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Najla Barnawi
Binghamton University--SUNY, nbarnaw1@binghamton.edu

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THE EFFECTS OF A DIGITAL EDUCATIONAL INTERVENTION ON UNDERGRADUATE NURSING STUDENTS' ATTITUDES, KNOWLEDGE AND SELF-EFFICACY WITH FEMALE GENITAL CUTTING

BY

NAJLA A BARNAWI
BSN, King Saud University, 2003
MSN, University of Toronto, 2007

DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Nursing
in the Graduate School of
Binghamton University
State University of New York
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2018

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Carolyn Pierce, Chair
Department of Nursing, Binghamton University
Mary-Ann Swain, Committee Member
Department of Nursing, Binghamton University
Nicole Rouhana, Committee Member
Department of Nursing Binghamton University
Gary James, Outside Examiner
Department of Anthropology, Binghamton University

Abstract

Background: Due to increasing transmigration, care of women with female genital cutting FGC has become a national and global public health and human rights issue. The US is one of the Western countries that have a large number of women who underwent or are at risk to undergo FGC. Based on the US Population Reference Bureau (PRB) (2013), there were more than 507,000 females with different migration status who were subjected to some form of FGC. Around 55% of these women were during their reproductive cycle (15 to 49 years old). Caring for immigrant women with FGC, especially those who are pregnant, is a key challenge in the American healthcare context. The challenge occurs as a result of health care givers lacking knowledge and skills that sustain both the cultural and clinical components of perinatal care for immigrant women with FGC. Their lack of knowledge and skills marginalize this vulnerable group of women and often prevent them from accessing and utilizing current healthcare –perinatal- services. Avoiding seeking services increases the risk of having poorer health status among these women, which impacts negatively on their quality of life.

Purpose: The purpose of this research was to examine the impact of the FGC digital e-book on the level of the knowledge, attitude, and self-efficacy of undergraduate Baccalaureate nursing students in a public university located in Central New York State.

Methods: A pretest and posttest quasi-experimental design was conducted with a convenience sample of undergraduate nursing students in a public university located in

Central New York State. Descriptive statistics were conducted to examine the demographic data of this study, and a dependent t-test was used to measure the mean differences at 95% CI of the level of attitude, knowledge, and self-efficacy before and after exposure to the FGC digital e-book. A 5 point Likert scale attitude scale was used to measure the participants' attitudes regarding 13 statements of different aspects of FGC. The scale ranged from 13 to 65. The students' FGC knowledge level was assessed by using a 3 point Likert FGC knowledge scale that has 14 close-ended questions with a total score ranges from 14 to 42. The students' FGC self-efficacy level was examined by using a 3 point Likert scale that has 14 close-ended questions. The total scale score ranges from 14 to 42.

Results: A total of 86 subjects were included in this study, females represented the largest sample group (87%). Around 89% (n=76) of the study sample were 34 years of age or younger and the majority of the study sample were white (n=59, 69.4%). Around 70% of the study sample knew about FGC before conducting the study, and 62.8% of them reported that someone told them about FGC but they had not witnessed it by themselves. The results suggesting that the FGC digital e-book significantly improves students' attitudes ($M_{(differences)}$= 5.47, SD= 8.275, [t(85)= 6.132, $p < .001$]); level of knowledge ($M_{(differences)}$= 5.54, SD= 4.459, [t(85)= 11.520, $p < .001$]); and their self-efficacy ($M_{(differences)}$= 6.37, SD= 5.16, [t(85)= 11.45, $p < .001$]). Pearson's r coefficient correlation revealed a statistically significant positive moderate relationship between attitude and knowledge (r=0.5, $p = 0.000$); however, there was no relationship between

knowledge and self-efficacy variables (r=.047, p = 0.667) and attitude and self-efficacy (r= .173, p = 0.110).

Conclusion: Undergraduate nursing students who completed the FGC digital e-book had significantly improved scores on tests of attitude, knowledge, and self-efficacy regarding FGC. Improvements in these areas can be expected to optimize culturally and clinically competent nursing care for pregnant women who underwent FGC.

