners/women to go for CSS. Table 4.2 below illustrates the details of the mean scores. From the results obtained, a significant number of respondents 67.60 % (n=285) agreed that they felt good when their partners take the Pap test because they believed that doing so meant they took care of their partners' health.

The majority 45.3% (n= 191) of these men disagreed that they did not have time to assist their partner/women to have a Pap test. Similarly, more than one-third of the men disagreed (43.4%; n=183) that they have not allowed their partner/women to take the Pap test because of their belief that she is treated badly at the healthcare centre (43.4%; n= 183). Furthermore, approximately 43% (n=182) of these men had no idea about the age their partner/women could go for the Pap test. Also, a higher proportion of 41.7% (n=176) disagreed that they did not allow their partner/women to have a Pap test because they wait for a long time for her to be seen. Expressly, 52.6% (n=222) of the respondents agreed that they believed that the Pap test could save the lives of their partner/women. As such 43.8% (n=185) of the men disagreed that they have not allowed their partner/women to go for the Pap test because they are afraid to find out that she has CC and another 47.4% (n=200) also disagreed that it was because the health care centre is only opened when she cannot go.

Furthermore, these men disagreed that they do not allow their partner/ a woman to take the Pap test because it is embarrassing to have a genital exam (43.8%; n=185) and it is

difficult to get an appointment (42.2%; n=178). However, most (39.3%; n= 166) of the respondents agreed that they did not know how often their partner/women need to have a Pap test. Consistently, the majority (47.2%; n= 199) of the men agreed that CC might lead to death and more than half (55.40%; n=234) of these men also agreed that CC is a serious condition. Another 43.1% (n=182) of the men had no idea CC may lead to a hysterectomy, and another 45% (n= 190) of these men had no idea CC may lead to chemotherapy/radiotherapy. Furthermore, the beliefs of these men about the need for the Pap test showed that the majority of them disagreed that their partners/women do not need Pap test; if she has no symptoms (46.50%; n= 196), if she does not have children (50.70%; n= 214) and if she does not have intercourse (46.70%; n=197). However, a high proportion of the respondents (45.50%; n=192) agreed that their partner/ women were at risk for CC. Another 47.30% (n= 200) of the respondents agreed that their partner/ a woman could die if she has CC. While 42.00% (n=177) of the respondents also agreed that one of the common cancers of their partner's age was CC.

Other beliefs these men held, which influenced/would influence them about the need for the Pap test was also examined. More than two-third 68.7% (n= 290) of the respondents agreed that they believed that allowing their partner/women to take the Pap test meant that the men took care of the health of their partner. The respondents also agreed that they would permit their partner/women to take the Pap test because; a nurse/midwife told them (45.1%; n= 190), when the doctor told them (44.1%; n=190), when their mother's told them (41.7%; n= 176), when their friend/neighbour told them (40.6%; n=171), when family members told them (39.6%; n=169) and when they read in the newspaper/ heard it from a radio/TV programme (51.7%; n= 218). Details of the respondents' beliefs are presented below in Table 4.5a, 4.5b and 4.5c.

Table 4.5a

Beliefs (Subjective Norms) of Men about CC and CCS

Beliefs (Subjective Norms) Items		**Frequency**	**Percentage**
Mean(±SD)	*3.32(±0.34)*		
My partner/a woman getting a Pap test makes me feel good (I take care of her health)	Agree	**285**	**67.60**
	No idea	113	26.80
	Disagree	24	5.70
I do not have time to assist my partner/a woman get Pap test	Agree	106	25.10
	No idea	125	29.60
	Disagree	**191**	**45.30**
I have not allowed my partner/a woman take a Pap test (they treat her badly in the healthcare centre)	Agree	102	24.20
	No idea	136	32.20
	Disagree	**183**	**43.40**
I do not know at what age it is necessary to have a Pap test	Agree	162	38.40
	No idea	**182**	**43.10**
	Disagree	77	18.20
I have not allowed my partner/a woman go for Pap test (I need to wait for a long time for her to be seen)	Agree	108	25.60
	No idea	136	32.20
	Disagree	**176**	**41.70**
Pap test can save my partners/a woman's life	Agree	**222**	**52.60**
	No idea	146	34.60
	Disagree	53	12.60
I have not allowed my partner/ a woman to take the Pap test (I am afraid to find out she has CC)	Agree	113	26.80
	No idea	122	28.90
	Disagree	**185**	**43.80**
I have not allowed my partner/ a woman to take the Pap test (the healthcare centre is only open when she cannot go)	Agree	89	21.10
	No idea	132	31.30
	Disagree	**200**	**47.40**
I have not allowed my partner/ a woman to take the Pap test (it is embarrassing to have a genital exam)	Agree	113	26.80
	No idea	122	28.90
	Disagree	**185**	**43.80**
I do not know how often my partner/a woman needs to have a Pap test	Agree	**166**	**39.30**
	No idea	147	34.80
	Disagree	107	25.30

Table 4.5b

Beliefs (Subjective Norms) of Men about CC and CCS

Beliefs (subjective Norms Items)		**Frequency**	**Percentage**
I have not allowed my partner/ a woman to take the Pap test (it is difficult to get an appointment)	Agree	87	20.60
	No idea	155	36.70
	Disagree	**178**	**42.20**
CC may lead to death	Agree	**199**	**47.20**
	No idea	147	34.80
	Disagree	75	17.80
CC may lead to a Hysterectomy	Agree	142	23.20
	No idea	**182**	**43.10**
	Disagree	98	33.60
CC is a serious health condition	Agree	**234**	**55.40**
	No idea	130	30.80
	Disagree	57	13.50
CC may lead to my partner/a woman needing chemotherapy/radiotherapy	Agree	185	43.90
	No idea	**190**	**45.00**
	Disagree	46	10.9
My Partner/a woman does not need a Pap test if she does not have symptoms	Agree	115	27.20
	No idea	111	26.30
	Disagree	**196**	**46.50**
My partner /a woman does not need a Pap test if she does not have children	Agree	95	22.60
	No idea	113	26.80
	Disagree	**214**	**50.70**
My partner/ a woman does not need Pap test if she does not have intercourse	Agree	90	21.30
	No idea	135	32.00
	Disagree	**197**	**46.70**
My partner/women are at risk for CC	Agree	**192**	**45.50**
	No idea	143	33.90
	Disagree	87	20.60
My partner /a woman can die if she has CC	Agree	**200**	**47.30**
	No idea	156	37.00
	Disagree	66	15.60

Table 4.5c

Beliefs (Subjective Norms) of Men about CC and CCS

Beliefs (Subjective Norms) Items		Frequency	Percentage
CC is most common among women my partner's age	Agree	**177**	**42.00**
	No idea	174	41.20
	Disagree	71	16.90
Take care of my partner/women health	Agree	**290**	**68.70**
	No idea	103	24.40
	Disagree	29	6.80
A nurse /midwife told me	Agree	**190**	**45.10**
	No idea	145	34.40
	Disagree	87	20.70
Doctor told me	Agree	**190**	**45.10**
	No idea	135	32.00
	Disagree	96	22.70
Mother told me	Agree	**176**	**41.70**
	No idea	128	30.30
	Disagree	118	27.90
My friend/neighbour told me	Agree	**171**	**40.60**
	No idea	137	32.50
	Disagree	114	27.00
Family members told me	Agree	**167**	**39.60**
	No idea	137	32.50
	Disagree	118	27.90
From the newspaper, radio and TV	Agree	**218**	**51.70**
	No idea	131	31.00
	Disagree	73	17.30

4.6 PBC of Men towards CCS

As a variable used to assess the behaviour of men, the PBC of men about CCS is the perception of their ability to allow/prevent their partners/women from engaging in CCS. The mean score for PBC towards CCS was high (*M= 3.63; SD= ±0.92*) suggesting that the perception of their ability to allow their partners/women to go for CCS was high. Details of the mean scores are shown in table 4.2. Most of the respondents (47.20%; n=199) reported that they were sure they would allow their partner/women to discuss having a Pap test with her health care provider. Additionally, the respondents were sure to allow their partners/women schedule a Pap test appointment (44.10%; n=186) and also allow her to go for her next Pap test (53.3%; n=225). Similarly, approximately 57% (n=239) of the men reported that they were sure to allow their partners/women to have a Pap test even if they had to go with her to a new office. However, some of the respondents (44.50%; n= 188) were neither sure nor unsure about asking a doctor for a referral for a Pap test. Another 58.00% (n=245) of the men answered they were sure to allow their partners/women have a Pap test even if it was painful and 55.90% (n=236) of the respondents were sure to allow their partners/women to have a Pap test even if their friends stop them. Similarly, 55.20% (n=233) were also sure they would allow their partner/women to have the Pap test even if they had to pay for it. Table 4.6 describes the details of the PBC of men towards CCS.

Table 4.6

PBC of Men about CC and CCS

Perceived behavioural Control Items (PBC)		Frequency	Percentage
Mean (±SD)	*3.63(±0.92)*		
How sure are you to allow your partner/a woman discuss having a Pap test with her health care provider	Unsure	100	23.70
	Neither sure nor Unsure	123	29.10
	Sure	**199**	**47.20**
How sure are you to allow your partner/a woman schedule a Pap test	Unsure	120	28.40
	Neither sure nor Unsure	116	27.50
	Sure	**186**	**44.10**
How sure are you to keep allowing your partner/a woman have a Pap test (even in a new office)	Unsure	64	15.20
	Neither sure nor Unsure	119	28.20
	Sure	**239**	**56.70**
How sure are you that you can ask your partner's doctor for a referral for Pap test	Unsure	65	15.40
	Neither sure nor Unsure	**188**	**44.50**
	sure	169	40.00
How sure are you to allow your partner/ a woman go for her next Pap test	Unsure	75	17.80
	Neither sure nor Unsure	122	28.90
	Sure	**225**	**53.30**
How sure are you to allow a woman to get a Pap test even if you are worried that it will be painful	Unsure	60	14.20
	Neither sure nor Unsure	117	27.70
	Sure	**245**	**58.00**
How sure are you to allow a woman to get a Pap test even if your friend discouraged you	Unsure	59	14.00
	Neither sure nor Unsure	127	30.10
	Sure	**236**	**55.90**
How sure are you to allow a woman to get a Pap test if you had to pay for it	Unsure	59	14.00
	Neither sure nor Unsure	130	30.80
	Sure	**233**	**55.20**

4.7 Behavioural Intention of Men towards CCS

The willingness of men to allow their partners/women to go for CCS is described as behavioural intention. The results show a high mean score for behavioural intention (*M= 3.45; SD= ± 0.87*), suggesting that the men in this study had good intentions towards CCS. Table 4.2 illustrates the mean scores. Although the results suggest the men had good intentions and a reasonably good proportion (47%; n=198) intend to allow their partner/women to go for CCS, a more significant percentage (52.8%; n= 223) disagreed that they intend to allow their partner/women to go for CCS. Table 4.7 gives details of the intentions of the respondents.

Table 4.7

The Behavioural Intention of Men towards CCS

Behavioural intention Items		**Frequency**	**Percentage**
Mean (±SD)	*3.45(±0.87)*		
I do not intend to allow my partner/a woman to go for CCS	Agree	130	30.90
	No Idea	94	22.30
	Disagree	**198**	**47.00**
I intend to allow my partner/a woman to go for CCS	Agree	44	10.40
	No Idea	155	36.70
	Disagree	**223**	**52.80**

4.8 Behaviour of Men toward CCS

The behaviour is described by the observable response (allowing/ preventing their partners/women) of men about CCS. The mean score for behaviour was moderate (M=2.51; SD= ± 0.44) suggesting that the respondents had some positive behaviour towards CCS. Details of the mean scores are shown in table 4.2. Approximately 63% (n=260) of the men tend to allow or plan to ever allow their partners/women to have the Pap test. However, about 62% (n= 261) also agreed that they have never allowed their partners/women to have the Pap test but plan doing so in six months.

Meanwhile, 53.3 %(n=225) disagreed that their partners have an appointment for their first Pap test. Consistently, 56.9% (n= 240) disagreed that they tend to allow their partners/’’women to have a Pap test every two years’’. Furthermore, 51.4% (n=217) of the men reported that they allowed their partners to go for a routine Pap test severally, yet more than half 57.3 % (n= 242) of these men had allowed their partner/women to have the Pap test but not routinely. Table 4.8 describes the behaviour of men towards CC screening.

Table 4.8

Behaviour of Men toward CCS

Behavioural Items		**Frequency**	**Percentage**
Mean (±SD)	*2.51(±0.44)*		
I have never allowed my partner/a woman to go for a Pap test and I don't plan to ever allow her to have the test	Agree	157	37.20
	Disagree	**265**	**62.80**
I have never allowed my partner/a woman to have the Pap test but I plan on doing so in 6 months	Agree	**261**	**61.90**
	Disagree	161	38.20
My partner has her appointment for her first Pap test	Agree	197	46.70
	Disagree	**225**	**53.30**
My partner/a woman had her first Pap test recently, and I intend to allow her have one done every two years	Agree	182	43.10
	Disagree	**240**	**56.90**
I have allowed my partner/a woman to go for routine Pap test for severally years (at least every two years)	Agree	**217**	**51.40**
	Disagree	205	48.60
I have allowed my partner/a woman to have some Pap test but not routinely (at least every two years)	Agree	180	42.70
	Disagree	**242**	**57.30**

4.9 The Relationship between Knowledge, Attitude, Beliefs, PBC and Behaviour of Men.

The relationship between knowledge, attitude, beliefs, PBC and the behaviour of men was analysed using the Pearson's Product- moment correlation. The relationship between each independent variable and the dependent variable (behaviour) were examined. However, the intention of men about CCS was not added to the analysis since the calculated Cronbach's Alpha was low (0.341). Evidence from studies about the reliability of research instruments suggests that the reliability should be at least 0.7 or 0.5 for a scale with very few items (Dall'Oglio et al., 2010; Nunnally, 1978; Panayides, 2013).

The results revealed that knowledge was significant but weak and positively correlated with behaviour (r = 0.131, p=0.01). This finding suggests that an increase in the knowledge level of the men would lead to better behaviour of men towards CCS. On the other hand, the relationship between attitude and behaviour was significantly weak but negative (r = -0.175, p<.001), implying that an increase in good attitude results in a decrease in good behaviour of men towards CCS. This means a positive attitude about CCS would not lead to positive behaviour about CCS. Therefore, the hypothesis that there is a positive relationship between knowledge, attitude, beliefs, PBC, and behaviour towards CCS is partially supported. Details of the correlation analysis between knowledge, attitude, beliefs, PBC, and behaviour are shown in table 4.9 below.

Table 4.9

Relationship Between, Knowledge, Attitude, Beliefs, PBC and Behaviour of Men towards CCS

Variables	*r*	*P*-Value
Knowledge	0.131**	0.007
Attitude	-0.175**	<0.001
Beliefs	0.024	0.627
PBC	-0.049	0.315

Note. ***correlation is significant at 0.01 (2tailed)*

4.10 Predictors of Behaviour of Men towards CCS

To determine the predictors of men's behaviour towards CCS, a multiple hierarchical regression analysis was employed. The socio-demographic characteristics, attitude, knowledge, beliefs and the perceived behavioural control were entered as models into the regression analysis to determine the best predictors of the behaviour of men towards CCS. The socio-demographic characteristics, which consists of age, marital status, type of marriage, religion, ethnicity, educational level, employment status, and occupation, were entered into model one. These accounted for 2.5% of the variance in the behaviour of men (R^2= .025, F (7, 306) =1.137, p> 0.05). However, none of these predictors was significant.

In the second model, the attitude of men was entered into the model in addition to the socio-demographic characteristics. The socio-demographic characteristics together with the attitude explained a variance of 5.3% in the behaviour of men (R^2= .053, F (8, 305) = 2.132, p=0.033). The attitude of men was a significant predictor of the behaviour of men towards CCS.

In the third model, knowledge was added to the socio-demographic characteristics and the attitude of the men. These three predictors together explained 8% of the variance in the behaviour of men (R^2= .080, F (9, 304) =2.918, p=0.002). The results show that attitude and

knowledge were significant predictors of the behaviour of men. However, the attitude was a strong predictor of behaviour compared to the knowledge.

In the fourth model, beliefs were added. Beliefs, together with socio-demographics, attitude and knowledge, accounted for 8.3% of the variance in behaviour of men (R^2=.083, F (10, 303) = 2.742, p= 0.03). However, beliefs were not significant predictors of the behaviour of men.

In the fifth model, PBC was added. The socio-demographic, the attitude, knowledge, beliefs and PBC together explained 8.3% of the behaviour of men (R^2=.083, F (11, 302) =2.490, p=0.005). Among all the predictors entered into the final model, the attitude (β= -3.141, p=.002) and knowledge (β=2.553, p=0.011) were the significant predictors of behaviour. Meanwhile, the attitude of men was the strongest predictor when compared with knowledge. The highest contributor in the model was the attitude, suggesting that, the attitude of men influences their behaviour to allow or prevent their partners/women go for CCS. Therefore, the hypothesis that knowledge, attitude, beliefs (subjective norms), PBC and intention will predict the behaviour of men towards CCS was not fully supported. Details of the regression analysis are described in Table 4.10a and b.

Table 4.10a

Predictors of Behaviour of Men towards CCS

Model	Predictors	Unstandardized coefficients		Standardized coefficients		*P*-Value
		B	Std. Error	*β*	*t*	
1	(Constant)	2.384	.214		11.124	.000
	Age	.001	.003	.022	.316	.752
	Marital status	-.002	.048	-.003	-.036	.971
	Type of Marriage	.036	.039	.070	.925	.355
	Religion	-.074	.064	-.071	-1.170	.243
	Ethnicity	-.001	.013	-.003	-.053	.958
	Employment Status	.049	.025	.117	1.931	.054
	Occupation	.002	.010	.013	.219	.827
Model 1 summary: R^2= .025, F (7, 306) =1.137, p> 0.05						
2	(Constant)	2.804	.254		11.033	.000
	Age	.001	.003	.029	.415	.678
	Marital status	.013	.047	.021	.274	.784
	Type of Marriage	.043	.039	.082	1.099	.273
	Religion	-.066	.063	-.063	-1.043	.298
	Ethnicity	-.001	.013	-.007	-.115	.909
	Employment Status	.039	.025	.093	1.547	.123
	Occupation	.001	.010	.009	.143	.886
	Attitude	-.151	.051	-.170	-2.982	**.003**
Model 2 summary: R^2= .053, F (8, 305) = 2.132, p= .033						
3	(Constant)	2.646	.257		10.312	.000
	Age	.001	.003	.026	.382	.703
	Marital status	.011	.047	.019	.245	.807
	Type of Marriage	.053	.039	.101	1.184	.237
	Religion	-.074	.062	-.071	-1.184	.237
	Ethnicity	.002	.012	.009	.150	.880
	Employment Status	.045	.025	.107	1.788	.075
	Occupation	-.001	.010	-.007	-.118	.906
	Attitude	-.157	.050	-.177	-3.137	**.002**
	Knowledge	.019	.006	.167	2.962	**.003**
Model 3 summary: R^2= .080, F (9, 304) =2.918, p=.002						

Note. Dependent variable: behaviour, Criterion=0.05

Table 4.10b

The Predictors of Behaviour of Men towards CCS

Model	**Predictors**	**Unstandardized coefficients**		**Standardized coefficients**		***P*-Value**
		B	**Std. Error**	***β***	***t***	
4	(Constant)	2.449	.316		7.761	.000
	Age	.001	.003	.023	.338	.736
	Marital status	.016	.047	.026	.347	.729
	Type of Marriage	.048	.039	.091	1.224	.222
	Religion	-.078	.062	-.075	-1.249	.213
	Ethnicity	.002	.012	.010	.166	.868
	Employment Status	.047	.025	.111	1.863	.063
	Occupation	-.003	.010	-.015	-.253	.801
	Attitude	-.177	.053	-.199	-3.314	**.001**
	Knowledge	.017	.007	.149	2.549	**.011**
	Beliefs	.086	.080	.067	1.070	.286
Model 4 summary: R^2=.083, *F* (10, 303) = 2.742, *p*= 0.03						
5	(Constant)	2.441	.318		7.671	.000
	Age	.001	.003	.024	.349	.727
	Marital status	.016	.047	.025	.332	.740
	Type of Marriage	.048	.039	.091	1.220	.224
	Religion	-.076	.063	-.073	-1.209	.228
	Ethnicity	.002	.013	.009	.140	.889
	Employment Status	.047	.025	.112	1.864	.063
	Occupation	-.002	.010	-.013	-.223	.823
	Attitude	-.173	.055	-.195	-3.141	**.002**
	Knowledge	.017	.007	.150	2.553	**.011**
	Beliefs	.092	.085	.072	1.085	.279
	Perceived Behavioural Control (PBC)	-.007	.032	-.015	-.232	.816
Model 5 summary: R^2=.083, *F* (11, 302) =2.490, *p*=0.005						

Note. Dependent variable: behaviour, Criterion=0.05

4.11 Summary of findings

According to this study, the average age of the respondents was approximately 29 years, with a modal age of 18 years. More than half (56.2%; n=237) of the men were single while 25.4% (n=107) was married to one wife and 18.5%(n=78) were married to two or more women. Islam was the predominant (79.1%; n=334) religion in the metropolis with a great proportion (62.1%; n=262) of these men belonging to the Dagomba ethnic group, however, other ethnic groups were represented. The respondents had different levels of educational status with the tertiary level representing approximately 42% (n= 177), yet the majority of these men were unemployed (43.4%; n= 183). While 33.4% (n=141) of the men were self-employed others worked in the private (5%; n=22) and public sector (16.4%; n=69). In grouping the occupations of the respondents, teachers were found to be the majority(14.21%; n=60) followed by farmers (10.19%; n=43) and artisans (9.24%; n=39) although other professions were represented.