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Introduction

Traditions and beliefs are essential elements in sustaining the consistency of society; however, some traditional practices negatively impact the women's well-being such as female genital cutting (FGC). This age-old cultural practice is also referred to as female genital mutilation (FGM) or female circumcision (FC) (Perron & Senikas, 2012; World Health Organization [WHO], 2016). According to WHO, FGC includes "all procedures involving partial or total removal of the external female genitalia or other injuries to the organs, whether for cultural or other non-therapeutic reasons" (WHO, 2014).

The practice of FGC is considered to be a harmful traditional practice with serious physical and psychological health complications (Nour, 2015; WHO, 2016). Therefore, FGC has become a national and global human rights issue because of related health consequences (UNICEF, 2016; WHO, 2016). The practice of FGC is common in parts of Africa, the Middle East, and South Asia; the highest prevalence of FGC is in sub-Saharan African countries (Mesple-Somps, 2016; Perron, & Senikas, 2012; UNICEF, 2016; WHO, 2016;). Despite the severity, risks, and pain involved with FGC, several communities continue to perform the practice because they consider it a necessary custom (Muteshi, Miller, & Belizan, 2016).

The rapid global migration process plays a fundamental role in the expansion of the practice into developed countries (Macfarlane & Doerkenoo, 2015; Mather & Feldman-Jacobs, 2015; Packer, Runnels, & Labonte, 2015). Globally, FGC affects more than 200,000,000 women and girls each year (United Nation of Children Fund [UNICEF], 2016; WHO, 2016). Evidence suggests that FGC affects 1 million women and girls in Europe and North America each year (The European Union, 2013; WHO, 2016). Moreover, there are more than 800,000 females who have migrated to developed countries that are at risk of undergoing FGC (The European Union, 2013, WHO, 2016).

Chapter One

FGC Health Consequences during the Woman's Life Span

Women suffer from FGC when they are young children because of the pain of the procedure, again at the time of their marriage, and later during the births of their children (Kontoyannis & Katrsetos, 2010). The practice of FGC has detrimental effects, which are varied based on the type of the FGC. Some of these effects can be treated or prevented while others are irreversible (Bjalkander, Bangura, Leigh, Berggren, Bergstrom, & Almorth, 2012). Evidence finds that women whose genitals have been cut required medical attention at various times in their lives for problems related to the procedure they underwent. Based on WHO, the complications of FGC can be classified into short-term or long-term complications.

Short-Term Complications

The consequence of short-term FGC complications usually occurs within a very short period, which is extending from a few hours after the operation to the following ten days (Bjalkander, et al., 2012). These types of complications vary regarding their seriousness and the surrounded conditions. For instance, girls or women who recently underwent FGC may experience fatal bleeding or hemorrhage, or severe pain, which occurs because of local tenderness, dyspareunia, dysmenorrhea, and menorrhagia (Kontoyannis & Katrsetos, 2010; Manji, Al-Badawai, El-Enbaby, & Al-Bareedy, 2006). Furthermore, fractures of the clavicle, femur, humerous or dislocation of the hip joint can occur if heavy pressure is applied to restrain the struggling girl during the operation. It is

common for several adults to hold a girl down during the cutting. Acute urine retention can result from swelling and inflammation of the wound. The fear of pain caused by urination on the raw wound, or injury to the urethra increases the likelihood of urinary retention. Retention is very common; it may last for hours or days, but is usually reversible. However, it may lead to urinary tract infection in the absence of immediate intervention.

Infection is a common complication as a result of unhygienic conditions, use of unsterilized instruments, and the application of substances such as herbs or ashes to the wound (Bjalkander, et al., 2012). These conditions provide an excellent growth medium for bacteria. Indeed, binding of the legs particularly following Type III FGC (infibulation) prevents wound drainage and increases the likelihood of contamination of the wound with urine and feces. This enhances the risk of infection and septicemia, which is common among girls who lived in rural areas. Further, these girls are at higher risk for infection because of crude instrument used and re-utilization of the same unclean instruments. Therefore, each girl successively may pose a risk of transmission of blood-borne diseases such as HIV and hepatitis B. Indeed, the wound after the procedure may fail to heal quickly because of infection, irritation from urine or rubbing when walking, or an underlying condition such as anemia or malnutrition. This can lead to a purulent, weeping wound or a chronically infected ulcer.

Long-Term Complications

Keloid scars usually occurs as a result of slow and incomplete healing of the wound (Manji, et al., 2006). They may also occur following a postoperative infection, which leads to the production of excess connective tissue in the scar (Berg, Dension, &

Fretheim, 2010). Keloid formulation may obstruct the vaginal orifice leading to dysmenorrhea (painful menstrual period). Following infibulation, scarring can be so extensive that it prevents penile penetration and may cause sexual and psychological problems. Vulvar cysts and abscesses are also the common complications of FGC, may vary in size, and occasionally become infected and extremely painful. Furthermore, clitoral neuroma usually occurs as a result of the clitoral nerve remaining trapped in a stitch or the scar tissue of the healed wound and can lead to hypersensitivity and dyspareunia.

Sexual problems are common complications among women who have undergone FGC. Evidence indicates that women who underwent FGC are 1.5 times more likely to experience pain during sexual intercourse (Berg, et al., 2010). Further, they report significantly less sexual satisfaction and are twice as likely to report a lack of sexual desire. Infertility may occur as a result of dyspareunia, vaginismus, and apareunia. Another common complication of FGC is vaginal infection related to bacterial vaginosis, pelvic inflammation, and septicemia (Manji, et al., 2006).

FGC Perinatal Complications

Performing FGC also increases the incidence of critical perinatal morbidity as well (Banks et al., 2006; Rouzi, Sindi, Radhan, & Ba'aqeel, 2001). The WHO (2012) conducted a study to test the FGC complications among more than 28,000 pregnant women in six African countries. Result showed that those women who had undergone FGC had a significantly higher risk of childbirth complications, such as cesarean section and postpartum hemorrhage than those without FGC. Indeed, FGC interferes with the standardized perinatal intervention. For instance, those women who experienced FGC,

vaginal examination and catheterization are excessively painful or sometimes impossible (Nour, 2015: Rouzi, 2013). Postpartum hemorrhage and obstructed labor rates due to the narrowing of the vaginal opening are increased and has been associated with increased hypoxia in newborns of affected women (Berg, Underland, Odgaard-Jensen, Fretheim & Vist, 2014; Reisel, & Creighton, 2015).

Exploring The Phenomenon: FGC In American Context

Distribution of FGC in America

The Estimation Number of Women and Girls with FGC.

The United States (US) is one of the Western countries that has a large number of women who have undergone or are at risk of undergoing FGC (Mather & Feldman-Jacobs, 2015). Lacking of a consistent system to determine the accurate number of this group of females in the US makes it difficult to address the current expansion of FGC within the American population (Goldberg et al., 2016). However, several national institutions afforded recognizable efforts to estimate the number of women and girls who underwent or were at risk to undergo FGC. The focus of these institutions was on determining the number of immigrant population within the US society. In contrast, there is no evidence indicating the number of non-immigrant white American women who underwent or are at risk of experiencing FGC. The following sections provide detailed explanations of the efforts of these institutions to determine the number of immigrant females who underwent or who are at risk to have FGC in the US.

The Center for Diseases Control and Prevention (CDC) was the first national organization that highlighted the importance of addressing the role of migration in

increasing the expansion of FGC within the US population. During 1996 the CDC conducted a survey using 1990 US Census data, the results indicated there were approximately 168,000 females who underwent or were at risk for FGC in the US during 1990. Further, it showed that more than 71% of these females were 18 years or older and 29% were under 18 years old. The results implied that there were a significant number of women who migrated to the US during their reproductive years (Goldberg et al., 2016).