The mean scores for the variables of this study were moderate to high. The mean score for the level of knowledge of the men was moderate 1.81 (±0.28), implying that they had some knowledge about CC and its screening. However, the mean score for the attitude of men was high *2.97(±0.499),* indicating that the respondents had a positive attitude towards CCS. Similarly the mean score for beliefs (*M= 3.32, SD= ±0.35*) and PBC(*M= 3.63, SD= 0.92*) of these men was high. This suggests that the men had favourable beliefs and good PBC about CC and its screening. Although, the mean score for the intention was high suggesting that the respondents had good intentions, 47% (n= 198) intend to allow their partners/women to go for CCS but a greater proportion (52.8%; n=233) reported that they do not intend to allow their partners/women to go for CCS. Also, the respondents were found to have a moderate mean score for behaviour. This suggests that the respondents had some good behaviour. Some of which include approximately 63% (n= 260) of the respondents who

revealed that they had allowed their partners, while others plan to allow their partners and some also allowed their partners to go for CCS but not routinely.

Furthermore, attitude and knowledge were found to have a significant relationship with behaviour. At the same time, attitude and knowledge were found to be the significant predictors of behaviour with attitude predicting strongly than knowledge.

CHAPTER FIVE

DISCUSSION OF FINDINGS

This section of the study discusses the findings of the study. The discussion of the respondent's behaviour is preceded by their socio-demographic characteristics, knowledge, the attitude of these men, beliefs, PB and intention about CCS.

5.1 The Socio-demographic Characteristics of Respondents

The results revealed that the average age of the respondents was approximately 29years old, suggesting that most of the respondents were young men. This finding is similar to a study by Adegboyega et al. (2019) and Rwamugira et al. (2017a) who revealed that the mean age of the respondents in the respective studies was 36 and 39years respectively. In contrast, a similar survey by Urasa and Darj (2011), indicated that the majority of the respondents in their study were 40years and older. The younger age of most of the respondents presents an opportunity for integration of men into women’s health issues, especially CCS. This is because CCS is recommended for women from 30years and most women who are diagnosed with CC are within the ages of 30 to 50 years with an advanced stage of the disease (Eze et al., 2013; Moyer, 2012; WHO, 2013).

The marital status and the type of marriage are significant determinants of CC prevention and CCS because sexual intercourse and the number of sexual partners is a risk factor for CC and thus requires efforts to ensure women who are married to go for CCS routinely (Christianson, Boman, & Essen, 2013; Ngwenya & Huang, 2017; Oakeshott et al., 2012). In this present study, about 52.6% of the men were single. In South Africa, Rwamugira et al. (2017a) presented similar findings when 59.4% of the respondents were single. The young age of these men could explain why most of them are single. However, 25.4% of these men were married to one wife. Even though the risk for CC for the partners of these men may be reduced, it is still imperative that their partners go for routine CCS since

most of these young men would marry younger women. The literature throws light on the fact that early sex and multiple sexual partners increase the risk for CC (Oakeshott et al., 2012; Schluterman et al., 2013). The cultural and religious practices in the metropolis also endorse marrying more than one wife. Therefore, the societal pressure may encourage these men to marry more women which would increase the women's risk for CC. Until the cultural and religious practices of early marriage and polygamy are reduced to the barest minimum, the prevalence for CC would keep increasing. The surest way to mitigate this problem is to put in place sustained measures to improve the coverage of CCS as well as encourage more men to allow their partners to engage in CCS and also empower women to go for CCS.

This study further revealed that 79.1% of the men were Muslims. This could be related to the religion of the inhabitants in the study setting as it is a Muslim dominated community. Research on CC and its screening carried out in Muslim dominated communities have reported different outcomes. Muslim women were not expected to go for CCS, and they were also reluctant to go for the screening, the women had low knowledge compared to their Christian counterparts and the women felt health workers do not have respect for their religious morals (Kangmennaang et al., 2018; Modibbo et al., 2016; Nyambe et al., 2019; Salman, 2012). Additionally, more than half, 62.1% of these men belonged to the Dagomba ethnic group, which happens to be the spoken dialect of the people of the Tamale metropolis.

Out of the total number of respondents, 42% of them had tertiary level education with teaching constituting the majority of the respondent's occupation. Previous studies have suggested that men and women who have attained higher educational levels are more likely to have higher levels of knowledge about CC and its screening (Liu et al., 2017; Owoeye & Ibrahim, 2013; Pitts et al., 2009; Shiferaw et al., 2018). Therefore, it is suggested that the high level of education has exposed these men to the benefits of CCS and complications associated with CC. The respondents are also likely to have access to varied sources of

information concerning CC. Furthermore, unemployment is linked to poverty, which in turn serves as a barrier to having access to quality health care. Some studies across Africa have suggested that the socio-economic status (poverty) of a family increases the risk of CC and also prevents women from going for CCS (Akinyemiju, 2012; Ntekim, 2012). This is because most low-income families lack knowledge about CC and CCS. They lack the resources to enable them to have access to information about CC and CCS. Similarly, these men determine whether the women in such families would engage in CCS as the heads of their households. In this present study, more than half, 54.8% of the men were either self-employed, or worker in the private or public sector, however, 43.4% of them were unemployed. Even though the majority of the respondents were employed implying that there was an opportunity to enable women to engage in CCS, the significant proportion who were unemployed are likely to prevent the women from such households to go for CCS. As a result, the head of the household cannot afford to pay for the screening and may also not be able to afford financial assistance for transportation, amongst other challenges. Additionally, most women in this study setting depend on their husbands for permission and financial support for health care services as a result of the cultural influence of patriarchy. Since other respondents were employed, it could be explained that they could offer financial assistance to their partners/women to go for CCS.

5.2 The Knowledge of Men about CC and CCS

The level of knowledge of the men in this study was found to be moderate. This finding is similar to various studies across the globe on the knowledge level of CC and its screening which have consistently revealed that men had low to moderate knowledge levels (Kim et al., 2018; Nyambe et al., 2019; Rosser et al., 2014; Williams & Amoateng, 2012). The moderate level of the respondents could be attributed to the fact that CC is a disease which affects women directly. Also, most health education and intervention programs about

women are designed to target women. To increase the knowledge level and interest of men about CC and CCS, men have to be involved and targeted in intervention programs. In spite of the moderate levels of knowledge of these men, an impressive 74.4% of these men considered CC to be preventable, and another 66.6% also considered CC to be curable. This is consistent with findings by Mwaka et al. (2015), as 70% of the respondents in the study considered CC to be curable and Rwamugira et al. (2017a) when 74.3% of the respondents thought CC was preventable. Some similarities in the study samples like educational level, availability, and access to information, sources of information may explain the observed findings. Adageba et al. (2011) also reported that 77% of female health workers in Kumasi indicated that CC was preventable. Similarly, Vishwakarma et al. (2018) also suggested that 94% of nurses in a cross-sectional descriptive study reported that CC was preventable. Comparatively, the proportion of these health workers was higher than the respondents in this study because the health workers were women and may have heard about CC numerous times. Also, the health workers are likely to have more information about CC and its screening through service delivery and their contact with clients diagnosed with CC. In contrast to the findings of this present study, Sawadogo et al. (2014) in Burkina Faso revealed that 69.05% of women did not know that CC was preventable.

Furthermore, about 42.9% of the men in this study suggested that post-menopausal or irregular menstrual bleeding are signs of CC. Similar results were reported by Vishwakarma et al. (2018) in India where 48% of the respondents in the study also attributed post-menopausal bleeding and irregular bleeding to CC. Additionally, another study in India reported a similar finding, but a greater proportion of 69% of the respondents attributed these symptoms to CC (Shekhar et al., 2013). The higher percentage reported by these studies could be because they are health workers. A great proportion, 47.2% of the respondents thought that women need to their first Pap test at 20 years. The WHO (2013), and other

research work in USA, Saslow et al. (2012) and Canada, Murphy et al. (2012) have reported that women need to have their first Pap test between age 21 to 30 years. It is good that these men in the current study understand that it is better to have the test at an early age. Additionally, the moderate level of knowledge of the men in this study could be a result of their educational levels. Most of them had formal education with the tertiary level being the highest. Therefore, they are more likely to have access to relevant information concerning CC and its screening. This finding is similar to Owoeye and Ibrahim (2013) in Nigeria, where 80% of tertiary level female students were considered to have high levels of knowledge about CC. Therefore, knowledge can be described as a prerequisite to CCS. This implies that the men in this present study are likely to allow their partners/women to go for CCS because they have some knowledge about CC and its screening. This is supported by similar research in Italy and China suggesting that a high level of knowledge about CC and CCS has a strong association with an increased rate of CCS (Donati et al., 2012; Liu et al., 2017). Also, men in more developed countries may exhibit high levels of knowledge compared to their counterparts in Africa and other developing countries as a result of the disparity in the health care system. In these HICs, CC and CCS programs are well organised and structured to include frequent CCS for women and massive campaigns about CC leading to widespread information about CC and CCS.

Even though the 67.8% of the respondents indicated that they did not know about the Pap smear test, out of those who knew about it, 9.95% suggested that they found out through the media. Some studies have also indicated that most respondents have access to CC and its screening information through the media (Getahun et al., 2013; Hyacinth et al., 2012; Maree et al., 2011). Hyacinth et al. (2012) in Nigeria and Getahun et al. (2013) in Ethiopia have reported that about 50% and 60.8% respectively of the respondents in their studies cited their source of information as radio and television. Conversely, Mbamara et al. (2011) and

Ramathuba et al. (2016) indicated that the predominant source of information about CC and screening was from health workers. These men may prefer the media due to the ease of accessing information at any time in their comfort zones. Also, these men may be trying to avoid challenges in the health care sector. Some of these challenges include long waiting time, few numbers of health workers, and the unruly behaviour of some workers. Although the percentage of men who heard about the Pap test may be a small proportion, care must be taken regarding the accuracy of information the media gives on CC and its screening. The upsurge of media houses coupled with minimal supervision of the content and expertise of the panel on such programs could lead to misconceptions surrounding CC and its screening.

Additionally, consistent with Mbamara et al. (2011) and Ramathuba et al. (2016) above, only 2.84% of the men in this study admitted that they heard of the Pap test from health workers. Health workers should be at the centre of educational and screening programs, whether in the hospital, media, or the community as they serve as client advocates. Health workers could use the media as a platform to intensify education on CC and its screening to reach a wide range of audience. In doing this, the problem of the public getting the wrong information about CC and screening would be non-existent. To enable more clients to see the health worker as the first point of call for information, measures should be put in place by institutions and licensing bodies to penalise unprofessional personnel.

5.3 The Attitude of Men towards CC and CCS

The attitude of the men in this study was an important factor to determine the behaviour of these men towards CCS. The general attitude of the men was positive towards CCS, indicating that these men would allow their partners/women to go for CCS. Similarly, in Kenya, Rosser et al. (2014), suggested that men showed a positive attitude about CC and its screening since they perceived their partners to be at risk of CC and a positive result would be emotionally stressful. Another KAP study involving doctors and nurses in India

revealed that the respondents also showed a positive attitude towards Pap smear and HPV vaccination (Swapnajaswanth et al., 2014). Even though the majority of the respondents in this present study were not health workers and found themselves in a developing country where CC and its screening are not widely known, they showed similar attitude as the health workers. Health workers are expected to be knowledgeable and have a positive attitude towards preventive health services compared to the general population. Therefore, comparing the attitude of these men in the study to the attitude of these health workers, gentle strides are made towards accepting CCS and preventing CC. Geremew et al. (2018) have established a relationship between the high knowledge level and a positive attitude about CCS. Hence the positive attitude of the men in this present study could be attributed to their level of education and knowledge.

The results of the present study, also revealed that 46.4% of the men suggested that the Pap test was expensive and another 41% agreed it was time-consuming. Belete et al. (2015) affirmed this in a study in Ethiopia, where 35.8% of the respondents cited that the Pap test was time-consuming, and 30% also cited that it was expensive. The proportion of men in this current study who suggested that the Pap test was time-consuming was higher than those reported by Belete and colleagues (2015) because the respondents were women living with HIV and going for treatment. It is possible that they have previous knowledge of the Pap test through health education on sexually transmitted infections (STIs), general education and counselling offered at the centre and their frequent contact with health care providers. Studies in Nigeria and Kenya have reported similar findings of the cost and time-consuming nature of the Pap test (Ezechi et al., 2013; Vahabi & Lofters, 2016; Were et al., 2011). Although, the majority of the men in this present study also revealed that they did not know the Pap test, more than half (54%) of them agreed that the test helps detect CC early. Some studies have also reported congruent findings (Herrero et al., 2015; Thaxton & Waxman, 2015). These two

research work have reported that CCS detects CC early for treatment. Additionally, 55.7% of the men in this current study agreed that the pap test disturbs the privacy of women. The assertion resonates with Erku et al. (2017) that the Pap test disturbs the privacy of women because they feel embarrassed to carry out the test. The CCS test involves examining the genitals of women as such the men felt that it invades privacy. Also, the majority of the men were Muslims and the belief is that nobody (especially men) is allowed to see a woman naked apart from her husband.

Even though having a Pap test before CC symptoms is the best, Khan and Woolhead (2015) indicated that some women considered themselves to be free from CC since they did not experience any symptoms. This present study Contradicts this finding, a significant number (56.7%) of the respondents suggested that they would prefer their partners to have a Pap test before CC symptoms even though most of them had no idea if the Pap test is necessary for asymptomatic individuals. CC takes a long time to manifest even after infection with the HPV. CCS is relevant to detect cases of CC early with or without symptoms. These men's show of interest in their partner/women having the test before showing symptoms is an indication of their attitude towards CCS.

5.4 The Beliefs and Perceptions (Subjective Norms) of Men about CC and CCS

Cultural beliefs influence the lives and decisions individuals make every day, especially in Africa. Wigle and colleagues (2013) have disclosed that worldwide, sociocultural, health systems, and political barriers pose a threat to CC prevention in LMICs. Among these barriers, the sociocultural were noted to cut across both HICs and LMICs (Wigle et al., 2013). These sociocultural values may have a great impact on the utilisation of CCSS services. Therefore, socio-cultural values which prevent women from engaging in CCS should be discouraged while those which enhance the uptake of CCS should be encouraged. Even though sociocultural beliefs may negatively influence the utilisation of CCS services,

the men in this study exhibited favourable beliefs about CC and screening. The men in this study disagreed that they did not have time to assist their partner/women to have a Pap test. Neither did they agree that they did not allow their partner/women to have the Pap test because they wait for a long time. Jradi and Bawazir (2019) in Saudi Arabia, Ramathuba et al. (2016) in South Africa and (Rees et al., 2017) in Nicaragua indicated contrasting findings in their respective studies. The authors indicated that the women in their studies indicated that they did not have time to go for the Pap test because they wait for a long time before the test and for the collection of the results. The reason for this difference may be because most of the men in the present study did not go with their partners or their partners do not engage in CCS. The influence of the moderate level of knowledge of the men in this present study could make these men want to make time for their partners/women even if they were busy. On the other hand, these men could also know that the test does not take long due to their level of knowledge. However, the women could be making excuses by reason of their beliefs about the test. Additionally, most women around the globe are tasked with taking care of the needs of the family while the men also go to work to earn an income. Even though this practice is fading out due to more women combining housework and career, it is still practised in most communities worldwide. In view of this, men in this study claimed they had time to support their partners/women to engage in CCS.

In this current study, approximately 44% of the men did not believe that they prevented their partners/women from having a Pap test because it is embarrassing to have a genital examination. This assertion is discordant with similar studies conducted in the USA and Nicaragua (Rees et al., 2017; Salman, 2012). These studies reported that the respondents believed that it was embarrassing to have a Pap test due to the intimate nature of the test, especially when the service provider was a male. Most of the respondents were single and young men compared with a few married men who may not feel comfortable about their

wives screening for CC. The adage ''experience is the best teacher'' may also be applied here since the men in this study do not need to undergo the Pap test themselves, they may not see it as embarrassing compared to the women in these other studies. This present study, however, concurs with Mutambara et al. (2017) as these men believed they did not know how often their partners were required to have the Pap test. Generally, most men do not participate in women's' health issues unless they are directly involved. These men admitted they had little knowledge about the Pap test as such they would not know the interval for the test. They would only know about the interval if they support their partners/women to engage in CCS routinely since most women ask for their partner's permission.

Also, these men did not believe that the Pap test was only necessary when their partners had symptoms (46.5%), when they had children (46.5%) and when they had intercourse (46.7%). These assertions are discordant with similar studies conducted among Muslim women in the USA and Saudi Arabia (Jradi & Bawazir, 2019; Salman, 2012). Furthermore, Jradi and Bawazir (2019) reported that the women in the study believed that because they did not have symptoms of CC, the Pap test was not necessary. Salman (2012), on the other hand, suggested that the respondents believed that virgins and unmarried women were not allowed to have a Pap test. Consistent with the findings of this current study, Ackerson et al. (2014) revealed that college students indicated that they were at risk of CC just as the men in this study believed their partners/women were at risk. However, this finding is in contrast with another study among Saudi women since they thought that they were not at risk of CC (Jradi & Bawazir, 2019). The beliefs opined by the men in this current study was that, they believed CC might lead to death (47.2%), CC is a severe condition (55.4%) and that their partners/women can die if they have CC (47.3%) is supported by Mutambara et al. (2017) and Salem et al. (2017). According to these authors, the respondents believed CC was the second largest killer of women and it is also an incurable disease. These

beliefs expressed by the men in this study is a reflection of their level of knowledge. This has influenced them to have positive perceptions of CC and screening than their female counterparts in similar studies. Additionally, their beliefs may be a result of the fact that they have hope and trust health workers even though the healthcare system has challenges.

In this era of information technology advancement, these men could be exposed to information about CC and CCS from varied sources. More than half (51.7%) of the men in this present study believed that information from the media (newspaper, radio, and TV) would make them allow their partners/women to go for CCS. Conversely, several studies have reported that women go for CCS when health workers ask them (Assoumou et al., 2015; Chamani et al., 2012). According to Nwankwo et al. (2011) and Williams et al. (2013) 4.2% and 18% of women respectively went for CCS because a doctor referred them. These women might have seen the doctor because of some symptoms of CC, however, because men do engage in CCS, the men in this study would have to depend on information from other sources to decide if their partners/women should attend CCS.

5.5 The PBC of Men towards CC and CCS

Several factors are considered to influence the perception of the ease or difficulty associated with men allowing /preventing their partners/women from going for CCS. Some of these factors which influence the opinion of these men to allow their partners/women to engage in CCS include; their knowledge of CCS and CC, their educational level, age, socioeconomic status, availability of screening centres and distance to the health facilities among others. In this study, the PBC of men was good. More than half (56.7%) of the men in the present study revealed that they were sure to allow their partner/women have a Pap test even if they had to go with her to a new office. This finding is resonant with the assertion by some authors in similar studies in India and Zambia where the authors revealed that support from family and friends in the form of assistance or provision of financial support was very

vital for women to go for CCS (Kung et al., 2019; Nyambe et al., 2019). The educational status and knowledge level of the respondents in this current study could explain the fact that these men are ready to support their partners/women to go for CCS. Additionally, Nyambe et al. (2019) indicated that men who are knowledgeable about CC and CCS provide support for women to go for CCS. Therefore, because of their knowledge, the men in this current study agreed that they were sure to allow their partner/women to get her next Pap test. This is suggestive that the women would be allowed to go for the next Pap test because more than one-third (47.2%) of these men were sure that they could enable their partners/women discuss having a Pap test with their health care provider even if the health care provider does not bring it up. Some studies in Italy and Canada have reported similar results (Petkeviciene et al., 2018; Redwood-Campbell et al., 2011). According to these authors, the services of a primary care physician encourages more women to go for CCS because they feel comfortable around them, and the problem of the language barrier is addressed. Most families should be encouraged to have a physician. Communication is a crucial element in the relationship between a physician and the client. Therefore, most clients would prefer that their family physician understands a common language with them. This would reduce the stigma, fear, and uneasiness when issues of sex and CCS are discussed. Even though most Ghanaians do not have a family physician; they rely on the National Health Insurance Scheme (NHIS) to have access to health care with some challenges. Currently, CCS is not part of the NHIS as such migrating CCS on the scheme would reduce the stress and burden most people associate with CCS especially when they feel they cannot afford the services of a physician. Also, innovative ways can be put in place to enable more people to have access to a family physician. For instance, a group of men/women of the same ethnic orientation could have a common family physician for health education or to have sessions with them.

Other studies have also suggested that perceived pain and fear of pain are barriers to CCS (Khan & Woolhead, 2015; Salem et al., 2017; White et al., 2012b). However, 58% of the respondents in this study revealed that they were sure to allow their partner/women to go for the Pap test even if it was painful. Also, though authors in similar studies have suggested that some respondents mentioned fear, it could be explained that this fear of CCS was due to the perceived pain of CCS. About 60% of the men in this study were also sure that they would allow their partner/women to go for CCS even if their friend stops them. This is a reflection that these men would prefer information from the media than their friends as was earlier suggested.

According to McAlearney et al. (2010), in a study among women in the USA, the additional cost associated with CCS was a demotivating factor for CCS. However, the men in this present study expressed contrary views regarding the cost of CCS. More than half (55.2%) of these men suggested that they would allow their partner/women to go for CCS even if they had to pay for it. In general, these men seem to understand that CC is a dangerous disease, and women need to be allowed to engage in CCS. However, to continue to have the support of these men in this study, measures would have to be put in place to curb or reduce these barriers. Health workers need to be trained to be culturally sensitive and emotionally intelligent to deal with clients and their families and trained in effective communication. The organisation of campaigns through the media would also help in this regard since these respondents suggested that they get their information through the media.

5.6 The Intention of Men towards CC and CCS

The intention is considered an antecedent to behaviour. As a result, behavioural intentions can influence behaviour. This study, therefore, assessed the behavioural intentions of men towards CCS. Even though these men had good intentions towards CCS, more than half (52.8%) of them did not intend to allow their partner/women to go for CCS. Gupta et al.

(2019) reported contrasting findings in India when they suggested that more than three-quarters of the study respondents were willing to go for CCS if it was free. Similar research conducted among women by Touch and Oh (2018) in Cambodia and Olubodun et al. (2019) in Nigeria reported that 74% and 88.9% of the respondents respectively were willing to go for CCS. Notwithstanding, some 47% of these men in this present study expressed their intention to allow their partner/women to engage in CCS. Comparing these results of the intention of men to allow their partners/women to attend CCS with the intention of women, it is realised that on all counts the intention of women was higher than that of the men. These study settings are similar because they are developing countries and have similar challenges with regards to CC prevention. Therefore, the difference in their intentions could be as a result of the gender difference. Since women are the direct sufferers of CC, they would likely take measures to prevent it.

5.7 The Behaviour of Men towards CC and CCS

Generally, the men in this study showed moderate behaviour towards CCS. This moderate behaviour could be as a result of the recent recognition CC, and CCS has gained coupled with few screening centres across the country. These men might not know where these centres are located even if they want to allow their partners/women to attend CCS. The findings showed that approximately 63% of these men have ever allowed their partners/women to go for CCS and 57.3% have allowed their partners to have the Pap test but not routinely. Similarly, several studies have also revealed that respondents in the survey have engaged in CCS while those who have not gone for CCS intend to do so (Gupta et al., 2019; Tapera et al., 2017; Touch & Oh, 2018). Low rates of CCS are widely spread and not peculiar to SSA but cuts across most LMICs. Low rates of CCS reported include, 0.8% in Ghana, 27.5% in Botswana, 16% in India and 7% in Cambodia (Ebu et al., 2015; Gupta et al., 2019; Tapera et al., 2017; Touch & Oh, 2018). The respondents in these other studies had a

lower level of education compared to the respondents of this present study. Therefore, it can be suggested that the low level of CCS amongst them is because of the low knowledge associated with the low educational level. However, the study by Tapera et al. (2017) revealed that the female university students in Botswana had similar tertiary level education as the respondents of this present study yet the rate of CCS was very low. Therefore, it suggests that men allowing their wives to attend CCS may not guarantee women to engage in CCS. Hence it can be inferred that high educational level (tertiary) does not translate to men allowing their partners/women to engage in CCS.

Another 62% of the men in this present study agreed that they have never allowed their partners/women to go for CCS, but they plan to do so in six months. Consistent with this present finding is that of Tello et al. (2010) in the USA suggesting that 22% of the respondents had not screened for CC even though they did not indicate that they planned to do so later. The vast difference in the proportion of men who have never allowed their partners/women to go for CCS and women who have never gone for CCS is evidenced by the study settings. The disparity in the health care system between the two countries may be responsible for this. Screening for CC is well organised in the USA with screening centres made available. However, there is no organised CCS programme in Ghana. Most women are screened through a referral from their doctors/gynaecologist. Furthermore, the men in this study believed that CCS is expensive as such they may avoid allowing their partners/women to attend the screening.

Research by Obročníková and Majerníková (2017) in Slovakia revealed that 43% of the respondents admitted having a Pap smear once a year and another 44% once in 3 years. This finding is similar to the finding of the present study, where 56.9% of the men prevent their partners/women from having the Pap test every two years. These men in this current study do not allow their partners/women to have routine CCS, just like the women in the

other research. The mixed feelings among these men could be as a result of their knowledge and attitude towards CCS. Even though they showed moderate knowledge and a good attitude, some barriers mentioned earlier such as the religion and the poor socioeconomic status of some of these unemployed men could have resulted in the trend of their behaviour. Apart from these factors, the study setting could also be a contributing factor as the influence of patriarchy is enormous. Also, most women depend on men for financial assistance. Some studies conducted in Muslim dominated communities have suggested that women in these communities do not engage in CCS and may need approval from their husbands before CCS (Jradi & Bawazir, 2019; Salem et al., 2017; Salman, 2012). The authors attributed this to the claim of such women as the religion prohibiting them from exposing their ‘’private parts’’ to other men. Since these women share the same religious faith with the majority of the men in this study, it could be the reason these men prevent their partners/women from going for CCS.

6.7 The relationship between Knowledge, Attitude, beliefs, PBC and Behaviour of Men

Ajzen (1991) in the TPB, suggested that attitude, beliefs (subjective norms), PBC, and behavioural intention have a relationship with the target behaviour. Additionally, all these variables under study are influenced by the information that is available to an individual. Hoque and Van Hal (2014) reported that the desire of respondents in a survey in KwaZulu-Natal increased after they were provided information about CC and HPV. Therefore, the knowledge level of these men about CC and screening was deemed essential to determine their behaviour towards CCS. In this present study, the relationship that exists between these variables and the behavioural intention was not examined due to a low Cronbach’s alpha value (0.34) of the behavioural intention scale. Several studies have suggested that a Cronbach’s alpha value of at least 0.7 or 0.5 for scales with very few items is acceptable. However, lower values of alpha are not considered to be reliable (Dall'Oglio et al., 2010;

Nunnally, 1978; Panayides, 2013). This study aims to report reliable results as such intention was not considered in the correlation and regression analysis.

The current study suggests that a positively significant relationship exists between knowledge and the behaviour of these men towards CCS ($r = 0.131, p = 0.007$). This implies that a high level of knowledge of the respondents would be expressed as good behaviour towards CC and CCS. This assertion is consistent with Bansal et al. (2015) as the authors described the level of knowledge of the women in a study to be suboptimal and a resultant low 9.5 % of them had gone for CCS. Similarly, the men in this present study showed a moderate level of knowledge about CC and screening and consequently, a moderate level of behaviour. However, more men (57.3%) had allowed their partners/women to go for CCS even though not regularly compared to the low level (9.5%) reported by Bansal and colleagues (2015). This sharp difference in the CCS levels could be in the gender of the respondents as more women associate CCS with many barriers compared to men. Similar studies in Kenya and Tanzania presented identical findings. The authors suggest that high levels of knowledge of CC and screening result in high levels of CCS (Kahesa et al., 2012; Morema et al., 2014). In contrast, with this present study's findings, some studies have also reported high levels of CC and screening knowledge, yet the respondents do not engage in CCS (Coskun et al., 2013; Tran et al., 2011).

Attitude, on the other hand, showed a significant negative relationship with the behaviour of men ($r = -0.175, p < 0.001$), indicating that not all positive attitude towards CCS would lead to these men allowing their partners/women to go for CCS. This is explained in this present study when a high attitude led to a moderate behaviour. The finding put forward by Aldohaian and colleagues (2019) in Saudi Arabia clarifies this assertion. In that study, the authors suggested that even though the respondents showed a positive attitude by expressing great benefits and motivation and few barriers to CCS, they still did not engage in CCS

(Aldohaian et al., 2019). In this present study, the men show a favourable attitude towards CCS however, more than half (66.9%) of these men tend to prevent their partners/women from going for CCS. These study locations are both predominantly Muslim dominated communities. Some Islamic societies use the teachings of Islam about modesty and the belief that once ‘’you are destined to get a disease there is nothing that can be done to prevent it’’ to avoid CCS. However, there is evidence from the Holy Quran which states that ‘’seek treatment, O slaves of Allah! For Allah does not create any disease, but he also creates with it the cure, except for old age” (Majah, 2018). According to Swapnajaswanth et al. (2014), even though the respondents in a study conducted among Indian women had a favourable attitude towards CC and CCS, they did not engage in the screening. Another survey conducted by Ahmed et al. (2013) have reported that even though women showed a positive attitude (80.4%) towards CCS, only 15.4% engaged in CCS In contrast with the present study findings, Ranabhat et al. (2014) assert that favourable attitude results in favourable behaviour as the respondents in the study who perceived Pap test to prevent CC were 2.4 times likely to go for CCS. The negative association between the attitude of these men in the present survey and their behaviour may be attributed to the ineffective CCS programme in the country. Intensive CCS education and programmes would have compelled most men to enable their partners/women to attend CCS. Therefore, the hypothesis that there is a significant positive relationship between the knowledge, attitudes, believes, PBC of men, and the behaviour of men towards CCS is partially supported.

6.8 The Predictors of Behaviour of Men towards CC and CCS

The predictors of the behaviour of men towards CCS in this study were the knowledge and attitude of these men. The results of the regression analysis revealed that the sociodemographic characteristics, knowledge, attitude, beliefs (subjective) and PBC collectively explained 8.3% of the behavioural intentions of these men towards CCS [R^2 =

0.83, F (11, 302) = 2.490, p= 0.005]. This study shows that the knowledge level of these men could be due to their educational status, which exposes them to information about CC and screening. Therefore, these group of men are more likely to do away with a negative attitude and cultural beliefs that prevent them from allowing their partners/women to go for CCS. Another reason could also be attributed to the setting of the study because it is an urban community. Respondents are privileged to have different sources of information about preventive health. Interestingly attitude was found to be a better predictor of the behaviour of these men even though Waller et al. (2004) indicated that knowledge is the precursor to behaviour, though the relationship was not linear. Related studies about CC and screening have equally proposed that knowledge and attitude influence intention to go for CCS and to engage in CCS (Abamecha et al., 2019; Mokhele et al., 2016). However, Swapnajaswanth et al. (2014) reported that occupation and marriage predicted CCS in a study involving women. Therefore, the hypothesis that the socio-demographic characteristics, knowledge, attitude, beliefs, perceptions (subjective norms), PBC will account for at least 50% of the variance in the behaviour of men towards CCS was not supported.

In summary, the low CCS rate is not peculiar to Ghana. Several other countries across the globe have challenges with CC prevention. From the findings of this study, it is established that knowledge, attitude, beliefs, and PBC influence the health-seeking behaviour of these men. To increase the number of women who screen for CC, measures must be put in place to reduce the challenges men face about allowing their partners to screen for CC while enhancing the facilitators.

Consistently, demographic characteristics such as age, marital status, religion, education level, and employment status have a significant influence on the uptake of CCS by women. To a large extent, a younger age of respondents was associated with better results of outcomes of CC and its screening. Usually, men who are married are more likely to be

interested in issues concerning the health of women. However, this current study consisted of more single men who showed interest in CC and its screening. Religion has always affected the utilisation of some health services. Mostly, Christianity seems to allow individuals to have access to preventive health services compared to Islam. The organisation of these religions has resulted in many women in the Muslim dominated community to underutilise CCS. Additionally, higher levels of education and employment status are linked with positive CCS outcomes for both men and women. Even though age might not be a barrier to CCS, marital status, religion, lower levels of education, and unemployment can be considered to be barriers to some women going for CCS.

Across the globe, more women have shown higher levels of knowledge of CC it's screening than males have shown. Consistent among their knowledge of CC was the fact that it is a severe disease even though knowledge levels of CC and its screening are generally low. However, there are many contradictory ideas which individuals hold about CC and its screening, which might not be accurate. Thus, the media and health workers have a huge task to educate and promote individuals about CC and its screening. Knowledge of CC its screening would likely lead to more men allowing their partners/women to attend CCS.

A widely accepted fact is that knowledge has a substantial influence on the attitude of an individual. Some men and women displayed exceptional levels of knowledge of CC and CCS but failed to have the right attitude towards CC and its screening. Notwithstanding, some men and women with knowledge of CC also showed a corresponding right attitude towards CCS. The kind of attitude about CC and its screening exhibited also leads to a similar behaviour shown towards CCS. An attitude which considers CCS to be expensive and time-consuming would not lead to CCS. Different beliefs about CC and its screening have resulted in very few women going for CCS with the support of men. These beliefs have become barriers to CCS. Examples of such beliefs include promiscuous women go for CCS,

and it was embarrassing to have CCS. Other beliefs that would make it easier for women to go for CCS include the belief that CC a severe disease and could lead to death.

Among other factors, the educational status, socioeconomic status, the availability of CCS centres and the distance to these centres have been considered to contribute immensely to the perception of the ease of men enabling their partners/women and women also going for CCS. More women have also expressed their willingness to go for CCS and men have also shown their willingness to allow women to access CCS even though the women may not engage in the screening. Depending on the availability of information on CC and CCS, women would screen for CC. Due to the poor behaviour towards CCS, very few women go for CCS. In some cases, both men and women may know about CC and its screening, have the right attitude, favourable beliefs and are willing to allow women to attend CCS however, the women do not screen for CCS. This has resulted in knowledge, attitude, occupation, and marriage to predict CCS.

CHAPTER SIX

SUMMARY, IMPLICATIONS, LIMITATIONS, CONCLUSION, AND RECOMMENDATIONS

This chapter of the study reports on the summary of the study, implications of the findings, limitations, conclusions, and suggests recommendations based on these findings.

6.1 Summary of the Study

The involvement of men in the health of women and children is very significant to sustain a healthy family life. This is even more relevant in communities where patriarchy is emphasised. Thus, the behaviour of men towards CCS in the Tamale Metropolis were assessed. Ajzen (1991) TPB was used as the guiding framework for this study. The literature review included quantitative and qualitative studies, randomised controlled trials and systematic reviews about CC and CCS and related studies of women's health. Most of the studies were largely reporting on the knowledge level, attitude and practices of CCS about women with few of these studies exploring the participation of men in CCS. It was concluded that very little has been documented about the participation of men in CCS in both HICs and LMICs.

The Ethical review board of Noguchi Memorial Institute for Medical Research in the University of Ghana gave ethical clearance (appendix A) and the Tamale Metropolitan Assembly granted permission (appendix D) for the study to be carried out in communities in the area. A quantitative cross-sectional design was employed to collect data on 422 men in the Tamale Metropolis. Consent was sought from the men before data were collected using a questionnaire. Data collection, cleaning and analysis lasted between November, 2018 and March, 2019. The collected data was analysed using Statistical Package for Social Sciences (SPSS) version 21.0. Descriptive and inferential statistics (Pearson Product Moment Correlation and hierarchical multiple regression) were used to analyse the data. The socio-

demographic characteristics, knowledge level, attitude, beliefs, PBC, intention and the behaviour of men were described. Pearson r was used to test the relationship between knowledge, attitude, beliefs (subjective norms), PBC, and the behaviour of men. The intention of these men was not included in the analysis because the Cronbach's alpha value recorded was low (0.34). Hierarchical multiple regression was also used to determine the predictors of the behaviour of men towards CCS.

The results of the study revealed that the knowledge level and the behaviour of these men were moderate, with a total mean score of 1.81 (±0.28) and 2.51 (±0.44), respectively. Even though the knowledge level of these men was moderate they still considered CC as a serious disease and believed it was curable and preventable. However, their attitude, beliefs (subjective norms), intention and PBC towards CCS were high with corresponding total mean scores of 2.9 (±0.499), 3.32 (±0.35), 3.63 (±0.92) and 3.45 (±0.87) respectively. This suggests the men in this study had positive attitude, favourable beliefs, good PBC and good intention about CCS. The most significant attitude shown by these men was preferring that their partners/women have the Pap test before CC symptoms start. With this attitude, CC prevention is imminent with more women going for CCS. Despite men and women feel embarrassed about CCS, the men in this study believed that the CCS process was not embarrassing and suggested that they had time to assist their partners to go for CCS when the need arises. To explore their PBC about CCS, the men indicated that they were sure to allow their partner/women to go for CCS even if it was painful or significant people in their lives stopped them from doing so. Though the intentions of these men may be described as good, most of them were not willing to allow their wives to go for CCS.

Last but not least the behaviour of these men even though moderate leaves much to be desired. The majority of the respondents suggested that they have never allowed their partners to go for CCS. Those who allow their partners to go for the test did not allow them to

be tested routinely. Additionally, the results showed a significant positive relationship between the knowledge level of these men and their behaviour. On the other hand, there was a significant negative relationship between the attitude of these men and their behaviour towards CCS. Furthermore, the knowledge and attitude of these men were found to predict their behaviour towards CCS.

The TPB depict that the attitude, together with beliefs PBC and intentions should influence the behaviour of men towards CCS. In this study, knowledge and attitude of the men influence their behaviour towards CCS. Therefore, the study results were not entirely consistent with the TPB constructs, which all predict behaviour.

6.2 Implications of the Study

The study has implications for nursing and midwifery practice, health education/promotion, nursing/midwifery research, and policy formulation.

6.2.1 For Nursing and Midwifery Practice

Generally, the knowledge, attitude, beliefs, intention, PBC, and eventually, the respondent's behaviour towards CCS was good. Therefore, it would be prudent to encourage men to continue with the good behaviour. Health providers and stakeholders in CC prevention and CCS need to appreciate the efforts of these men while supporting them. Health workers could devise innovative ways to make male involvement in CCS more attractive to more men. Excellent communication skills are an aspect of professionalism which should be an attribute of every nurse/midwife. This would make more clients feel at ease to speak freely to the nurse/midwife. Therefore, there is a need for improved interpersonal communication between the nurse/midwife and their clients. Especially when there are several misconceptions surrounding CC and CCS, this would provide an opportunity to clear these misconceptions and send a positive outlook about CCS. Eventually, more men and their families would support their partners/women access CCS. This would

also encourage other members in the community to see CCS as essential and allow women to go for CCS with more women also empowered about CCS. It would also be practical for most health workers to be trained in providing CCS services to reduce the stress and burden with having access to CCS. This would increase the number of women to be screened and also encourage more men to provide the necessary support.

6.2.2 Health Education/Promotion on CCS

The findings of the study suggest that health education contributed to the general behaviour of these men even though the involvement of men in CCS is low. The media seems to be the most reliable means of sharing information. Persons with literacy challenges can benefit from this form of health education. Health promotion through media campaigns, sharing of information on CC and CCS on social media, intensive health education at the various facility's OPD and antenatal sessions, and organising outreach programmes. Community sensitisation through education with community interpreters in the different local dialects, allowing time for health education programmes on the radio in English and indigenous dialects to reach a wide range of people. From the study, knowledge and attitude influenced behaviour towards CCS. Even though attitude correlated negatively with behaviour, this means that not all the good attitude the men expressed would lead to good behaviour, it is better to encourage more men to have a good attitude while giving them the necessary information so that more women can go for CCS.

6.2.3 Nursing/Midwifery Research

To keep up with the fast rate at which nursing and midwifery practice is evolving and also meet the growing needs of clients, nurses are tasked with the provision of quality care. Quality nursing and midwifery care can be provided when this care is evidence-based. However, literature is the backbone of evidence-based practice. Nurses and midwives are, therefore mandated to research to provide quality care. Cervical cancer happens to be one of

the common cancers which has a vaccine and is also preventable. Research into measures to influence men to support women to attend CCS would go a long way to reduce the burden of CC. Qualitative investigation into the behaviour of men towards CCS would also contribute to a deeper understanding of factors that prevent men from supporting women to patronise CCS while promoting factors which encourage CCS.

6.2.4 Policy Formulation

Male involvement must be considered during policy formulation for CCS and womens' health in general. Most women from male-dominated communities need the permission of men to patronise women's preventive health services. Therefore, including men in CCS policy would increase the number of women who screen for CCS. Apart from few CCS centres, financial constraints, perceived pain and embarrassment CCS, which are easy to overcome through individual effort, both men and women expressed concerns about male health workers providing the CCS service. This might pose a challenge to the struggle to enable more women have access to CCS while males support them. Some men and women think that women's rights are violated during the process. Such a stance would discourage men from allowing their partners/women from patronising the service. Therefore, there is a need for health facilities to make it possible for the partners of women to be present during the Pap test if the women are comfortable. A policy in this regard would be helpful to increase the number of people who attend CCS.

6.3 Limitations of the Study

The questionnaire used for this study was a self-administered one as such dishonesty due to sensitive nature of CC and its screening, and the effects of social desirability are possible. Also, the quantitative study design could not explore in-depth the reasons the men did not support CCS. Since the research was a cross-sectional survey, the cause and effect could not be established.

6.4 Conclusion

To prevent CC and improve CCS, interventions must be geared towards bridging the gap between research in CC and its screening. Research has shown that the involvement of males in the health care of women cannot be overemphasised. This has led to stakeholders in women's' health to advocate for the participation of men in women's health services. Thus, the need for this study. This study is one of the few studies to be conducted in the Tamale Metropolis on the behaviour of men towards CCS. The findings of the study indicated that there are a lot of misconceptions surrounding CC and its screening. Nonetheless, the respondents in the survey showed impressive levels of attitude, beliefs, PBC, and intentions towards CCS even though their general level of knowledge and behaviour was fair. Despite these challenges, some men support their partners to screen for CC. This would go a long way to scale up the number of women who have access to CCS given the low number of women who attend the screening coupled with little male involvement in the process. Intensive CC prevention and CCS campaigns to bust the myths surrounding CC and its screening coupled with increased access to more screening centres would contribute significantly to the number of women who screen and have the support of their partners/men. Ultimately doing this would position Ghana to achieve the sustainable development goal (3.4) to reduce mortality from non-communicable diseases and promote mental health.