In 2004, the African Women's Health Center at Brigham and Women's Hospital, in collaboration with the Population Reference Bureau, (PRB) updated the previous CDC estimates of FGC (Goldberg et al., 2016). The authors used the prevalence data from the 2000 US Census Data to estimate the number of this group of females over the previous ten years (African Women's Health Center, 2004). The data showed there were approximately 227,887 females who underwent or were at risk of FGC who migrated to the US in 2000 (African Women's Health Center, 2004).

The aforementioned study did not differentiate between the number of women and girls who had undergone FGC and the number of who were at risk (Goldberg et al., 2016). However, the data showed that 73% of these females were 18 years old or older and only 62,519 (27%) were girls younger than 18 years (African Women's Health Center, 2004). Overall, this data indicated that there was a 36% increase in the number of this group of women in one decade because of the migration process, which was attributable to the increased prevalence of FGC in the US population (Goldberg et al., 2016).

In 2016, Goldberg and his colleagues conducted a study to update the number of this targeted group of females and to provide a comparison data between 1990 and 2012

(Goldberg et al., 2016). The inability to differentiate between the numbers of females who underwent FGC and those who were at risk, the authors concluded that all of these populations were at risk for either undergoing the practice or developing health complications related to FGC. The study concluded that there were around 513,000 females who were subjected to some form of FGC or its complications. Furthermore, the results indicated that 33% of that population were girls less than 18 years who were at risk and more than 67% were women of age 18 or older.

The results of the African Women's Health study indicated that the estimated number during that year increased by a factor of three when compared to the estimated number in 1990 (Goldberg et al., 2016). The study also reported the top ten African countries of origin that represent the ethnic backgrounds of this group of females during 2012 included in descending order of frequency: Egypt (20%), Ethiopia (18%), Somalia (12%), Nigeria (9%), Sudan (6%), Liberia (6%), Sierra Leone (5%), Kenya (3%), Eretria (3%), Yemen (3%), Guinea (2%), with the remaining 13% from other African countries (Goldberg et al., 2016). These statistics suggest that females who migrated to the US were from African countries, which represent 97% of this vulnerable group of women.

The US Population Reference Bureau (PRB) conducted a similar study during 2013; and was the first study that included recent data to explore the distribution of these females during that year (PRB, 2013). Therefore, the authors used several resources besides the CDC resources to provide an accurate estimation. For instance, the authors used the Demographic and Health Surveys, identifying the prevalence rate of the countries that have FGC of at least 2%, and the 2013 Census Bureaus of American Community Survey (ACS) Public Use Microdata Sample (PRB, 2013).

The results of the PRB study indicated that there were around 507,000 females who were living in the US that were subjected to some form of FGC or who were at risk to undergo the practice during 2013 (Mather & Feldman-Jacobs, 2015; PRB, 2013). This implied that the estimated number during that year reached more than double when compared to the estimated number in 2000; however, it showed a decrease in the estimated number by 1.2% compared to 2012 data (Mather & Feldman-Jacobs, 2015). The study focused on the females who were at risk either for undergoing the FGC or having FGC health complications; therefore, the data did not indicate the exact number of females who already had undergone the practice. Similar to the Goldberg study, 33% of that population were girls less than 18 years of age, and more than 67% were women of age 18 or older during 2013 (Mather & Feldman-Jacobs, 2015).

Based on the PRB report of 2013, females from African countries where FGC is common, represented 97% of this group of women, however, only 3% were females from the Middle East mainly from Yemen and Iraq (Mather & Feldman-Jacobs, 2015). The study also reported the top ten African countries of origin during that year, which represents the ethnic backgrounds of this group of females. These countries are (in descending order) Egypt (22%), Ethiopia (18.2%), Somalia (15%), Nigeria (8.1%), Liberia (5.4%), Sierra Leone (5%), Sudan (4.04%), Kenya (3.7%), Eretria (3.5%), Guinea (2.03%), and around 14% came from other African countries (Mather & Feldman-Jacobs, 2015).

The Location of Women and Girls with FGC.

Several studies indicated that most of the women and girls who underwent FGC in the US lived in large portal 'gateway' states (Mather & Feldman-Jacobs, 2015). Based on the US Census Data (2000) report, seven states had the greatest estimated number (at least 10,000 females/state) of this vulnerable group of females (PRB, 2002). These states are (in descending order): California (n=38,353; 16.8%), New York (n=25,949; 11.4%), New Jersey (n=18,584; 8.2%), Virginia (n=17,980; 7.9%), Maryland (n=16,264; 7.1%), Minnesota (n=13,196; 5.8%), and Texas (n=13,100; 5.7%) (US Census, 2000). However, during 2013, the PRB reported that there are eight states with a high prevalence rate (at least 25,000 females/state) of women and girls at risk of FGC (Mather & Feldman-Jacobs, 2015). These states are (in descending order): California (n=56,872; 11.2%), New York (n=48,418; 9.6%), Minnesota (n=44,418; 8.7%), Texas (n=33,087; 6.5%), Maryland (n=31,820; 6.3%, New Jersey (n=31,023; 6.1%), Virginia (n=30,830; 6.1%), and Washington (n=25,000; 4.9%) (Mather & Feldman-Jacobs, 2015).

Despite the highly concentrated FGC prevalence rate in large "gateway" states, many new families from countries where FGC is common have migrated to other destinations after their arrivals (Mather & Feldman-Jacobs, 2015). There is no data identifying the reasons behind changing the newcomers' final destinations. Furthermore, the refugee or asylum resettlement process has a direct impact on the distribution of women and girls who have experienced or are at risk of FGC within the US (Mather & Feldman-Jacobs, 2015; Pyati & Palma, 2013). For instance, in the fiscal year 2014, one-fourth of the 70,000 refugees arriving in the US were from Africa (Mather & Feldman-Jacobs, 2015). According to the Office of Refugee and Resettlement (ORR), the top

recipient states in 2014 vs. 2007 were California (3,068 vs. 25,716), Michigan (2,753 vs. 18,047), Texas (2,462 vs. 12,956), Illinois (1,064 no data for 2007) and Arizona (973 vs. 7,447) (Department of Health & Human Services [DHHS], 2014).

Data from the PRB (2013) indicated that most women and girls who have or are at risk to have FGC are living in cities or suburbs of the major metropolitan areas. Around 40% of the population at risk for FGC lived in five metro areas, which include (in descending order): New York-Newark-New Jersey, Washington, Minneapolis-St. Paul, Los Angeles, and Seattle (Mather & Feldman-Jacobs, 2015). While in 2000 there were nine metro areas (in descending order) which were: New York-New Jersey-Long Island, Washington DC-Baltimore, Los Angeles-Riverside-Orange County, Minneapolis-St. Paul, San Francisco-Oakland-San Jose, Atlanta, Seattle-Tacoma-Bremerton, San Diego, Houston-Galveston-Brazoria and Philadelphia-Wilmington-Atlantic City (Mather & Feldman-Jacobs, 2015). This indicates that New York is one of the metropolitan areas that has the highest rate of women and girls who experienced or were at risk of FGC.

Accordingly, it is important to consider this group of women as a vulnerable population (Nour, 2015) in the US healthcare system as it is grapples with the existence of health disparities (Grabovschi, Loignon, & Fortin, 2013). Immigrant women and, more specifically, pregnant women who underwent FGC are more at risk for health disparities when compared to their non-immigrant counterparts (Deason & Githiora, 2014; Hauck, Corr, Lewis, & Oliver, 2012; Pavlish, Noor, & Brandt, 2010).