6.5 Recommendations

From the research findings, the following recommendations are made to the Ministry of Health and Ghana Health Service, metropolitan and municipal assemblies and health directorates, health facilities and health professionals and nurse/midwife researcher.

6.5.1 Ministry of Health (MOH) and Ghana Health Service (GHS)

The MOH and GHS should:

- Roll out sustainable programmes and policies to involve men about CC prevention
- Mandate all health facilities to carry out CCS services
- Liaise with the health insurance companies to migrate CCS on to their schemes
- Ensure a CC control programme is instituted just like the Tuberculosis and Malaria control programmes
- Allocate resources for CC and its screening programmes
- Liaise with Non-governmental Organisations to promote comprehensive CCS programmes.

6.5.2 Metropolitan, Municipal Assemblies and Health Directorates

These agencies must:

- Institute and Support health facilities in their catchment areas to provide frequent mobile outreach programmes to offer CCS with treatment on the spot (screen and treat) approach
- Ensure community education and promotion of CC and CCS in churches, mosques
- Liaise with the media to promote CC prevention in the indigenous languages

6.5.3 Health Facilities and Health Professionals

Managers of health facilities must:

- Work with the health directorate to organise continuous professional development programmes in CC education and prevention for health provider
- Motivate health workers to provide culturally competent education on CC prevention to any woman they come in contact with

- Ensure that CCS services are incorporated into antenatal and family planning services to reach a broader populace

6.5.4 Nurse/Midwife Researcher

Researchers must:

- Conduct more quantitative and qualitative community-based research involving both men and women about CC and CCS
- Advance qualitative approach to gain a deeper understanding of the involvement of men in CCS.

REFERENCES

Abamecha, F., Tena, A., & Kiros, G. (2019). Psychographic Predictors of Intention to Use Cervical Cancer Screening Services Among Women Attending Maternal and Child Health Services in Southern Ethiopia: The Theory of Planned Behaviour (TPB) Perspective. *BMC Public Health*, 19(1), 434. Doi:10.1186/S12889-019-6745-X.

Abboud, S., De Penning, E., Brawner, B. M., Menon, U., Glanz, K., & Sommers, M. S. (2017). Cervical Cancer Screening Among Arab Women in the United States: An Integrative Review. *Oncology Nursing Forum*, 44(1), E20-E33. doi: 10.1188/17.ONF.E20-E33.

Abdul-Aziz, M. (2012). Knowledge, Attitude and Practice towards Cervical Cancer Among Reproductive Health Clients at the University of Science & Technology Hospital-Sana'a in Yemen. *Yemeni Journal for Health Sciences*, 6.

Abiodun, O. A., Fatungase, O. K., Olu-Abiodun, O. O. (2014). Knowledge, Perception and Predictors of Uptake of Cervical Screening Among Rural Nigerian Women. *Journal of Public Health and Epidemiology*, 6(3), 119-124. doi:10.5897/Jphe2013.0576.

Abotchie, P. N., & Shokar, N. K. (2009). Cervical cancer screening among college students in Ghana: knowledge and health beliefs. *International Journal of Gynaecological Cancer*, 19(3), 412-416. doi:10.1111/IGC.0b013e3181a1d6de.

Abudukadeer, A., Azam, S., Mutailipu, A. Z., Qun, L., Guilin, G., & Mijiti, S. (2015). Knowledge and Attitude of Uyghur Women in Xinjiang Province of China Related to The Prevention and Early Detection of Cervical Cancer. *World Journal of Surgical Oncology,* 13, 110. doi:10.1186/S12957-015-0531-8.

Ackerson, K., Zielinski, R., & Patel, H. (2014). Female College Students' Beliefs About Cervical Cancer Screening. *Journal of Research in Nursing*, 20(2), 147-159. doi:10.1177/1744987114534950.

Adageba, R. K., Danso, K. A., Ankobea, F. K., Kolbilla, D. Z., & Opoku, P. (2011). Knowledge of Cervical Cancer and Patronage of Cervical Cancer Screening Services Among Female Health Workers in Kumasi, Ghana. *African Journal of Haematology and Oncology*, 2(1).

Adanu, R., Seffah, J., Duda, R., Darko, R., Hill, A., & Anarfi, J. (2010). Clinic Visits and Cervical Cancer Screening in Accra. *Ghana Medical Journal*, 44(2).

Adegboyega, A., Aleshire, M., Dignan, M., & Hatcher, J. (2019). Spousal Support and Knowledge Related to Cervical Cancer Screening: Are Sub-Saharan African Immigrant Men Interested? *Health Care for Women International*, 1-17. doi:10.1080/07399332.2019.1615914.

Adjei, B., Wolterbeek, R., & Peters, A. A. (2015). An Evaluation of The Current State of Sexual and Reproductive Health and Rights of Women in Ghana. *Journal of Psychosomatic Obstetrics & Gynaecology*, 36(4), 155-160.

Adunlin, G., Cyrus, J. W., Asare, M., & Sabik, L. M. (2019). Barriers and Facilitators to Breast and Cervical Cancer Screening Among Immigrants in The United States. *Journal of Immigrant and Minor Health*, 21(3), 606-658. doi:10.1007/S10903-018-0794-6.

Afful, H. E., & Attom, L. E. (2018). Areas of Male Dominance: Experiences of Married Women in The Mozano Community in Ghana. *Global Journal of Arts, Humanities and Social Sciences*, 6(4), 1-15.

Ahmed, S. A., Sabitu, K., Idris, S. H., & Ahmed, R. (2013). Knowledge, Attitude and Practice of Cervical Cancer Screening Among Market Women in Zaria, Nigeria. *Nigerian Medical Journal*, 54(5), 316-319. doi:10.4103/0300-1652.122337.

Ajzen, I. (1991). The Theory of Planned Behaviour. Organizational Behaviour and Human Decision Processes, 50(2), 179-211.

Ajzen, I. (2006). Behavioural Interventions Based on The Theory of Planned Behaviour: Brief Description of The Theory of Planned Behaviour.

Ajzen, I. (2011). The Theory of Planned Behaviour: Reactions and Reflections. *Psychology and Health*, 26(9), 1113-1127. doi:10.1080/08870446.2011.613995.

Ajzen, I. (2011a). Behavioural Interventions: Design and Evaluation Guided by The Theory of Planned Behaviour. In M. M. Mark, S. I. Donaldson, & B. Campbell (Eds.), *Social Psychology for Program and Policy Evaluation*. (Pp. 74-100). New York, NY: Guilford: Social Psychology and Evaluation, Guilford Publications.

Ajzen, I. (2014). The Theory of Planned Behaviour Is Alive and Well, And Not Ready to Retire: A Commentary on Sniehotta, Presseau, And Araujo-Soares. *Health Psychology Review*, 9(2), 131-137. doi:10.1080/17437199.2014.883474.

Ajzen, I., & Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behaviour. Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I., & Madden, T. J. (1986). Prediction of Goal-Directed Behaviour: Attitudes, Intentions, And Perceived Behavioural Control. *Journal of Experimental Social Psychology*, 22(5), 453-474.

Akhavan-Tabatabaei, R., Sanchez, D. M., & Yeung, T. G. (2016). A Markov Decision Process Model for Cervical Cancer Screening Policies in Colombia. *Medical Decision Making*, 37(2), 196-211. doi:10.1177/0272989X16670622.

Akinyemiju, T. F. (2012). Socio-Economic and Health Access Determinants of Breast and Cervical Cancer Screening in Low-Income Countries: Analysis of The World Health Survey. *Plos One*, 7(11), E48834. doi: 10.1371/Journal.Pone.0048834.

Alabi, T., Bahah, M., & Alabi, S. O. (2013). The Girl-Child: A Sociological View on the Problems of Girl-child Education in Nigeria. *Global Research Journal of Education*, 3 (2), 57 –65.

Aldohaian, A. I., Alshammari, S. A., & Arafah, D. M. (2019). Using the Health Belief Model to Assess Beliefs and Behaviours Regarding Cervical Cancer Screening Among Saudi Women: A Cross-Sectional Observational Study. *BMC Womens Health*, 19(1), 6. doi:10.1186/S12905-018-0701-2.

Ali, S., Skirton, H., Clark, M. T., & Donaldson, C. (2017). Integrative Review of Cervical Cancer Screening in Western Asian And Middle Eastern Arab Countries. *Nursing and Health Sciences*, 19(4), 414-426. doi:10.1111/Nhs.12374.

Almobarak, A. O., Elbadawi, A. A., Elmadhoun, W. M., Elhoweris, M. H., & Ahmed, M. H. (2016). Knowledge, Attitudes and Practices of Sudanese Women Regarding the Pap Smear Test and Cervical Cancer. *Asian Pacific Journal of Cancer Prevention*, 17(2), 625-630. doi:10.7314/apjcp.2016.17.2.625.

Anaman-Torgbor, J. A., King, J., & Correa-Velez, I. (2017). Barriers and Facilitators of Cervical Cancer Screening Practices Among African Immigrant Women Living in Brisbane, Australia. *European Journal of Oncology Nursing*, 31, 22-29. doi: 10.1016/J.Ejon.2017.09.005.

Ansari, A., Agarwal, M., Singh, V. K., Nutan, K., & Deo, S. (2019). Cervical Cancer: Perception of Peripheral Health Workers in Lucknow: A Cross-Sectional Study. *International Journal of Community Medicine and Public Health*, 6(4), 1536. doi:10.18203/2394-6040.Ijcmph20191380.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review. *British Journal of Social Psychology*, 40(4), 471-499.

Asare, M. (2015). Using the Theory of Planned Behaviour to Determine the Condom Use Behaviour among College Students. *American Journal Health Studies*, 30(1), 43-50.

Assoumou, S. Z., Mabika, B. M., Mbiguino, A. N., Mouallif, M., Khattabi, A., & Ennaji, M. M. (2015). Awareness and Knowledge Regarding of Cervical Cancer, Pap Smear

Screening and Human Papillomavirus Infection in Gabonese Women. *BMC Womens Health*, 15, 37. doi:10.1186/S12905-015-0193-2.

Asuzu, C. C., Akin-Odanye, E., & Adejumo, A. (2014). Husband's Knowledge, Attitude and Behavioural Disposition to Wives Screening for Cervical Cancer in Ibadan. African *Journal for the Psychological Study of Social Issues*, 17(2).

Audet, C. M., Silva Matos, C., Blevins, M., Cardoso, A., Moon, T. D., & Sidat, M. (2012). Acceptability of Cervical Cancer Screening in Rural Mozambique. *Health Education Research*, 27(3), 544-551. doi:10.1093/her/cys008.

Azam, S. (2016). ''Awareness and Perspectives on Cervical Cancer and Practices Related to it: How far it has Promoted'' *Recent Advances in Cervical Cancer.*

Babbie, E. R. (2015). *The Practice of Social Research*: Nelson Education. Boston, MA Cengage Learning (14th Ed). USA.

Bansal, A. B., Pakhare, A. P., Kapoor, N., Mehrotra, R., & Kokane, A. M. (2015). Knowledge, Attitude, And Practices Related to Cervical Cancer Among Adult Women: A Hospital-Based Cross-Sectional Study. *Journal of Natural Science Biology and Medicine*, 6(2), 324-328. doi:10.4103/0976-9668.159993.

Belete, N., Tsige, Y., & Mellie, H. (2015). Willingness and Acceptability of Cervical Cancer Screening Among Women Living With HIV/AIDS in Addis Ababa, Ethiopia: A Cross Sectional Study. *Gynaecologic Oncology Research and Practice*, 2, 6. doi:10.1186/S40661-015-0012-3.

Bennett, K. K., Buchanan, J. A., & Adams, A. D. (2012). Social-Cognitive Predictors of Intention to Vaccinate Against the Human Papillomavirus in College-Age Women. *Journal Social Psychology*, 152(4), 480-492. doi:10.1080/00224545.2011.639408.

Binka, C., Nyarko, S. H., & Doku, D. T. (2016). Cervical Cancer Knowledge, Perceptions and Screening Behaviour Among Female University Students in Ghana. *Journal of Cancer Education*, 31(2), 322-327. doi:10.1007/s13187-015-0852-x.

Birhanu, Z., Abdissa, A., Belachew, T., Deribew, A., Segni, H., Tsu, V., . . . Russell, F. M. (2012). Health Seeking Behaviour for Cervical Cancer in Ethiopia: A Qualitative Study. *International Journal for Equity in Health*, 11(1), 83.

Bocanegra, H. T. d., Trinh-Shevrin, C., Herrera, A. P., & Gany, F. (2012). Mexican Immigrant Male Knowledge and Support toward Breast and Cervical Cancer Screening. *Journal of Immigrant and Minor Health*. doi:10.1007/s10903-008-9161-3.

Bosch, F. X., Broker, T. R., Forman, D., Moscicki, A. B., Gillison, M. L., Doorbar, J., . . . Related Diseases' Vaccine Volume, S. (2013). Comprehensive Control of Human Papillomavirus Infections and Related Diseases. *Vaccine*, 31(S8): xi–xii. doi: 10.1016/j.vaccine.2013.07.016.

Brown, R. F., Muller, T. R., & Olsen, A. (2019). Australian Women's Cervical Cancer Screening Attendance as A Function of Screening Barriers and Facilitators. *Social Science and Medicine*, 220, 396-402. doi: 10.1016/j.socscimed.2018.11.038.

Budkaew, J., & Chumworathayi, B. (2014). Factors Associated with Decisions to Attend Cervical Cancer Screening Among Women Aged 30-60 years in Chatapadung Contracting Medical Unit, Thailand. *Asian Pacific Journal of Cancer Prevention*, 15(12), 4903-4907. doi:10.7314/apjcp.2014.15.12.4903.

Cadet, T. J., Burke, S. L., Stewart, K., Howard, T., & Schonberg, M. (2017). Cultural and Emotional Determinants of Cervical Cancer Screening Among Older Hispanic Women. *Health Care for Women International*, 38(12), 1289-1312. doi:10.1080/07399332.2017.1364740.

Calys-Tagoe, B. N., Yarney, J., Kenu, E., Amanhyia, N. A. K. O., Enchill, E., & Obeng, I. (2014). Profile of Cancer Patients' seen at Korle Bu Teaching Hospital in Ghana (A Cancer Registry Review). *BMC Research Notes*, 7(1), 577. doi:10.1186/1756-0500-7-577.

Campos, N. G., Sharma, M., Clark, A., Lee, K., Geng, F., Regan, C., . . . Resch, S. (2017). The Health and Economic Impact of Scaling Cervical Cancer Prevention In 50 Low-And Lower-Middle-Income Countries. *International Journal of Gynaecology and Obstetrics*, 138 (1), 47-56. doi:10.1002/ijgo.12184.

Castro, E. K. d., Peuker, A. C., Lawrenz, P., & Figueiras, M. J. (2015). Illness Perception, Knowledge and Self-Care About Cervical Cancer. *Psychology/Psicologia Reflexão e Crítica*, 28(3), 483-489. doi: 10.1590/1678-7153.201528307.

Castrucci, B. C., Alonso Echegollen Guzmán, Mona Saraiya, Brian R. Smith, Kayan L. Lewis, Steven S. Coughlin, . . . Juan Acuña, M. (2008). Cervical Cancer Screening Among Women Who Gave Birth in the US-Mexico Border Region, 2005: The Brownsville-Matamoros Sister City Project for *Women's Health. Preventing Chronic Disease*, 5(4).

Catalan Institute of Oncology [ICO]/IARC Information Centre on HPV and Cancer. (2019). Human Papillomavirus and Related Diseases Report, Ghana. Retrieved March 8, 2019, from https://hpvcentre.net/statistics/reports/GHA.pdf.

Cerigo, H., Coutlée, F., Franco, E. L., & Brassard, P. (2013). Factors Associated with Cervical Cancer Screening Uptake Among Inuit Women in Nunavik, Quebec, Canada. *BMC Public Health*, 13(1), 438. doi: 10.1186/1471-2458-13-438.

Chamani, S. R., Charandabi, S., & Kamalifard, M. (2012). Knowledge, Attitudes and Practice About Pap Smear Among Women Referring to A Public Hospital. *Journal of Family and Reproductive Health*, 6(4), 117-182.

Champion, V. L., & Skinner, C. S. (2008). The Health Belief Model Health Behavior And Health Education: *Theory, Research, And Practice*. (4th Ed., Pp. 45–65). San Francisco, CA: Jossey-Bass.

Chidyaonga-Maseko, F., Chirwa, M. L., & Muula, A. S. (2015). Underutilization of Cervical Cancer Prevention Services in Low- and Middle-Income Countries: A Review of Contributing Factors. *Pan African Medical Journal*, 21, 231. doi:10.11604/pamj.2015.21.231.6350

Christianson, M., Boman, J., & Essen, B. (2013). 'Let Men into The Pregnancy'--Men's Perceptions About Being Tested for Chlamydia and HIV During Pregnancy. *Midwifery*, 29(4), 351-358. doi: 10.1016/j.midw.2012.02.001.

Cooke, E., Hague, S., & McKay, A. (2016). Ghana Poverty and Inequality Report: Using the 6th Ghana National Living Standards Survey. Retrieved from: https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf.

Coskun, S., Can, H., & Turan, S. (2013). Knowledge About Cervical Cancer Risk Factors and Pap Smear Testing Behavior Among Female Primary Health Care Workers: A Study from South Turkey. *Asian Pacific Journal of Cancer Prevention*, 14(11), 6389-6392. doi:10.7314/apjcp.2013.14.11.6389.

Creswell, J. W. (2013). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches*: Sage Publications.

Crutzen, R., & Kuntsche, E. (2013). Validation of The Four-Dimensional Structure of Drinking Motives Among Adults. *European Addiction Research*, 19(4), 222-226. doi:10.1159/000345457.

Dall'Oglio, A. M., Rossiello, B., Coletti, M. F., Caselli, M. C., Rava, L., di Ciommo, V., . . . Pasqualetti, P. (2010). Developmental Evaluation at Age 4: Validity of An Italian

Parental Questionnaire. *Journal for Paediatric Child Health*, 46(7-8), 419-426. doi:10.1111/j.1440-1754.2010. 01748.x.

Darj, E., Chalise, P., & Shakya, S. (2019). Barriers and Facilitators to Cervical Cancer Screening in Nepal: A Qualitative Study. *Sexual and Reproductive Health*, 20, 20-26. doi: 10.1016/j.srhc.2019.02.001.

Davis, J., Vaughan, C., Nankinga, J., Davidson, L., Kigodi, H., Alalo, E., . . . Luchters, S. (2018). Expectant Fathers' Participation in Antenatal Care Services in Papua New Guinea: A Qualitative Inquiry. *BMC Pregnancy and Childbirth*, 18(138). doi:10.1186/s12884-018-1759-4.

Davis, J., Vyankandondera, J., Luchters, S., Simon, D., & Holmes, W. (2016). Male Involvement in Reproductive, Maternal and Child Health: A Qualitative Study of Policymaker and Practitioner Perspectives in The Pacific. *Reproductive Health*, 13(1), 81. doi:10.1186/s12978-016-0184-2.

Di, J., Rutherford, S., & Chu, C. (2015). Review of the Cervical Cancer Burden and Population-Based Cervical Cancer Screening in China. *Asian Pacific Journal of Cancer Prevention*, 16(17), 7401-7407. doi:10.7314/apjcp.2015.16.17.7401.

Donati, S., Giambi, C., Declich, S., Salmaso, S., Filia, A., Ciofi degli Atti, M. L., . . . PreGio Working, g. (2012). Knowledge, Attitude and Practice in Primary and Secondary Cervical Cancer Prevention Among Young Adult Italian Women. *Vaccine*, 30(12), 2075-2082. doi: 10.1016/j.vaccine.2012.01.057.

Dumbaugh, M., Tawiah-Agyemang, C., Manu, A., Asbroek, G. H. t., Kirkwood, B., & Hill, Z. (2014). Perceptions Of, Attitudes Towards and Barriers to Male Involvement in Newborn Care in Rural Ghana, West Africa: A Qualitative Analysis. *BMC Pregnancy and Childbirth*, 14:269, 14(269). doi:10.1186/1471-2393-14-269.

Eaton, A. A., & Stephens, D. P. (2016). Using the Theory of Planned Behaviour to Examine Beliefs About Verbal Sexual Coercion Among Urban Black Adolescents. *Journal of Interpersonal Violence*, 886260516659653. doi:10.1177/0886260516659653.

Eagly, A. H., & Chaiken, S. (1993). The Psychology of Attitudes: Harcourt brace Jovanovich college publishers.

Ebu, N. I., Mupepi, S. C., Siakwa, M. P., & Sampselle, C. M. (2015). Knowledge, Practice, And Barriers Toward Cervical Cancer Screening in Elmina, Southern Ghana. *International Journal of Women's Health*, 7, 31. doi: 10.2147/IJWH.S71797.

Erku, D. A., Netere, A. K., Mersha, A. G., Abebe, S. A., Mekuria, A. B., & Belachew, S. A. (2017). Comprehensive Knowledge and Uptake of Cervical Cancer Screening Is Low Among Women Living With HIV/AIDS in Northwest Ethiopia. *Gynaecologic Oncology Research and Practice, 4, 20.* doi:10.1186/s40661-017-0057-6.

Everett, T., Bryant, A., Griffin, M. F., Martin-Hirsch, P. P., Forbes, C. A., & Jepson, R. G. (2011). Interventions Targeted at Women to Encourage the Uptake of Cervical *Screening. Cochrane Database of Systematic Reviews* (5). doi: 10.1002/14651858.CD002834.pub2.

Eze, J. N., Emeka-Irem, E. N., & Edegbe, F. O. (2013). A Six-Year Study of The Clinical Presentation of Cervical Cancer and the Management Challenges Encountered at A State Teaching Hospital in Southeast Nigeria. *Clinical Medicine: Insights Oncology*, 7, 151-158. doi:10.4137/CMO.S12017.

Ezechi, O. C., Gab-Okafor, C. V., Ostergren, P. O., & Pettersson, K. O. (2013). Willingness and Acceptability of Cervical Cancer Screening Among HIV Positive Nigerian Women. *BMC Public Health*, 13(1), 46.

Ezeonwu, M. (2014). Policy Strategies to Improve Maternal Health Services Delivery and Outcomes in Anambra State, Nigeria. *Health Care for Women International*, 35(7-9), 828-844. doi:10.1080/07399332.2014.925454.

Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., . . . Bray, F. (2015). Cancer Incidence and Mortality Worldwide: Sources, Methods and Major Patterns in GLOBOCAN 2012. *International Journal of Cancer*, 136(5), E359-386. doi:10.1002/ijc.29210.

Fernandez, M. E., Diamond, P. M., Rakowski, W., Gonzales, A., Torturer-Luna, G., Williams, J., & Morales-Campos, D. Y. (2009). Development and Validation of a Cervical Cancer Screening Self-Efficacy Scale for Low-Income Mexican American Women. *Cancer Epidemiology, Biomarkers and Prevention*, 18(3), 866-875. doi: 10.1158/1055-9965.EPI-07-2950.

Feyisa, G. C., & Temesgen, H. (2019). Perceived Benefits and Barriers Toward Cervical Cancer Screening Among Women≥ 15 Years in Arsi Zone, South-Eastern Ethiopia: Application of The Health Belief Model in A Community-Based Cross-Sectional Study. *Journal of Cancer Research and Practice*, 6(1), 7.

Firnhaber, C., Mayisela, N., Mao, L., Williams, S., Swarts, A., Faesen, M., . . . Smith, J. S. (2013). Validation of Cervical Cancer Screening Methods in HIV Positive Women from Johannesburg South Africa. *Plos One*, 8(1), E53494. doi: 10.1371/journal.pone.0053494.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour*: *An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.

Fishbein, M., & Ajzen, I. (2010). *Predicting and Changing Behaviour: The Reasoned Action Approach*: New York, NY: Psychology Press.

Fort, V. K., Makin, M. S., Siegler, A. J., Ault, K., & Rochat, R. (2011). Barriers to Cervical Cancer Screening in Mulanje, Malawi: A Qualitative Study. *Patient Preference and Adherence*, 5, 125-131. doi:10.2147/PPA.S17317.

Fouly, H., & Gomaa, S. (2015). Exploring of Cervical Cancer's Knowledge Among Female Nursing Students Based on Junior and Senior Grades' Information. *Journal of Nursing and Health Science*, 4(2), 8-13. doi:10.9790/1959-04220813.

Francis, S. A., Leser, K. A., Esmont, E. E., & Griffith, F. M. (2013). An Analysis of Key Stakeholders' Attitudes and Beliefs About Barriers and Facilitating Factors in The Development of a Cervical Cancer Prevention Program in South Africa. *African Journal of Reproductive Health*, 17(1), 158-168.

Francis, S. A., Nelson, J., Liverpool, J., Soogun, S., Mofammere, N., & Thorpe, R. J., Jr. (2010). Examining Attitudes and Knowledge About HPV and Cervical Cancer Risk Among Female Clinic Attendees in Johannesburg, South Africa. *Vaccine*, 28(50), 8026-8032. doi: 10.1016/j.vaccine.2010.08.090.

Gallo, F., Caprioglio, A., Castagno, R., Ronco, G., Segnan, N., & Giordano, L. (2017). Inequalities in Cervical Cancer Screening Utilisation and Results: A Comparison Between Italian Natives and Immigrants from Disadvantaged Countries. *Health Policy*, 121(10), 1072-1078. doi: 10.1016/j.healthpol.2017.08.005.

Ganle, J. K. (2014). Addressing Socio-Cultural Barriers to Maternal Healthcare in Ghana: Perspectives of Women and Healthcare Providers. *Journal of Women's Health, Issues & Care*, 03(06). doi:10.4172/2325-9795.1000171.

Ganle, J. K. (2015a). Why Muslim Women in Northern Ghana Do Not Use Skilled Maternal Healthcare Services at Health Facilities: A Qualitative Study. *BMC International Health and Human Rights*, 15(1), 10. doi: 10.1186/s12914-015-0048-9.

Ganle, J. K., Dery, I., Manu, A. A., & Obeng, B. (2016a). 'If I Go with Him, I Can't Talk with Other Women': Understanding Women's Resistance to, And Acceptance Of, Men's Involvement in Maternal and Child Healthcare in Northern Ghana. *Social Science & Medicine*, 166, 195-204. doi: 10.1016/j.socscimed.2016.08.030

Ganle, J. K., Fitzpatrick, R., Otupiri, E., & Parker, M. (2016b). Addressing Health System Barriers to Access to and Use of Skilled Delivery Services: Perspectives from Ghana. *Internal Journal of Health Planning Management*, 31(4), e235-e253. doi:10.1002/hpm.2291

Ganle, J. K., Obeng, B., Segbefia, A. Y., Mwinyuri, V., Yeboah, J. Y., & Baatiema, L. (2015b). How Intra-Familial Decision-Making Affects Women's Access to, and Use of Maternal Healthcare Services in Ghana: A Qualitative Study. *BMC Pregnancy and Childbirth*, 15(173). doi:10.1186/s12884-015-0590-4

Garrett, J. J., & Barrington, C. (2013). 'We Do the Impossible': Women Overcoming Barriers to Cervical Cancer Screening in Rural Honduras--A Positive Deviance Analysis. *Culture Health and Sexuality*, 15(6), 637-651. doi:10.1080/13691058.2012.760206

Gebreegziabher, M., Asefa, N. G., & Berhe, S. (2016). Factors Affecting the Practices of Cervical Cancer Screening among Female Nurses at Public Health Institutions in Mekelle Town, Northern Ethiopia, 2014: A Cross-Sectional Study. *Journal of Cancer Research*, 2016, 1-7. doi:10.1155/2016/4743075

Gebru, Z., Gerbaba, M., & Dirar, A. (2016). Barriers to Cervical Cancer Screening in Arba Minch Town, Southern Ethiopia: A Qualitative Study. *Journal of Community Medicine & Health Education*, 6, 401. doi:10.4172/2161-0711.1000401.

Geremew, A. B., Gelagay, A. A., & Azale, T. (2018). Comprehensive Knowledge on Cervical Cancer, Attitude Towards Its Screening and Associated Factors Among

Women Aged 30–49 years in Finote Selam Town, Northwest Ethiopia. *Reproductive Health*, 15(1). doi:10.1186/s12978-018-0471-1

Gerend, M. A., & Shepherd, J. E. (2012). Predicting Human Papillomavirus Vaccine Uptake in Young Adult Women: Comparing the Health Belief Model and Theory of Planned Behavior. *Annals of Behavioural Medicine*, 44, 171-180. doi:10.1007/s12160-012-9366-5)

Getahun, F., Mazengia, F., Abuhay, M., & Birhanu, Z. (2013). Comprehensive Knowledge About Cervical Cancer Is Low Among Women in Northwest Ethiopia. *BMC Cancer*, 13(2). doi:10.1186/1471-2407-13-2

GHS. (2015). 2014 Annual Report. Retrieved July 2, 2018, from https://www.ghanahealthservice.org/downloads/Ghana_Health_Service_2014_Annual_Report.pdf

GSS. (2012). 2010 Population and Housing Census (PHC). Retrieved July 2, 2018, from http://www.statsghana.gov.gh/gssmain/storage/img/marqueeupdater/Census2010_Summary_report_of_final_results.pdf

GSS. (2013). 2010 Population and Housing Census. Regional Analytical Reports: Northern Region. Retrieved July 3, 2018, from http://www.statsghana.gov.gh/gssmain/fileUpload/pressrelease/2010_PHC_National_Analytical_Report.pdf

GSS. (2014a). Women and Men in Ghana. A Statistical Compendium. Retrieved July 2, 2018, from http://www.statsghana.gov.gh/docfiles/publications/W&M%202014.pdf

GSS. (2014b). 2010, Population and Housing Census. District Analytical Report, Tamale Metropolis. Retrieved July 3, 2018, from http://www2.statsghana.gov.gh/docfiles/2010_District_Report/Northern/Tamale%20Metropolitan.pdf

GSS. (2015). Poverty Map for Ghana 2015. Retrieved from https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf

GSS, GHS, & National Public Health Reference Laboratory (NPHRL). (2015). Ghana Demographic and Health Survey 2014. Retrieved August 5, 2018, from https://dhsprogram.com/pubs/pdf/fr307/fr307.pdf

Ginsburg, O., Bray, F., Coleman, M. P., Vanderpuye, V., Eniu, A., Kotha, S. R., . . . Conteh, L. (2017). The Global Burden of Women's Cancers: A Grand Challenge in Global Health. *The Lancet*, 389(10071), 847-860. doi:10.1016/s0140-6736(16)31392-7

Glanz, K. (2012). "Health Behavior". In S. Boslaugh (Ed.), Encyclopedia of Epidemiology (pp. 460-463). Thousand Oaks: SAGE Publications, Inc.

Glanz, K., & Bishop, D. B. (2010). The Role of Behavioural Science Theory in Development and Implementation of Public Health Interventions. *Annual Review of Public Health*, 31, 399-418. doi: 10.1146/annurev.publhealth.012809.103604

Global Burden of Disease Cancer Collaboration. (2015). The Global Burden of Cancer 2013. *JAMA Oncology*, 1(4), 505-527. doi: 10.1001/jamaoncol.2015.0735.

Global Burden of Disease Cancer Collaboration. (2017). Global, Regional, And National Cancer Incidence, Mortality, Years of Life Lost, Years Lived with Disability, And Disability-Adjusted Life-Years For 32 Cancer Groups, 1990 To 2015: A Systematic Analysis for The Global Burden of Disease Study. *JAMA Oncology*, 3(4), 524-548. doi:10.1001/jamaoncol.2016.5688

Gonzalez-Ramirez, L. P., De la Roca-Chiapas, J. M., Colunga-Rodriguez, C., Preciado-Serrano, M. L., Daneri-Navarro, A., Pedroza-Cabrera, F. J., & Martinez-Arriaga, R. J. (2017). Validation of Health Behavior and Stages of Change Questionnaire. *Breast Cancer: Targets and Therapy*, 9, 199-205. doi:10.2147/BCTT.S129855

Grandahl, M., Paek, S. C., Grisurapong, S., Sherer, P., Tyden, T., & Lundberg, P. (2018). Parents' Knowledge, Beliefs, And Acceptance of The HPV Vaccination in Relation to Their Socio-Demographics and Religious Beliefs: A Cross-Sectional Study in Thailand. *Plos One*, 13(2), e0193054. doi: 10.1371/journal.pone.0193054

GSS. (2013). 2010 Population and Housing Census. Regional Analytical Reports: Northern Region. Retrieved July 3, 2018, from http://www.statsghana.gov.gh/gssmain/fileUpload/pressrelease/2010_PHC_National_Analytical_Report.pdf

GSS, GHS, & National Public Health Reference Laboratory (NPHRL). (2015). Ghana Demographic and Health Survey 2014. Retrieved August 5, 2018, from https://dhsprogram.com/pubs/pdf/fr307/fr307.pdf

Gupta, R. K., Singh, P., Langer, B., Kumari, R., Sharma, P., & Gupta, R. (2019). Cervical Cancer: A Hospital Based KAP Study Among Women Aged 18 years and Above in Northern India. *International Journal of Community Medicine and Public Health*, 6(4), 1628. doi:10.18203/2394-6040.ijcmph20191396

Hadji, M., Khosravi, M., Weiderpass, E., Taghizadeh, R., & Zendehdel, K. (2015). Factors Related to The Knowledge, Attitudes and Practices of Opportunistic Cervical Cancer Screening. *Basic & Clinical Cancer Research*, 7(2&3), 9-19.

Hagger, M. S., & Chatzisarantis, N. L. (2009). Integrating the Theory of Planned Behaviour and Self-determination Theory in Health Behaviour: a meta-analysis. *British Journal of Health Psychology, 14*(Pt 2), 275-302. doi:10.1348/135910708X373959

Haghshenas, M., Golini-Moghaddam, T., Rafiei, A., Emadeian, O., Shykhpour, A., & Ashrafi, G. H. (2013). Prevalence and Type Distribution of High-Risk Human Papillomavirus in Patients with Cervical Cancer: A Population-Based Study. *Infectious Agents and Cancer*, 8(1). doi: 10.1186/1750-9378-8-20

Handlogten, K. S., Molitor, R. J., Roeker, L. E., Narla, N. P., Bachman, M. J., Quayson, S., . . . Ansong, D. (2014). Cervical Cancer Screening in Ghana, West Africa: Prevalence of Abnormal Cytology and Challenges for Expanding Screening. *International Journal of Gynaecological Pathology,* 33(2), 197-202. doi:10.1097/PGP.0b013e318298a9e6

Herrero, R., González, P., & Markowitz, L. E. (2015). Present Status of Human Papillomavirus Vaccine Development and Implementation. *The Lancet Oncology*, 16(5), e206-e216. doi: 10.1016/S1470-2045(14)70481-4.

Hong, Y., Zhang, C., Li, X., Lin, D., & Liu, Y. (2013). HPV and Cervical Cancer Related Knowledge, Awareness and Testing Behaviours in A Community Sample of Female Sex Workers in China. *BMC Public Health*, 13, 696. doi:10.1186/1471-2458-13-696

Hoque, M. E., & Van Hal, G. (2014). Acceptability of Human Papillomavirus Vaccine: A Survey Among Master of Business Administration Students in Kwazulu-Natal, South Africa. *Biomed Research International*, 2014, 257807. doi:10.1155/2014/257807

Hyacinth, H. I., Adekeye, O. A., Ibeh, J. N., & Osoba, T. (2012). Cervical Cancer and Pap Smear Awareness and Utilization of Pap Smear Test Among Federal Civil Servants in North Central Nigeria. *Plos One*, 7(10), E46583. doi: 10.1371/journal.pone.0046583

ICO/IARC Information Centre on HPV and Cancer. (2019). Ghana Human Papillomavirus and Related Cancers. Retrieved March 8, 2019, from https://www.hpvcentre.net/statistics/reports/GHA.pdf?t=1564067890730

Idowu, A., Olowookere, S. A., Fagbemi, A. T., & Ogunlaja, O. A. (2016). Determinants of Cervical Cancer Screening Uptake among Women in Ilorin, North Central Nigeria: A Community-Based Study. *Journal of Cancer Epidemiology*, 2016, 6469240. doi:10.1155/2016/6469240

International Agency for Research on Cancer [IARC]. (2013). Latest World Cancer Statistics. Global Cancer Burden Rises to 14.1 Million New Cases In 2012: Marked Increase in Breast and Cervix Cancers Must Be Addressed. [Press Release]

International Agency for Research on Cancer [IARC]. (2014). World Cancer Report. Retrieved July 3, 2018, from https://www.who.int/cancer/publications/WRC_2014/en/

Jia, Y., Li, S., Yang, R., Zhou, H., Xiang, Q., Hu, T., . . . Feng, L. (2013). Knowledge About Cervical Cancer and Barriers of Screening Program Among Women in Wufeng County, A High-Incidence Region of Cervical Cancer in China. *Plos One*, 8(7), E67005. doi: 10.1371/journal.pone.0067005

Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The Health Belief Model as An Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication*, 30(6), 566-576. doi:10.1080/10410236.2013.873363

Jradi, H., & Bawazir, A. (2019). Knowledge, Attitudes, and Practices Among Saudi Women Regarding Cervical Cancer, Human Papillomavirus (HPV) and Corresponding Vaccine. *Vaccine*, 37(3), 530-537. doi: 10.1016/j.vaccine.2018.11.065

Kahesa, C., Kjaer, S., Mwaiselage, J., Ngoma, T., Tersbol, B., Dartell, M., & Rasch, V. (2012). Determinants of Acceptance of Cervical Cancer Screening in Dar Es Salaam, Tanzania. *BMC Public Health*, 12(1), 1093. doi:10.1186/1471-2458-12-1093.

Kangmennaang, J., Onyango, E. O., Luginaah, I., & Elliott, S. J. (2018). The Next Sub Saharan African Epidemic? A Case Study of The Determinants of Cervical Cancer Knowledge and Screening in Kenya. *Social Science Medicine*, 197, 203-212. Doi: 10.1016/J.Socscimed.2017.12.013.

Kelly-Hanku, A., Ase, S., Fiya, V., Toliman, P., Aeno, H., Mola, G. M., . . . Vallely, A. J. (2017). Ambiguous Bodies, Uncertain Diseases: Knowledge of Cervical Cancer in

Papua New Guinea. *Ethnicity & Health*, 23(6), 659-681. doi:10.1080/13557858.2017.1283393

Khan, S., & Woolhead, G. (2015). Perspectives on Cervical Cancer Screening Among Educated Muslim Women in Dubai (The UAE): A Qualitative Study. *BMC Womens Health*, 15, 90. doi:10.1186/s12905-015-0252-8

Khosravi, M., Shafaee, S., Haghollahi, F., Rajabpour, A., Ramazanzadeh, F., Zendehdel, K., . . . Mamishi, N. (2012). Validity and Reliability of the Knowledge, Attitude and Practice (KAP) Questionnaire about Cervical Cancer and Its Screening among Iranian Women. *Basic & Clinical Cancer Research*, 4((1&2)), 1-6.

Kim, H. W., Kim, D. H., & Kim, Y. (2018). Men's Awareness of Cervical Cancer: A Qualitative Study. *BMC Womens Health*, 18(1), 155. doi:10.1186/s12905-018-0650-9

Kim, H. W., & Ko, G. Y. (2013). Evaluation of Korean Version of The Beliefs About Papanicolaou Test and Cervical Cancer in Unmarried University Students. Korean *Journal of Women Health Nursing*, 19(1), 13-22.

Knaul, F. M., Bhadelia, A., Gralow, J., Arreola-Ornelas, H., Langer, A., & Frenk, J. (2012). Meeting the emerging challenge of breast and cervical cancer in low- and middle-income countries. *International Journal of Gynaecology and Obstetrics*, 119 (1), S85-88. doi: 10.1016/j.ijgo.2012.03.024

Kress, C. M., Sharling, L., Owen-Smith, A. A., Desalegn, D., Blumberg, H. M., & Goedken, J. (2015). Knowledge, attitudes, and practices regarding cervical cancer and screening among Ethiopian health care workers. *International Journal of Womens Health*, 7, 765-772. doi:10.2147/IJWH.S85138

Krueger, H., Kwon, J., Sadownik, L., Ogilvie, G., & Martin, R. E. (2013). What is the Most Appropriate Age to Start Screening Women for Cervical Cancer? *British Columbia Medical Journal*, 55(6), 282-286.