Anti-FGC Movements: the US Governmental and Non-Governmental Movements

The practice of FGC is considered federally as an aggravated assault under the "Federal Prohibition of Female Genital Mutilation Act of 1995" (118 U.S.C. § 116 (a)). In 1996, the US Congress passed this law to prevent and eradicate the performance of FGC (118 U.S.C. § 116 (a); USAID, 2014). However, the act did not consider the action of transporting girls overseas to be subjected to FGC (Equality Now, 2017). Some Congressional representatives including Joseph Crowley and Mary Bono Mack introduced The Girls' Protection Act (S. 1919, 2011) to address the FGC-vacation Act in 2010 (S. 1919, 2011; Equality Now, 2017). The act did not pass until 2011; in the same year Senator Harry Reid introduced a similar bill called The Girls Protection Act with a different bill number (H.R.2221) in the Senate (H.R.2221, 2011).

In December of 2012, the US Congress successfully passed the FGM travel provision, 'Transport for Female Genital Mutilation', as found in Section 1088 of the National Defense Authorization Act for the fiscal year 2013 (18 U.S.C. § 116, 2013). More recently the "Vacation Cutting" bill passed in 2015 criminalizes any person who sends or attempts to send young girls who are 18 years or less to their home country or any other country to undergo FGC (18 U.S.C. § 116, 2013; Department of Justice [DOJ], 2014). These continuous governmental efforts to protect immigrant girls from undergoing FGC in the US have resulted in policy successes. The US Department of Health and Human Services (HHS) under supervision of DOJ provides health-screening services and posts updated resources, mainly to newly arrived refugee women with FGC (DOJ, 2014).

The HHS indicated that over 100,000 individuals obtained information on FGC during last two years (DOJ, 2014). There are several community-based grant programs funded by the HHS that highlight the consequences of FGC for both healthcare providers and immigrants (DOJ, 2014). Accordingly, Senators Crowley and Jackson Lee on February 5th, 2015 introduced a bill H. R. 783, Zero Tolerance for FGM Act (H.R. 783, 2015). This bill aimed to address the urgent need for a federal strategy to ensure that individuals who encounter minors who are at risk of FGC can receive adequate and necessary interventions (H.R. 783, 2015). The Bill is still in the process; however, it was referred to the House Energy of Commerce and Subcommittee on Health on February 6th, 2015 (H.R. 783, 2015).

American Anti-FGC Policies from Feminism Lens

Western Feminism & Anti-FGC Policies.

The practice of FGC, from the Western feminists' view, is considered mutilation and a harmful traditional practice (Gajjala, Zhung, & Dako-Gyeke, 2010). This view leads some Western feminists to fight against FGC to protect the newer generations (Gajjala, et al., 2010; Gruenbaum, 2005; Njambi, 2004; Shaweder, 2002). Persons against FGC introduced FGC into political and medical debates, mainly as a human rights issue rather than as a cultural phenomenon (Gajjala, et al., 2010; Njambi, 2004). The aim from this perspective is to increase awareness of the public, religious and community leaders, and healthcare stakeholders about the physical and psychological complications of FGC (H.R. 782; Njambi, 2004; USAID, 2014).

Fortunately, Western feminists 'Anti-FGC' movements have been successful in impeding the continuity of practice in most of the countries where FGC is common

(Gajjala, et al., 2010; Gruenbaum, 2005; Njambi, 2004; Shaweder, 2002). These anti-FGC movements illustrate the historical impact of gender inequality, power and power relations, justice and women's rights (Mohanty, 1984; Risjord, 2011). Accordingly, it is logical to conclude that the FGC, as seen in the lens of Western feminism, arose from western sociological discourse analysis (Hamilton, 1993). Such western discourse views about FGC emphasize the importance of eradicating the practice worldwide. Therefore, it provides a more in-depth understanding regarding the structural or organizational factors that provide the primary level of prevention that aim to prevent the performance of FGC. However, this kind of politically-based context underestimates the sociocultural circumstances that concern this vulnerable group of women. Indeed, it does not consider the serious health consequences for those women who already underwent FGC.

Postcolonial Feminism & FGC.

Postcolonial Feminist activists illustrate the cultural and gender inequalities that concern non-Western women (Weedon, 2002). Postcolonial feminism explores the women's issues through the lens of racism and marginalization (McEwan, 2001; Weedon, 2002). Therefore, it examines the long-lasting effects of colonialism in postcolonial communities (Weedon, 2002). Postcolonial feminist activists believed that the mainstream of Western feminist activists had ignored the different voices of non-white and women of color for many years (McEwan, 2001; Weedon, 2002). Such ignorance stigmatizes the African immigrant females who underwent FGC from their host community.