Kung, T. H., Gordon, J. R., Abdullahi, A., Barve, A., Chaudhari, V., Kosambiya, J. K., . . . Wells, K. J. (2019). "My Husband Says This: If You Are Alive, You Can Be Someone...": Facilitators and Barriers to Cervical Cancer Screening Among Women Living with HIV In India. *Cancer Causes and Control*, 30(4), 365-374. doi:10.1007/s10552-019-01145-7

Kwambai, T. K., Dellicour, S., Desai, M., Ameh, C. A., Person, B., Achieng, F., . . . Kuile, F. O. T. (2013). Perspectives of men on antenatal and delivery care service utilisation in rural western Kenya: a qualitative study. *BMC Pregnancy and Childbirth*, 13(134). doi:10.1186/1471-2393-13-134

Kwok, C., White, K., & Roydhouse, J. K. (2011). Chinese-Australian Women's Knowledge, Facilitators and Barriers Related to Cervical Cancer Screening: A Qualitative Study. *Journal of Immigrant and Minor Health*, 13(6), 1076-1083. doi:10.1007/s10903-011-9491-4

Lim, J. N., & Ojo, A. A. (2017). Barriers to Utilisation of Cervical Cancer Screening in Sub Sahara Africa: A Systematic Review. *European Journal of Cancer Care*, 26(1). doi:10.1111/ecc.12444

Liu, T., Li, S., Ratcliffe, J., & Chen, G. (2017). Assessing Knowledge and Attitudes towards Cervical Cancer Screening among Rural Women in Eastern China. *International Journal of Environmental Research and Public Health*, 14(9). doi:10.3390/ijerph14090967

Lyimo, F. S., & Beran, T. N. (2012). Demographic, Knowledge, Attitudinal, and Accessibility Factors Associated with Uptake of Cervical Cancer Screening Among Women in A Rural District of Tanzania: Three Public Policy Implications. *BMC Public Health*, 12, 22. doi:10.1186/1471-2458-12-22

Ma, G. X., Gao, W., Fang, C. Y., Tan, Y., Feng, Z., Ge, S., & Nguyen, J. A. (2013). Health Beliefs Associated with Cervical Cancer Screening Among Vietnamese Americans. *Journal of Womens Health*, 22(3), 276-288. doi:10.1089/jwh.2012.3587

Mabelele, M. M., Materu, J., Ng'ida, F. D., & Mahande, M. J. (2018). Knowledge towards Cervical Cancer Prevention and Screening Practices Among Women Who Attended Reproductive and Child Health Clinic at Magu District Hospital, Lake Zone Tanzania: A Cross-Sectional Study. *BMC Cancer*, 18(1), 565. doi:10.1186/s12885-018-4490-7

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A Comparison of the Theory of Planned Behavior and the Theory of Reasoned Action. *Personality and Social Psychology Bulletin*, 18(1), 3-9. doi:10.1177/0146167292181001

Major, T., Koyabe, B., Ntsayagae, E., Monare, B., Molwane, O., & Gabaitiri, L. (2018). Norms and Beliefs Related to Cervical Cancer Screening Amongst Women Aged 25–49 In Botswana: A Pilot Study. International Journal of Africa Nursing Sciences, 9, 141-147. doi: 10.1016/j.ijans.2018.11.001

Maree, J. E., Wright, S. C., & Makua, T. P. (2011). Men's Lack of Knowledge Adds to The Cervical Cancer Burden in South Africa. *European Journal Cancer Care*, 20(5), 662-668. doi:10.1111/j.1365-2354.2011. 01250.x

Markowitz, L. E., Dunne, E. F., Saraiya, M., Chesson, H. W., Curtis, C. R., Gee, J., . . . Unger, E. R. (2014). Human papillomavirus vaccination: recommendations of the Advisory Committee on Immunization Practices (ACIP). Morbidity and Mortality Weekly Report: Recommendations and Reports. *Centre for Disease Control and Prevention*, 63(5), 1-30.

Marlow, L. A. V., Waller, J., & Wardle, J. (2015). Barriers to Cervical Cancer Screening Among Ethnic Minority Women: A Qualitative Study. *Journal of Family Planning and Reproductive Health Care*, 41(4), 248-254. doi:10.1136/jfprhc-2014-101082

Marshall, H., Ryan, P., Roberton, D., & Baghurst, P. (2007). A Cross-Sectional Survey to Assess Community Attitudes to Introduction of Human Papillomavirus Vaccine. Australian And New Zealand. *Journal of Public Health*, 31(3). 00054.x

Marvan, M. L., Ehrenzweig, Y., & Catillo-Lopez, R. L. (2016). Fatalistic Beliefs and Cervical Cancer Screening Among Mexican Women. *Health Care for Women International*, 37(1), 140-154. doi:10.1080/07399332.2014.959169

Matejic, B., Vukovic, D., Pekmezovic, T., Kesic, V., & Markovic, M. (2011). Determinants of Preventive Health Behavior in Relation to Cervical Cancer Screening Among the Female Population of Belgrade. *Health Education Research*, 26(2), 201-211. doi:10.1093/her/cyq081

Matin, M., & LeBaron, S. (2004). Attitudes toward Cervical Cancer Screening Among Muslim Women: A Pilot Study. *Women Health*, 39(3), 63-77. doi:10.1300/J013v39n03_05

Mbamara, S. U., Ikpeze, O. C., Okonkwo, J. E., Onyiaorah, I. V., & Ukah, C. O. (2011). Knowledge, Attitude and Practice of Cervical Cancer Screening Among Women Attending Gynaecology Clinics in A Tertiary Level Medical Care Centre in South-eastern Nigeria. *Journal of Reproductive Medicine*, 56(11), 491.

McAlearney, A. S., Song, P. H., Rhoda, D. A., Tatum, C., Lemeshow, S., Ruffin, M., . . . Paskett, E. D. (2010). Ohio Appalachian Women's Perceptions of The Cost of Cervical Cancer Screening. *Cancer*, 116(20), 4727-4734. doi:10.1002/cncr.25491

McCleery, R. A. (2009). Improving Attitudinal Frameworks to Predict Behaviors in Human–wildlife conflicts. *Society and natural Resources, 22*(4), 353-368.

Miller, Z. D. (2017). The Enduring Use of the Theory of Planned Behavior. *Human Dimensions of Wildlife, 22*(6), 583-590. doi:10.1080/10871209.2017.1347967

Mimiaga, M. J., Reisner, S. L., Reilly, L., Soroudi, N., & Safren, S. A. (2009). Chapter 8 - *Individual interventions*. In K. H. Mayer & H. F. Pizer (Eds.), *HIV Prevention* (pp. 203-239). San Diego: Academic Press.

Mingo, A. M., Panozzo, C. A., DiAngi, Y. T., Smith, J. S., Steenhoff, A. P., Ramogola-Masire, D., & Brewer, N. T. (2012). Cervical Cancer Awareness and Screening in Botswana. *International Journal of Gynaecologic Cancer*, 22(4), 638-644. doi:10.1097/IGC.0b013e318249470a

Ministry of Gender, C. A. S. P. (2015). National Gender Policy: Mainstreaming Gender Equality and Women's Empowerment into Ghana's Development Efforts. Retrieved August 8, 2018, from http://www.ghana.gov.gh/images/documents/national_gender_policy.pdf

Modibbo, I. F., Dareng, E., Bamisaye, P., Jedy-Agba, E., Adewole, A., Oyeneyin, L., . . . Adebamowo, C. (2016). Qualitative Study of Barriers to Cervical Cancer Screening Among Nigerian Women. *BMJ Open*, 6(1), e008533. doi:10.1136/bmjopen-2015-008533

Mokhele, I., Evans, D., Schnippel, K., Swarts, A., Smith, J., & Firnhaber, C. (2016). Awareness, Perceived Risk and Practices Related to Cervical Cancer and Pap Smear Screening: A Cross-Sectional Study Among HIV-Positive Women Attending an Urban HIV Clinic in Johannesburg, South Africa. *South African Medical Journal*, 106(12), 1247-1253. doi: 10.7196/SAMJ. 2016.v106.i12.11224

Morema, E. N., Atieli, H. E., Onyango, R. O., Omondi, J. H., & Ouma, C. (2014). Determinants of Cervical Screening Services Uptake Among 18–49-Year-Old Women Seeking Services at The Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu, Kenya. *BMC Health Services Research*, 14(1), 335.

Mortensen, G. L. (2010). Drivers and barriers to acceptance of human-papillomavirus vaccination among young women: a qualitative and quantitative study. *BMC Public Health*, 10(1), 68. doi: 10.1186/1471-2458-10-68

Moses, E., Pedersen, H. N., Wagner, E. C., Sekikubo, M., Money, D. M., Ogilvie, G. S., & Mitchell-Foster, S. M. (2018). Understanding Men's Perceptions of Human Papillomavirus and Cervical Cancer Screening in Kampala, Uganda. *Journal of Global Oncology*, 4, 1-9. doi:10.1200/JGO.17.00106

Moule, P., Aveyard, H., & Goodman, M. (2017). *Nursing research: An introduction* (B. Tzlor Ed. 3rd ed.). 1Oliver's Yard 55City Road, London EC1Y1SP: Sage.

Moyer, V. A. (2012). Screening for cervical cancer: US Preventive Services Task Force Recommendation Statement. *Annals of Internal Medicine*, 156(12), 880-891. doi:10.7326/0003-4819-156-12-201206190-00424

Mukama, T., Ndejjo, R., Musabyimana, A., Halage, A. A., & Musoke, D. (2017). Women's Knowledge and Attitudes Towards Cervical Cancer Prevention: A Cross-Sectional Study in Eastern Uganda. *BMC Women's Health*, 17(1), 9. doi:10.1186/s12905-017-0365-3

Mun, J., Mun, K., & Kim, S. (2015). Exploration of Korean Students' Scientific Imagination Using the Scientific Imagination Inventory. *International Journal of Science Education*, 37(13), 2091-2112. doi:10.1080/09500693.2015.1067380

Munthali, A. C., Ngwira, B. M., & Taulo, F. (2015). Exploring Barriers to the Delivery of Cervical Cancer Screening and Early Treatment Services in Malawi: Some Views from Service Providers. *Patient Preference and Adherence*, 9, 501-508. doi:10.2147/PPA.S69286

Murphy, J., Kennedy, E. B., Dunn, S., McLachlin, C. M., Kee Fung, M. F., Gzik, D., . . . Paszat, L. (2012). Cervical Screening: A Guideline for Clinical Practice in Ontario.

Journal of Obstetrics and Gynaecology Canada, 34(5), 453-458. doi:10.1016/s1701-2163(16)35242-2

Murthy, P., Li, E., Azzam, H., Narasimhadevara, A., & Yezzo, M. (2010). *Cervical Cancer Mortality: A Preventable Tragedy*. *Women's Global Health and Human Rights*. Sudbury: Jones and Bartlett Publishers

Mutambara, J., Mutandwa, P., Mahapa, M., Chirasha, V., Nkiwane, S., & Shangahaidonhi, T. (2017). Knowledge, Attitudes and Practices of Cervical Cancer Screening Among Women Who Attend Traditional Churches in Zimbabwe. *Journal of Cancer Research and Practice*, 4(2), 53-58. doi: 10.1016/j.jcrpr.2017.02.001

Mutyaba, T., Mirembe, F., Sandin, S., & Weiderpass, E. (2009). Male partner involvement in reducing loss to follow-up after cervical cancer screening in Uganda. *International Journal of Gynaecology and Obstetrics*, 107(2), 103-106. doi: 10.1016/j.ijgo.2009.07.019

Mwaka, A. D., Orach, C. G., Were, E. M., Lyratzopoulos, G., Wabinga, H., & Roland, M. (2015). Awareness of Cervical Cancer Risk Factors and Symptoms: Cross-Sectional Community Survey in Post-Conflict Northern Uganda. *Health Expect*, 19(4), 854-867. doi:10.1111/hex.12382

Nagamma, T., Seng, V. L. B., Leng, C. C. P. L., Alias, N. A., & Karim, N. A. (2016). Assessment of Knowledge, Awareness and Preventive Measures of Cervical Cancer Among Female Medical Students. *Bangladesh Journal of Medical Science*, 15(4). doi:10.3329/bjms. v15i4.23970

Namasivayam, A., Osuorah, D. C., Syed, R., & Antai, D. (2012). The Role of Gender Inequities in Women's Access to Reproductive Health Care: A Population-Level Study of Namibia, Kenya, Nepal, And India. *International Journal of Womens Health*, 4, 351-364. doi:10.2147/IJWH.S32569

Nartey, Y., Hill, C. P., Amo-Antwi, K., Nyarko, M. K., Yarney, J., & Cox, B. (2017). Cervical Cancer in the Greater Accra and Ashanti Regions of Ghana. *Journal of Global Oncology*, 3(6). doi: 10.1200/JGO.2016.005744

Nattembo, A., & Schumacher, U. (2018). Attitudes, Knowledge and Perceptions towards Cervical Cancer Messages Among Female University Students. *Cogent Medicine*, 5(1). doi:10.1080/2331205x.2018.1451427

Ncube, B., Bey, A., Knight, J., Bessler, P., & Jolly, P. E. (2015). Factors Associated with The Uptake of Cervical Cancer Screening Among Women in Portland, Jamaica. *North American Journal of Medical Sciences*, 7(3), 104-113. doi:10.4103/1947-2714.153922

Ndejjo, R., Mukama, T., Kiguli, J., & Musoke, D. (2017). Knowledge, Facilitators and Barriers to Cervical Cancer Screening Among Women in Uganda: A Qualitative Study. *BMJ Open,* 7(6), e016282-e016282. doi:10.1136/bmjopen-2017-016282

Ndikom, C. M., & Ofi, B. A. (2012). Awareness, Perception and Factors Affecting Utilization of Cervical Cancer Screening Services Among Women in Ibadan, Nigeria: A Qualitative Study. *Reproductive Health*, 9(1), 11. doi:10.1186/1742-4755-9-11

Ngugi, C. W., Boga, H., Muigai, A. W., Wanzala, P., & Mbithi, J. N. (2012). Factors Affecting Uptake of Cervical Cancer Early Detection Measures Among Women in Thika, Kenya. *Health Care for Women International*, 33(7), 595-613. doi: 10.1080/07399332.2011.64636

Ngwenya, D., & Huang, S. L. (2017). Knowledge, attitude and practice on cervical cancer and screening: a survey of men and women in Swaziland. *Journal of Public Health*, 40(3), e343-e350. doi:10.1093/pubmed/fdx174

Ntekim, A. (2012). Cervical Cancer in Sub-Sahara Africa Topics on Cervical Cancer with An Advocacy for Prevention: *Intech Open*. doi: 10.5772/27200

Nunnally, J. C. (1978). Psychometric Theory: (2nd Ed): New York-McGraw-Hill.

Nwabichie, C. C., Rosliza, A. M., & Suriani, I. (2017). Global Burden of Cervical Cancer. *International Journal of Public Health and Clinical Sciences*: A literature Review, 4(2).

Nwankwo, K., Aniebue, U., Aguwa, E., Anarado, A., & Agunwah, E. (2011). Knowledge Attitudes and Practices of Cervical Cancer Screening Among Urban and Rural Nigerian Women: A Call for Education and Mass Screening. *European Journal of Cancer Care*, 20(3), 362-367.

Nwobodo, H., & Ba-Break, M. (2015). Analysis of the Determinants of Low Cervical Cancer Screening Uptake Among Nigerian Women. Journal of Public Health Africa, 6(2), 484. doi:10.4081/jphia.2015.484

Nyambe, A., Kampen, J. K., Baboo, S. K., & Van Hal, G. (2019). Knowledge, Attitudes and Practices of Cervical Cancer Prevention Among Zambian Women and Men. *BMC Public Health*, 19(1), 508. doi:10.1186/s12889-019-6874-2

Oakeshott, P., Aghaizu, A., Reid, F., Howell-Jones, R., Hay, P. E., Sadiq, S. T., . . . Soldan, K. (2012). Frequency and risk factors for prevalent, incident, and persistent genital carcinogenic human papillomavirus infection in sexually active women: Community based cohort study. *British Medical Journal*, 345(7864). doi:10.1136/bmj. e4168

Obi, A. (2015). Cervical Cancer Knowledge and Screening Practices Among Women of Reproductive Age in Benin City, Edo state. *Journal of Community Medicine and Primary Health Care*, 27(2), 59-66.

Obročníková, A., & Majerníková, Ľ. (2017). Knowledge, Attitudes and Practices of Cervical Cancer Prevention. Pielegniarstwo XXI Wieku/Nursing in the 21st Century, 16(2), 18-22.

Odafe, S., Torpey, K., Khamofu, H., Oladele, E., Adedokun, O., Chabikuli, O., . . . Okoye, M. (2013). Integrating Cervical Cancer Screening with HIV Care in a District Hospital in Abuja, Nigeria. *Nigerian Medical Journal*, 54(3), 176-184. doi:10.4103/0300-1652.114590

Ogunsiji, O., Wilkes, L., Peters, K., & Jackson, D. (2013). Knowledge, Attitudes and Usage of Cancer Screening Among West African Migrant Women. *Journal Clinical Nursing*, 22(7-8), 1026-1033. doi:10.1111/jocn.12063

Olubodun, T., Odukoya, O. O., & Balogun, M. R. (2019). Knowledge, Attitude and Practice of Cervical Cancer Prevention, Among Women Residing in An Urban Slum in Lagos, South West, Nigeria. *Pan African Medical Journal*, 32. doi:10.11604/pamj.2019.32.130.14432

Oon, S. W., Shuib, R., Ali, S. H., Hussain, N. H. N., Shaaban, J., & Yusoff, H. M. (2010). Knowledge and Attitude among Women and Men in Decision Making on Pap Smear Screening in Kelantan Malaysia. *International Journal of Humanities and Social Sciences*, 4(6).

Opoku, C. A., Browne, E. N. L., Spangenberg, K., Moyer, C., Kolbilla, D., & Gold, K. J. (2016). Perception and Risk Factors for Cervical Cancer Among Women in Northern Ghana. *Ghana Medical Journal*, 50(2), 84. doi:10.4314/gmj.v50i2.6

Owoeye, I., & Ibrahim, I. (2013). Knowledge and Attitude towards Cervical Cancer Screening Among Female Students and Staff in A Tertiary Institution in The Niger Delta. *International Journal of Medicine and Biomedical Research*, 2(1), 48-56.

Padela, A. I., Peek, M., Johnson-Agbakwu, C. E., Hosseinian, Z., & Curlin, F. (2014). Associations Between Religion-Related Factors and Cervical Cancer Screening Among Muslims In Greater Chicago. *Journal of Lower Genital Tract Disease*, 18(4), 326-332. doi:10.1097/LGT.0000000000000026

Panayides, P. (2013). Coefficient Alpha: Interpret with Caution. *Europe's Journal of Psychology*, 9(4), 687-696. doi:10.5964/ejop.v9i4.653

Parahoo, K. (2014). Nursing research: principles, process and issues: (3rd Ed) Red Globe Press

Partridge, E. E., Abu-Rustum, N. R., Campos, S. M., Fahey, P. J., Farmer, M., Garcia, R. L., . . . Wilczynski, S. (2010). Clinical Practice Guidelines in Oncology for Cervical Cancer Screening. *Journal of the National Comprehensive Cancer Network*, 8(12).

Petkeviciene, J., Ivanauskiene, R., & Klumbiene, J. (2018). Sociodemographic and Lifestyle Determinants of Non-Attendance for Cervical Cancer Screening in Lithuania, 2006-2014. Public Health, 156, 79-86. doi: 10.1016/j.puhe.2017.12.014

Pitts, M., Smith, A., Croy, S., Lyons, A., Ryall, R., Garland, S., . . . Hseon, T. E. (2009). Singaporean Men's Knowledge of Cervical Cancer and Human Papillomavirus (HPV) And Their Attitudes Towards HPV Vaccination. *Vaccine*, 27(22), 2989-2993. doi: 10.1016/j.vaccine.2009.02.101

Polit, D., & Beck, C. (2013). Essentials of Nursing Research: Appraising Evidence for Nursing Research: Baltimore: Lippincott Williams and Wilkins.

Protogerou, C., Flisher, A. J., & Wild, L. G. (2014). Factors Shaping Condom Use Among South African University Students: A Thematic Analysis. *Journal of Psychology in Africa*, 24(3), 215-224. doi:10.1080/14330237.2014.906081

Ramathuba, D. U., Ngambi, D., Khoza, L. B., & Ramakuela, N. J. (2016). Knowledge, Attitudes and Practices Regarding Cervical Cancer Prevention at Thulamela Municipality of Vhembe District in Limpopo Province. *African Journal of Primary Health Care & Family Medicine*, 8(2), 1-7.

Ranabhat, S., Tiwari, M., Dhungana, G., & Shrestha, R. (2014). Association of Knowledge, Attitude and Demographic Variables with Cervical Pap Smear Practice in Nepal.

Asian Pacific Journal Cancer Prevention, 15(20), 8905-8910. doi:10.7314/apjcp.2014.15.20.8905

Redwood-Campbell, L., Fowler, N., Laryea, S., Howard, M., & Kaczorowski, J. (2011). 'Before you teach me, I cannot know': immigrant women's barriers and enablers with regard to cervical cancer screening among different ethnolinguistic groups in Canada. *Canadian Journal of Public Health*, 102(3), 230-234.

Rees, H. D., Lombardo, A. R., Tangoren, C. G., Meyers, S. J., Muppala, V. R., & Niccolai, L. M. (2017). Knowledge and Beliefs Regarding Cervical Cancer Screening and HPV Vaccination Among Urban and Rural Women in Leon, Nicaragua. *Peer J*, 5, e3871. doi:10.7717/peerj.3871

Roncancio, A. M., Ward, K. K., & Fernandez, M. E. (2013). Understanding Cervical Cancer Screening Intentions Among Latinas Using an Expanded Theory of Planned Behavior Model. *Behavioural Medicine*, 39(3), 66-72. doi:10.1080/08964289.2013.799452

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social Learning Theory and the Health Belief Model. *Health Education Behaviour*, 15(2), 175-183. doi: 10.1177/109019818801500203

Rosser, J. I., Zakaras, J. M., Hamisi, S., & Huchko, M. J. (2014). Men's Knowledge and Attitudes About Cervical Cancer Screening in Kenya. BMC Women's Health, 14(1), 138.

Rwamugira, J., Maree, J. E., & Mafutha, N. (2017a). The Knowledge of South African Men Relating to Cervical Cancer and Cervical Cancer Screening. *Journal Cancer Education*, 34(1), 130-136. doi:10.1007/s13187-017-1278-4

Rwamugira, J., Maree, J. E., & Mafutha, N. (2017b). The Outcomes of an Educational Program Involving Men as Motivators to Encourage Women to Be Screened for

Cervical Cancer. *Journal Cancer Education*, 34(2), 269-276. doi:10.1007/s13187-017-1297-1

Sakeah, E., Doctor, H. V., McCloskey, L., Bernstein, J., Yeboah-Antwi, K., & Mills, S. (2014). Using the Community-Based Health Planning and Services Program to Promote Skilled Delivery in Rural Ghana: Socio-Demographic Factors That Influence Women Utilization of Skilled Attendants at Birth in Northern Ghana. *BMC Public Health*, 14(1), 344.

Salem, M. R., Amin, T. T., Alhulaybi, A. A., Althafar, A. S., & Abdelhai, R. A. (2017). Perceived Risk of Cervical Cancer and Barriers to Screening among Secondary School Female Teachers in Al Hassa, Saudi Arabia. *Asian Pacific Journal of Cancer Prevention*, 18(4), 969-979. doi:10.22034/APJCP.2017.18.4.969

Salman, K. F. (2012). Health beliefs and practices related to cancer screening among Arab Muslim women in an urban community. *Health Care Women International*, 33(1), 45-74. doi:10.1080/07399332.2011.610536

Saslow, D., Solomon, D., Lawson, H. W., Killackey, M., Kulasingam, S. L., Cain, J., . . . Committee, A.-A.-A. C. C. G. (2012). American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology Screening Guidelines for The Prevention and Early Detection of Cervical Cancer. *Cancer Journal for Clinicians*, 62(3), 147-172. doi:10.3322/caac.21139

Sauvageau, C., Duval, B., Gilca, V., Lavoie, F., & Ouakki, M. (2007). Human Papilloma Virus Vaccine and Cervical Cancer Screening Acceptability Among Adults in Quebec, Canada. *BMC Public Health*, 7, 304. doi:10.1186/1471-2458-7-304

Sawadogo, B., Gitta, S. N., Rutebemberwa, E., Sawadogo, M., & Meda, N. (2014). Knowledge and Beliefs on Cervical Cancer and Practices on Cervical Cancer Screening Among Women Aged 20 to 50 Years in Ouagadougou, Burkina Faso,

2012: A Cross-Sectional Study. *Pan African Medical Journal*, 18, 175.doi:10.11604/pamj.2014.18.175.3866

Schiffman, M. (2017). Cervical cancer screening: Epidemiology as the Necessary but Not Sufficient Basis of Public Health Practice. *Preventive Medicine*, 98, 3-4. doi: 10.1016/j.ypmed.2016.12.028

Schluterman, N. H., Sow, S. O., Traore, C. B., Bakarou, K., Dembelé, R., Sacko, F., . . . Tracy, J. K. (2013). Differences in Patterns of High-Risk Human Papillomavirus Infection Between Urban and Rural Low-Resource Settings: Cross-Sectional Findings from Mali. *BMC Women's Health*, 13. doi:10.1186/1472-6874-13-4

Shekhar, S., Sharma, C., Thakur, S., & Raina, N. (2013). Cervical Cancer Screening: Knowledge, Attitude and Practices Among Nursing Staff in A Tertiary Level Teaching Institution of Rural India. *Asian Pacific Journal Cancer Prevention*, 14(6), 3641-3645. doi:10.7314/apjcp.2013.14.6.3641

Shiferaw, S., Addissie, A., Gizaw, M., Hirpa, S., Ayele, W., Getachew, S., . . . Jemal, A. (2018). Knowledge about Cervical Cancer and Barriers Toward Cervical Cancer Screening Among HIV-Positive Women Attending Public Health Centers In Addis Ababa City, Ethiopia. *Cancer Medicine*, 7(3), 903-912. doi:10.1002/cam4.1334

Shrestha, S., & Dhakal, P. (2017). Knowledge, Attitude and Practice Regarding Cervical Cancer Screening Among Women Attending A Teaching Hospital, Bharatpur, Chitwan. *Journal of Family & Reproductive Health*, 11(1), 18.

Singh, E., Seth, S., Rani, V., & Srivastava, D. K. (2012). Awareness of Cervical Cancer Screening Among Nursing Staff in a Tertiary Institution of Rural India. *Journal of Gynaecologic Oncology*, 23(3), 141-146. doi:10.3802/jgo.2012.23.3.141

Siti Waringin Oon, Rashidah Shuib, Siti Hawa Ali, Nik Hazlina Nik Hussain, Juwita Shaaban, & Yusoff, H. M. (2010). Knowledge-and-Attitude-among-Women-and-

Men-in-Decision-Making-on-Pap-Smear-Screening-in-Kelantan-Malaysia. *International Journal of Humanities and Social Sciences*, 4(6).

Smith, J. S., Brewer, N. T., Saslow, D., Alexander, K., Chernofsky, M. R., Crosby, R., . . . Engle, J. (2013). Recommendations for a National Agenda to Substantially Reduce Cervical Cancer. *Cancer Causes & Control*, 24(8), 1583-1593.

Sudenga, S. L., Rositch, A. F., Otieno, W. A., & Smith, J. S. (2013). Knowledge, Attitudes, Practices, And Perceived Risk of Cervical Cancer Among Kenyan Women: Brief Report. *Internal Journal Gynaecology Cancer*, 23(5), 895-899. doi:10.1097/IGC.0b013e31828e425c

Swapnajaswanth, M., Suman, G., Suryanarayana, S. P., & Murthy, N. S. (2014). Perception and Practices on Screening and Vaccination for Carcinoma Cervix Among Female Healthcare Professional in Tertiary Care Hospitals in Bangalore, India. *Asian Pacific Journal Cancer Prevention*, 15(15), 6095-6098. doi:10.7314/apjcp.2014.15.15.6095

Szabóová, V., Švihrová, V., Švihra, J. J., Rišková, L., & Hudečková, H. (2018). Validation of a New Tool for Identification of Barriers to Cervical Cancer Prevention in Slovakia. *Ceska gynekologie*, 83(1), 30-35.

Taber, K. S. (2017). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6), 1273-1296. doi:10.1007/s11165-016-9602-2

Tabnak, F., Muller, H. G., Wang, J. L., Zhang, W., & Howell, L. P. (2010). Timeliness and follow-up patterns of cervical cancer detection in a cohort of medically underserved California women. *Cancer Causes and Control*, 21(3), 411-420. doi:10.1007/s10552-009-9473-1

Tapera, R., Manyala, E., Erick, P., Maswabi, T. M., Tumoyagae, T., Letsholo, B., & Mbongwe, B. (2017). Knowledge and Attitudes towards Cervical Cancer Screening

amongst University of Botswana Female Students. *Asian Pacific Journal Cancer Prevention*, 18(9), 2445-2450. doi:10.22034/APJCP.2017.18.9.2445

Tello, M. A., Jenckes, M., Gaver, J., Anderson, J. R., Moore, R. D., & Chander, G. (2010). Barriers to Recommended Gynaecologic care in an urban United States HIV clinic. *Journal of Women's Health*, 19(8), 1511-1518.

Teng, F. F., Mitchell, S. M., Sekikubo, M., Biryabarema, C., Byamugisha, J. K., Steinberg, M., . . . Ogilvie, G. S. (2014). Understanding the Role of Embarrassment in Gynaecological Screening: A Qualitative Study from The ASPIRE Cervical Cancer Screening Project in Uganda. *BMJ Open*, 4(4), e004783. doi:10.1136/bmjopen-2014-004783

Thapa, D. K., & Niehof, A. (2013). Women's Autonomy and Husbands' Involvement in Maternal Health Care in Nepal. *Social Science & Medicine*, 93, 1-10. doi: 10.1016/j.socscimed.2013.06.003

Thaxton, L., & Waxman, A. G. (2015). Cervical Cancer Prevention: Immunization and Screening. *Medical Clinics of North America*, 99(3), 469-477. doi: 10.1016/j.mcna.2015.01.003

Timmins, F. (2015). Surveys and Questionnaires in Nursing Research. *Nursing Standard*, 29(42), 42-50. doi:10.7748/ns.29.42.42.e8904

Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J., & Jemal, A. (2015). Global Cancer Statistics, 2012. *Cancer Journal for Clinicians*, 65(2), 87-108. doi:10.3322/caac.21262

Torre, L. A., Siegel, R. L., Ward, E. M., & Jemal, A. (2016). Global Cancer Incidence and Mortality Rates and Trends--An Update. *Cancer Epidemiology Biomarkers and Prevention*, 25(1), 16-27. doi: 10.1158/1055-9965.EPI-15-0578

Touch, S., & Oh, J. K. (2018). Knowledge, Attitudes, And Practices Toward Cervical Cancer Prevention Among Women in Kampong Speu Province, Cambodia. *BMC cancer*, 18(1), 294. doi:10.1186/s12885-018-4198-8

Tran, N. T., Choe, S. I., Taylor, R., Ko, W. S., Pyo, H. S., & So, H. C. (2011). Knowledge, Attitude and Practice (KAP) Concerning Cervical Cancer and Screening Among Rural and Urban Women in Six Provinces of the Democratic People's Republic of Korea. *Asian Pacific Journal of Cancer Prevention*, 12(11), 3029-3033.

Tsu, V. D., Jeronimo, J., & Anderson, B. O. (2013). Why the Time Is Right to Tackle Breast and Cervical Cancer in Low-Resource Settings. Bulletin of the World Health Organization, 91(9), 683-690. doi:10.2471/BLT.12.116020

Tung, W. C., Granner, M., Lu, M., & Sohn, J. (2019). Demographics, self-efficacy, benefits/barriers, stages of adopting pap testing among Korean American women. *Journal of Obstetrics and Gynaecology*, 39(4), 510-515. doi:10.1080/01443615.2018.1525693

Twinomujuni, C., Nuwaha, F., & Babirye, J. N. (2015). Understanding the Low Level of Cervical Cancer Screening in Masaka Uganda Using the ASE Model: A Community-Based Survey. *Plos One*, 10(6), e0128498. doi: 10.1371/journal.pone.0128498

Urasa, M., & Darj, E. (2011). Knowledge of Cervical Cancer and Screening Practices of Nurses at A Regional Hospital in Tanzania. *African Health Sciences*, 11(1).

Urrutia, M. T., & Hall, R. (2013). Beliefs about Cervical Cancer and Pap Test: A New Chilean Questionnaire. *Journal of Nursing Scholarship*, 45(2), 126-131. doi:10.1111/jnu.12009

Vahabi, M., & Lofters, A. (2016). Muslim Immigrant Women's Views on Cervical Cancer Screening and HPV Self-Sampling in Ontario, Canada. *BMC Public Health*, 16(1), 868. doi:10.1186/s12889-016-3564-1

Verhoeven, V., Baay, M., Colliers, A., Verster, A., Van Royen, P., Avonts, D., & Vermorken, J. B. (2006). The Male Factor in Cervical Carcinogenesis: A Questionnaire Study of Men's Awareness in Primary Care. *Preventive Medicine*, 43(5), 389-393. doi: 10.1016/j.ypmed.2006.06.006

Vernon, S. W., Myers, R. E., & TiIley, B. C. (1997). Development and Validation of an Instrument to Measure Factors Related to Colorectal Cancer Screening Adherence. *Cancer Epidemiology, Biomarkers and Prevention*, 6, 825-832.

Vishwakarma, S., Rawat, R., Mittal, N., & Shree, P. (2018). Knowledge, Attitude and Practices About Cervical Cancer Screening Among Nursing Staff in Rural Tertiary Care Centre. *International Journal of Reproduction, Contraception, Obstetrics and Gynaecology*, 7(9), 3796. doi:10.18203/2320-1770.ijrcog20183797

Vouking, M. Z., Evina, C. D., & Tadenfok, C. N. (2014). Male Involvement in Family Planning Decision Making in Sub-Saharan Africa- What the Evidence Suggests. *Pan African Medical Journal*, 19, 349. doi:10.11604/pamj.2014.19.349.5090

Vu, M., Azmat, A., Radejko, T., & Padela, A. I. (2016). Predictors of Delayed Healthcare Seeking Among American Muslim *Women. Journal of Womens Health*, 25(6), 586-593. doi:10.1089/jwh.2015.5517

Waller, J., McCaffery, K., & Wardle, J. (2004). Measuring Cancer Knowledge: Comparing Prompted and Unprompted Recall. *British Journal of Psychology*, 95(2), 219-234.

Webb, T. L., & Sheeran, P. (2006). Does Changing Behavioral Intentions Engender Behavior A meta-analysis of the Experimental Evidence. *Psychological bulletin*, *132*(2), 249

Were, E., Nyaberi, Z., & Buziba, N. (2011). Perceptions of Risk and Barriers to Cervical Cancer Screening at Moi Teaching and Referral Hospital (MTRH), Eldoret, Kenya. *African Health Sciences*, 11(1).

White, H. L., Mulambia, C., Sinkala, M., Mwanahamuntu, M. H., Parham, G. P., Kapambwe, S., . . . Chamot, E. (2012b). Motivations and Experiences of Women Who Accessed "See and Treat" cervical cancer prevention services in Zambia. *Journal of Psychosomatic Obstetrics and Gynaecology*, 33(2), 91-98. doi:10.3109/0167482X.2012.656161

White, H. L., Mulambia, C., Sinkala, M., Mwanahamuntu, M. H., Parham, G. P., Moneyham, L., . . . Chamot, E. (2012a). 'Worse than HIV' or 'Not as Serious as Other Diseases'? Conceptualization of Cervical Cancer Among Newly Screened Women in Zambia. *Social Science and Medicine*, 74(10), 1486-1493. doi: 10.1016/j.socscimed.2012.01.028

WHO. (2012). Prevention of Cervical Cancer Through Screening Using Visual Inspection with Acetic Acid (VIA) And Treatment with Cryotherapy. A Demonstration Project in Six African Countries: Malawi, Madagascar, Nigeria, Uganda, the United Republic of Tanzania, and Zambia. Retrieved August 28, 2018, from https://apps.who.int/iris/bitstream/handle/10665/75250/9789241503860_eng.pdf?sequence=1&isAllowed=y

WHO. (2013). WHO Guidelines for Screening and Treatment of Precancerous Lesions for Cervical Cancer Prevention. Retrieved August 28, 2018, from https://apps.who.int/iris/bitstream/handle/10665/94830/9789241548694_eng.pdf?sequence=1

WHO. (2014). Comprehensive Cervical Cancer Control. A Guide to Essential Practice. Retrieved October 24, 2018, from https://apps.who.int/iris/bitstream/handle/10665/144785/9789241548953_eng.pdf?sequence=1

Wigle, J., Coast, E., & Watson-Jones, D. (2013). Human papillomavirus (HPV) Vaccine Implementation in Low and Middle-Income Countries (LMICs): Health System Experiences and Prospects. *Vaccine*, 31(37), 3811-3817. doi: 10.1016/j.vaccine.2013.06.016

Williams, M. S. (2014). A Qualitative Assessment of the Social Cultural Factors that Influence Cervical Cancer Screening Behaviours and the Health Communication Preferences of Women in Kumasi, Ghana. *Journal of Cancer Education*, 29(3), 555-562. doi:10.1007/s13187-014-0611-4

Williams, M. S., & Amoateng, P. (2012). Knowledge and Beliefs About Cervical Cancer Screening Among Men in Kumasi, Ghana. *Ghana Medical Journal*, 46(3).

Williams, M. S., Kenu, E., Dzubey, I., Dennis-Antwi, J. A., & Fontaine, K. (2018). A Qualitative Study of Cervical Cancer and Cervical Cancer Screening Awareness Among Nurses in Ghana. *Health Care for Women International*, 39(5), 584-594. doi:10.1080/07399332.2018.1424169

Williams, M. S., Kuffour, G., Ekuadzi, E., Yeboah, M., ElDuah, M., & Tuffour, P. (2013). Assessment of Psychological Barriers to Cervical Cancer Screening Among Women in Kumasi, Ghana Using A Mixed Methods Approach. *African Health Sciences*, 13(4), 1054-1061. doi:10.4314/ahs.v13i4.28

Wong, V. S., & Kawamoto, C. T. (2010). Understanding Cervical Cancer Prevention and Screening in Chuukese Women in Hawaii. *Hawaii Medical Journal*, 69(6 Supplement 3), 13-6.

Yamane, Taro. (1967). *Statistics: An Introductory Analysis*, 2nd Edition, New York: Harper and Row.

Zemore, S. E., & Ajzen, I. (2014). Predicting Substance Abuse Treatment Completion Using A New Scale Based on The Theory of Planned Behavior. *Journal of Substance Abuse Treat*, 46(2), 174-182. doi:10.1016/j.jsat.2013.06.011

Ziba, F. A., Baffoe, P., Dapare, P. P. M., Shittu, S. O., & Antuamwine, B. B. (2015). Awareness and Knowledge Level of Cervical Cancer Among Women of Reproductive Age in Bolgatanga Municipality. *Journal of Medical and Biomedical Sciences*, 4(2), 1. doi:10.4314/jmbs.v4i2.1

APPENDICES

Appendix A: Ethical Clearance

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH

Established 1979A 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.ug.edu.gh
Telex No: 2556 UGL GH

Post Office Box LG 581
Legon, Accra
Ghana

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

7th November, 2018

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824 **IRB 00001276**

NMIMR-IRB CPN 020/18-19 **IORG 0000908**

On 7th November 2018, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting reviewed and approved your protocol titled:

TITLE OF PROTOCOL : **Behavioural tendencies of men towards cervical cancer screening in Tamale Metropolis**

PRINCIPAL INVESTIGATOR : **Jamilatu K. Bukari, 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.

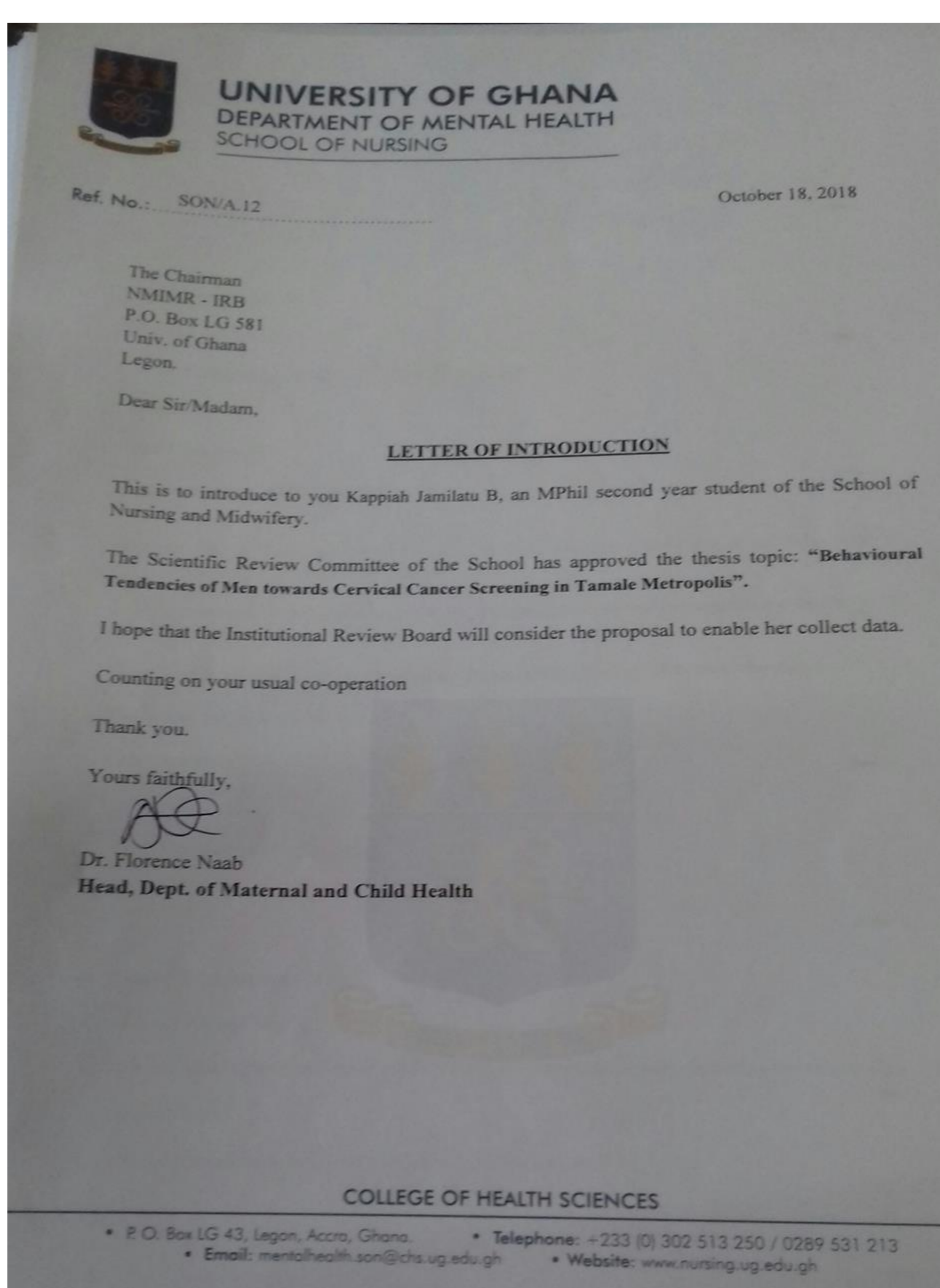
Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

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 6th November, 2019. You are to submit annual reports for continuing review.

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

Appendix B: Introductory Letter- NMIMR-IRB



UNIVERSITY OF GHANA
DEPARTMENT OF MENTAL HEALTH
SCHOOL OF NURSING

Ref. No.: SON/A.12

October 18, 2018

The Chairman
NMIMR - IRB
P.O. Box LG 581
Univ. of Ghana
Legon.

Dear Sir/Madam,

LETTER OF INTRODUCTION

This is to introduce to you Kappiah Jamilatu B, an MPhil second year student of the School of Nursing and Midwifery.

The Scientific Review Committee of the School has approved the thesis topic: **"Behavioural Tendencies of Men towards Cervical Cancer Screening in Tamale Metropolis".**

I hope that the Institutional Review Board will consider the proposal to enable her collect data.

Counting on your usual co-operation

Thank you.

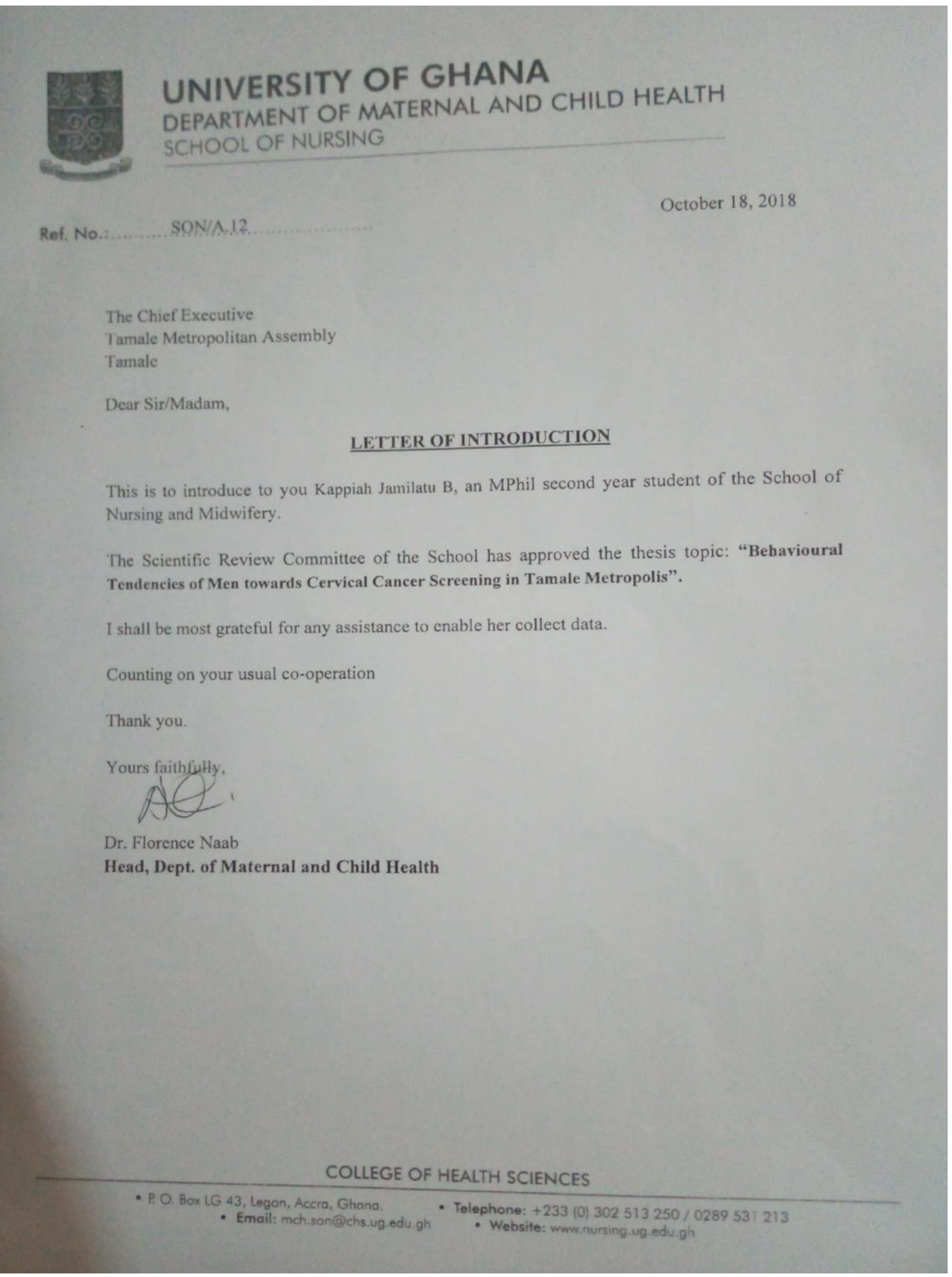
Yours faithfully,

Dr. Florence Naab
Head, Dept. of Maternal and Child Health

COLLEGE OF HEALTH SCIENCES

- P.O. Box LG 43, Legon, Accra, Ghana.
- Telephone: +233 (0) 302 513 250 / 0289 531 213
- Email: mentalhealth.son@chs.ug.edu.gh
- Website: www.nursing.ug.edu.gh

Appendix C: Introductory Letter-Tamale Metropolitan Assembly



UNIVERSITY OF GHANA
DEPARTMENT OF MATERNAL AND CHILD HEALTH
SCHOOL OF NURSING

October 18, 2018

Ref. No.: SON/A.12

The Chief Executive
Tamale Metropolitan Assembly
Tamale

Dear Sir/Madam,

LETTER OF INTRODUCTION

This is to introduce to you Kappiah Jamilatu B, an MPhil second year student of the School of Nursing and Midwifery.

The Scientific Review Committee of the School has approved the thesis topic: **"Behavioural Tendencies of Men towards Cervical Cancer Screening in Tamale Metropolis".**

I shall be most grateful for any assistance to enable her collect data.

Counting on your usual co-operation

Thank you.

Yours faithfully,

Dr. Florence Naab
Head, Dept. of Maternal and Child Health

COLLEGE OF HEALTH SCIENCES

• P. O. Box LG 43, Legon, Accra, Ghana. • Telephone: +233 (0) 302 513 250 / 0289 531 213
• Email: mch.son@chs.ug.edu.gh • Website: www.nursing.ug.edu.gh

Appendix D: Approval Letter-Tamale Metropolitan Assembly

TAMALE METROPOLITAN ASSEMBLY

Office of the Metropolitan Assembly, Box 4, Tamale

GH POST GPS: NS-118-3993

Tel: 03720-22950

e-mail: info@tamalemetro.gov.gh

Your Ref: ....

Our Ref: TMA/G2/24 VI/275

Date: 05/03/2019

LETTER OF ACCEPTANCE

We refer to your letter dated 18th October, 2018, introducing an MPil student (Kappiah Jamilatu B.) to the Tamale Metropolitan Assembly.

Mad. Kappiah has since been granted permission to do her data collection in some selected communities within the Metropolis.

Thank you.

For: **METROPOLITAN CHIEF EXECUTIVE**
(SADIA YAKUBU)
HUMAN RESOURCE MANAGER

THE HEAD OF DEPARTMENT
DEPARTMENT OF MATERNAL AND CHILD HEALTH
ACCRA

Appendix E: NMIMR – IRB Consent Form

CONSENT FORM

Title: Behavioural Tendencies of Men towards cervical cancer screening in Tamale Metropolis.

Principal Investigator: Jamilatu Bukari Kappiah

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

Tel: 0242181583. Email:kappiahjamilatu86@gmail.com

General Information about Research

Cervical cancer screening is important to women, but the behaviour of men towards cervical cancer screening is not known. This study is aimed at understanding how men behave towards cervical cancer screening for women.

You have been invited to take part in this study because you are a male, 18 years and above, live in the Tamale Metropolis and can speak English, Dagbani, Dagaare or Twi. You will be required to sign this form if you agree to take part after which a questionnaire will be given to you and assisted by me to complete it. You will be required to tick (√) or state the extent to which you agree or disagree with the statements or how true or false you feel the statements are about cervical cancer screening. The questionnaire may take 10 to 15 minutes to complete. The questionnaire will be collected after you have finished filling it.

Possible Risks and Discomforts

There are no physical, social or psychological risk associated with participating in this study. However if a question/statement makes you uncomfortable, you have the right not to answer.

Possible Benefits

It is hoped that the findings from this study will contribute to existing knowledge on cervical cancer screening and inform practical and achievable plans for cervical cancer screening to increase the number of women who have access to screening.

Confidentiality

Personal information that can identify you will not be required on the questionnaire. Your name will be replaced with a code on the information about you. Information collected will be under lock and key, available only to me (researcher) and my supervisors and destroyed after five years. Your responses will be added to other respondents of the study and

1

as such you cannot be identified from your responses. Also, publication from this study will not include any information that can be used to identify you.

Compensation

You will be given a pack of biscuit as compensation for your time after you have finished answering the questionnaire.

Voluntary Participation and Right to Leave the Research

Your participation in this study is voluntary as such you have the right to decide whether to participate or not. You may also withdraw from the study without a penalty and withdrawing from this study will not affect you in any way.

Contacts for Additional Information

In case you need clarification about this research, you may reach me or my supervisors through the contacts provided below:

Researcher: Jamilatu Bukari Kappiah. School of Nursing and Midwifery, College of Health Sciences, University of Ghana. Tel: 0242181583. Email:kappiahjamilatu86@gmail.com.

Supervisors: Dr. Florence Naab, Head, Department of Maternal and child Health. School of Nursing and Midwifery, College of Health Sciences, University of Ghana. Tel: 0204522332. Email: fnaab@ug.edu.gh.

Dr. Micheal Wombeogo, Department of Nursing and Midwifery, School of Allied Health Sciences, University for Development Studies. Tel: 0208043042. Email: mwombeogo@gmail.com.

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.ug.edu.gh

NMIMR INSTITUTIONAL REVIEW BOARD
VALID UNTIL
0 6 NOV 2019
APPROVED DOCUMENT

VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title ***(Behavioural Tendencies of Men towards Cervical Cancer Screening in Tamale Metropolis)*** 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

NMIMR INSTITUTIONAL REVIEW BOARD
VALID UNTIL
0 6 NOV 2019
APPROVED DOCUMENT

Appendix F: Data Collection Instrument

RESEARCH QUESTIONNAIRE/DATA COLLECTION INSTRUMENT

Dear Respondent,

This questionnaire is about a research to be carried out on "Behavioural tendencies of Men towards Cervical Cancer Screening in Tamale Metropolis". The research is for academic purpose and your responses will be kept in confidence and will not be disclosed to anyone. You also have the right to withdraw from the study but your participation is highly valued and appreciated.

Thank you.

SECTION A: SOCIO-DEMOGRAPHIC DATA

(Please indicate by writing in the space or ticking (√) the appropriate box that applies to you)

A. Age……..

B. Marital Status
   1. [ ] Married
   2. [ ] Single
   3. [ ] Divorced/separated
   4. [ ] In a relationship
   5. [ ] Other (specify)………………

C. Type of marriage
   1. [ ] Monogamous
   2. [ ] Polygamous
   3. [ ] Other (specify)……………

D. Religion
   1. [ ] Christianity
   2. [ ] Islam
   3. [ ] Traditional religion
   4. [ ] Other (specify)……………….

E. Ethnicity
   1. [ ] Dagomba
   2. [ ] Akan
   3. [ ] Dagaaba
   4. [ ] Mamprusi
   5. [ ] Frafra
   6. [ ] Ewe
   7. [ ] Other (specify)

F. Educational level
   1. [ ] Tertiary
   2. [ ] SHS
   3. [ ] JHS
   4. [ ] Primary
   5. [ ] Other (specify)…………..

INSTITUTIONAL REVIEW BOARD
VALID UNTIL
0 6 NOV 2019
APPROVED DOCUMENT

G. Employment Status

1. [ ] Public sector
2. [ ] Private sector
3. [ ] Unemployed
4. [ ] Self-employed
5. [ ] Other (specify)

H. Occupation ....

KNOWLEDGE ATTITUDE PRACTICE (KAP) QUESTIONNAIRE

Instructions: This section provides a description of your Knowledge, Attitude and Behaviour towards cervical cancer and cervical cancer screening. The descriptive statements are listed below. Please, be honest about your responses as there are no right or wrong answers.

SECTION B: KNOWLEDGE

Instruction: Please indicate by ticking (√)/writing in the appropriate box how true or false each statement is.

Que. No.	Statements	Response (please, tick in the appropriate box)		
		True(1)	False(2)	I don't know (3)
1.	Cervical cancer is one of the most common cancers among women			
2.	Cervical cancer is preventable			
3.	Cervical cancer is curable			
4.	Genitourinary infections increase the risk of cervical cancer among women			
5.	Spotting between menstrual periods may be a symptom for cervical cancer			
6.	Bleeding and spotting after menopause may be associated with cervical cancer			
7.	Bleeding and feeling pain after intercourse is a symptom for cervical cancer			
8.	Cervical cancer may be without sign in early stages.			
9.	Pelvic pain is one of cervical cancer symptoms.			
10.	Early marriage (under 18) increases the risk of cervical cancer			
11.	Pap smear test before symptomatic cervical cancer, may help detect cervical cancer earlier			
12.	First Pap smear test should be done at age 20			
13.	Pap smear test after age 65 is necessary			
14.	All women should be tested by Pap smear at least every 3 years.			
15.	Pap smear test is recommended only for older women.			
16.	Pap smear test should be performed only if infection and			

NAMIBIA INSTITUTIONAL REVIEW BOARD
VALID UNTIL
06 NOV 2019
APPROVED DOCUMENT

	bleeding was seen			
17.	Pap smear test can be done among Pregnant women			
18.	Pap smear test may cause cervical infection			
19.	How did you know about Pap smear?			
20.	What was the reason for not allowing your partner/ a woman to go for Pap smear regularly?			

SECTION C: ATTITUDE

Instruction: Please indicate by ticking (√) in the appropriate box the extent to which you agree or disagree with each statement.

Que. No.	Statements	Completely Agree (5)	Agree (4)	No Idea (3)	Disagree (2)	Completely disagree (1)
1.	Pap smear test is expensive					
2.	Pap smear test is painful					
3.	Pap smear test is time-consuming					
4.	Performing Pap smear test disturb privacy of women					
5.	Pap smear test is effective in early detection of cervical cancer.					
6.	Pap smear is not effective for cervical cancer prevention.					
7.	I prefer my partner/ a woman doing Pap smear test before experiencing cervical cancer symptoms					
8.	Pap smear test is not necessary in asymptomatic (no symptoms) individuals.					
9.	Equipment of the Pap smear test does not have good quality.					

CERVICAL CANCER AND PAP TEST QUESTIONNAIRE (CPC-28)

SECTION D-BELIEFS (Subjective Norms)

Instruction: The following sentences are some ideas related to the Papanicolaou (Pap) test and cervical cancer (uterine cervix cancer). Please indicate with a tick (√) the alternative that best describes your belief about each one of the sentences. There are no good or bad answers in this questionnaire; therefore, if you are unsure or do not know an answer, feel free to answer what you believe.

BELIEFS- PART 1

Que. No.	Statements	Strongly Agree (5)	Agree (4)	No Idea (3)	Disagree (2)	Strongly Disagree (1)
1.	My partner/ a woman getting a Pap test makes me feel good because it means that I take care of her health.					
2,	I do not have time to assist my partner/ a woman gets a Pap test.					
3.	I have not allowed my partner/a woman to take the Pap test because I think they treat her badly in the healthcare centre.					
4.	I do not know at what age it is necessary to have a Pap test					
5.	I have not allowed my partner/ a woman take a Pap test because when I go, I need to wait a long time for her to be seen.					
6.	The Pap test can save my partner's/a woman's life.					
7.	I have not allowed my partner/ a woman to take the Pap test because I am afraid to find out if she has cancer.					
8.	I have not allowed my partner/a woman to take the Pap test because the healthcare centre is only open during hours when she cannot go.					
9.	I have not allowed my partner/ a woman to take the Pap test because it is embarrassing to have a genital exam.					
10.	I do not know how often my partner/ a woman need to get a Pap test.					
11.	I have not allowed my partner/ a woman to take a Pap test because it is difficult to get an appointment.					
12.	Cervical cancer may lead to death.					
13.	Cervical cancer may lead to my partner/a					

NIMMR INSTITUTIONAL REVIEW BOARD
VALID UNTIL
06 NOV 2019
APPROVED DOCUMENT

	woman having a hysterectomy (removal of the womb)					
14.	Cervical cancer is a serious health problem.					
15.	Cervical cancer can lead to my partner/ a woman needing to receive chemotherapy or radiotherapy treatment.					

Instruction: The following sentences are related to the need that your partner/women have to take the Pap test, and the risk of having cervical cancer. Please indicate with a tick (√) the degree to which you agree or disagree with each statement. Remember, there are no good or bad answers in this questionnaire; therefore, if you are unsure or do not know an answer, feel free to answer what you believe.

BELIEFS- PART 2.

Que. No.	Statements	Strongly Agree (5)	Agree (4)	No Idea (3)	Disagree (2)	Strongly Disagree (1)
1.	If my partner/ a woman do not have symptoms, she does not need a Pap test.					
2.	If my partner/a woman has not had children, she does not need a Pap test					
3.	If my partner/a woman does not have intercourse, she does not need a Pap test.					
4.	My partner/ women are at risk for developing cervical cancer.					
5.	If my partner/ a woman has cervical cancer, she can die.					
6.	Cervical cancer is one of the most common cancers among women my partner's age.					

Instruction: The following sentences are some reasons women have for getting a Pap test. Please indicate with a tick (√)the degree of agreement in each sentence, thinking about the reasons that have made you or would make you allow your partner/ a woman get a Pap test. Remember, there are no good or bad answers in this questionnaire; therefore, if you are unsure or do not know an answer, feel free to answer what you believe.

BELIEFS-PART 3

Que. No.	Statements	Strongly Agree (5)	Agree (4)	No Idea (3)	Disagree (2)	Strongly Disagree (1)
1.	To take care of my partner's/ women's health					
2.	Because a nurse or midwife told me					
3.	Because a doctor told me					
4.	Because my mother spoke to me about it					
5.	Because a friend or neighbour spoke to me about it					
6.	Because members of my family told me to assist my partner get it					
7.	Because I listened to or read something in the newspaper or in a television or radio program					

PAP SELF-EFFICACY SCALE

Instruction: Please indicate with a tick (√) about how sure you are you can do the following activities related to a Pap test.

SECTTION- E PERCEIVED BEHAVIOURAL CONTROL

Que. No.	Questions		Response
1.	How sure are you that you can allow your partner/a woman discuss having a Pap test with her health care provider even if (s)he does not bring it up? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know
2.	How sure are you that you can allow your partner/ a woman to schedule a Pap test appointment? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know

NMIMR INSTITUTIONAL REVIEW BOARD VALID UNTIL 06 NOV 2019 APPROVED DOCUMENT

3.	How sure are you that you can keep allowing your partner/ a woman to have Pap tests, even if you had to go with her to a new office to get one? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know
4.	How sure are you that you can ask your partner's/ a woman's primary care physician (doctor) for a referral to get a Pap test? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 I do not have a primary care physician/doctor □7 Don't Know
5.	How sure are you that you can allow your partner/ a woman to get her next Pap test? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know
6.	How sure are you that you can allow your partner/a woman to get a Pap test even if you are worried that it will be painful? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know
7.	How sure are you that you can allow your partner/ a woman to get a Pap test even if a friend discouraged you from allowing her to have one? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know
8.	How sure are you that you can allow your partner/ a woman to get a Pap test even if you had to pay for it? **Mark only one response**		□1 Very Unsure □2 Somewhat Unsure □3 Neither Sure nor Unsure □4 Somewhat Sure □5 Very Sure □6 Don't Know

COLORECTAL CANCER SCREENING ADHERENCE SCALE

Instruction: This section provides a description of your Intention towards cervical cancer and cervical cancer screening. The descriptive statements are listed below. State by ticking (√) the appropriate box to show the extent to which you agree or disagree to the following statements. Please, be honest about your responses as there are no right or wrong answers

SECTION- F INTENTION; Expressed Intent to Undertake a Specific Behaviour.

Que. No.	Statement	Rating from Strongly Agree to Strongly Disagree (Please, tick (√) the appropriate box).				
		Strongly Agree	Agree (4)	No Idea (3)	Disagree (2)	Strongly Disagree (1)
1.	I do not intend to allow my partner to go through cervical cancer screening." (Don 't intend)					
2.	I intend to allow my partner undergo cervical cancer screening. (Do intend)					

HEALTH BEHAVIOURS AND STAGES OF CHANGE QUESTIONNAIRE (HBSQ)

SECTION G: BEHAVIOUR

Instruction: Below is a group of phrases related to different behaviours. Please indicate with a tick (√) the extent to which you agree or disagree with the clause that most closely matches what you do.

Que. No.	Statements	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)
1.	I have never allowed my partner/ a woman to go for a Pap test and I don't plan on ever allowing her have the test done.				
2.	I have never allowed my partner/ a woman to go for Pap test, but I plan on doing so in the next 6 months.				
3.	My partner has an appointment for her first Pap test.				
4.	My partner had her first Pap test recently and I				

NIMR INSTITUTIONAL REVIEW BOARD
VALID UNTIL
04 NOV 2019
APPROVED DOCUMENT

	intend to allow her have one done at least every 2 years.				
5.	I have allowed my partner/ a woman to go for Pap tests for several years routinely (at least every two years).				
6.	I've allowed my partner/ a woman to do some Pap tests, but I do not allow her do it routinely (at least every 2 years).				

THANK YOU FOR PARTICIPATING IN THIS STUDY