For example, the colonial power in postcolonial feminism views symbolizes the African identity of these women based on that practice (Njambi, 2004). This practice

threatens the gender and ethnic identity of Africans and other cultural communities that practice FGC (Pedwell, 2007). This challenging situation represents all immigrant females with FGC as passive victims of a patriarchal tradition (Njambi, 2004). Accordingly, considering this vulnerable group of women as a passive victim limits their willingness to share their health and cultural concern with the healthcare providers in the hosted country. Integrating both the Western and Postcolonial feminism approaches will help healthcare stakeholders and policymakers to address the current clinical and cultural gaps regarding FGC that are occurring within the US health care system. This conversation will enhance optimal and competent care for all affected women.

Purpose, Questions, & Hypothesis

Purpose

In response to the global and national awareness about FGC, developing an e-learning tool "FGC Digital Book and Online Resource" is essential to provide education about appropriate care for this vulnerable group of women. It is an ideal resource for primary care providers, mainly nurses and nursing students, who are a cornerstone of the continuity of care, the partnership with birthing families and informed parental choice (Simpson, Robinson, Creighton, & Hodes, 2012). Examining the FGC digital e-book within the American healthcare context is essential to promote the quality of life of pregnant women who underwent FGC. To achieve this aim, examination of the attitude, knowledge, and self-efficacy of the American healthcare providers, especially nurses and nursing students, is critical. Therefore, the purpose of this study was to examine the impact of a digital e-book on the levels of the attitude, knowledge, and self-efficacy of

undergraduate Baccalaureate nursing students in a public university located in Central New York State.

Research Questions

- What is the impact of the FGC-digital eBook on the attitudes regarding FGC among undergraduate nursing students?
- What is the impact of the FGC-digital eBook on the knowledge of FGC among undergraduate nursing students?
- What is the impact of the FGC-digital eBook on the self-efficacy among undergraduate nursing students?
- Is there a relationship between the level of attitude, knowledge, and self-efficacy among undergraduate nursing students who have completed the education available in the FGC- digital eBook?

Research Hypothesis

- The undergraduate nursing students' post-test negative attitude scores regarding the unfavourable aspects that concern FGC will improve after they access the FGC-digital book compared to the pre-test results.
- The undergraduate nursing students' post-test positive attitude scores regarding the favourable aspects that concern FGC will improve after they access the FGC-digital book compared to the pre-test results.
- The level of knowledge scores of the undergraduate nursing students in the post-test results is higher after they access the FGC-digital book compared to the pre-test results. Those undergraduate nursing students, who participated in the FGC

digital e-book assignment, will demonstrate higher mean knowledge scores, than those that did not.

- The level of self-efficacy scores of the undergraduate nursing students in the post-test results is higher after they access the FGC-digital book compared to the pre-test results.

Theoretical Framework

Examining the impact of the FGC digital e-book on the levels of attitude knowledge, and self-efficacy in undergraduate nursing students can be considered by integrating Knowles' Andragogy theory and Bandura's Self-Efficacy models to form the theoretical framework for this study. Integrating the foundations of these two theories illuminates the study variables in a logical way that addresses the relationship between the learning process for undergraduate nursing students and their levels of knowledge, attitude, and self-efficacy. (Figure 1).

Knowles's Adult-Learning Theory (Andragogy).

In the 1980s, Malcolm Knowles, an American educator, presented andragogy as a formal label for the process of adult education in the American context (Knowles, 1980 p. 351; Henschker, 2013; Henschke & Cooper, 2011). Since that time, Knowles' innovation of andragogy has become a fundamental principle in the context of adult learning. He emphasized the importance of promoting and maintaining self-directed learning while considering the learner's educational interest in learning as an adult (Knowles, 1975; 1984a)

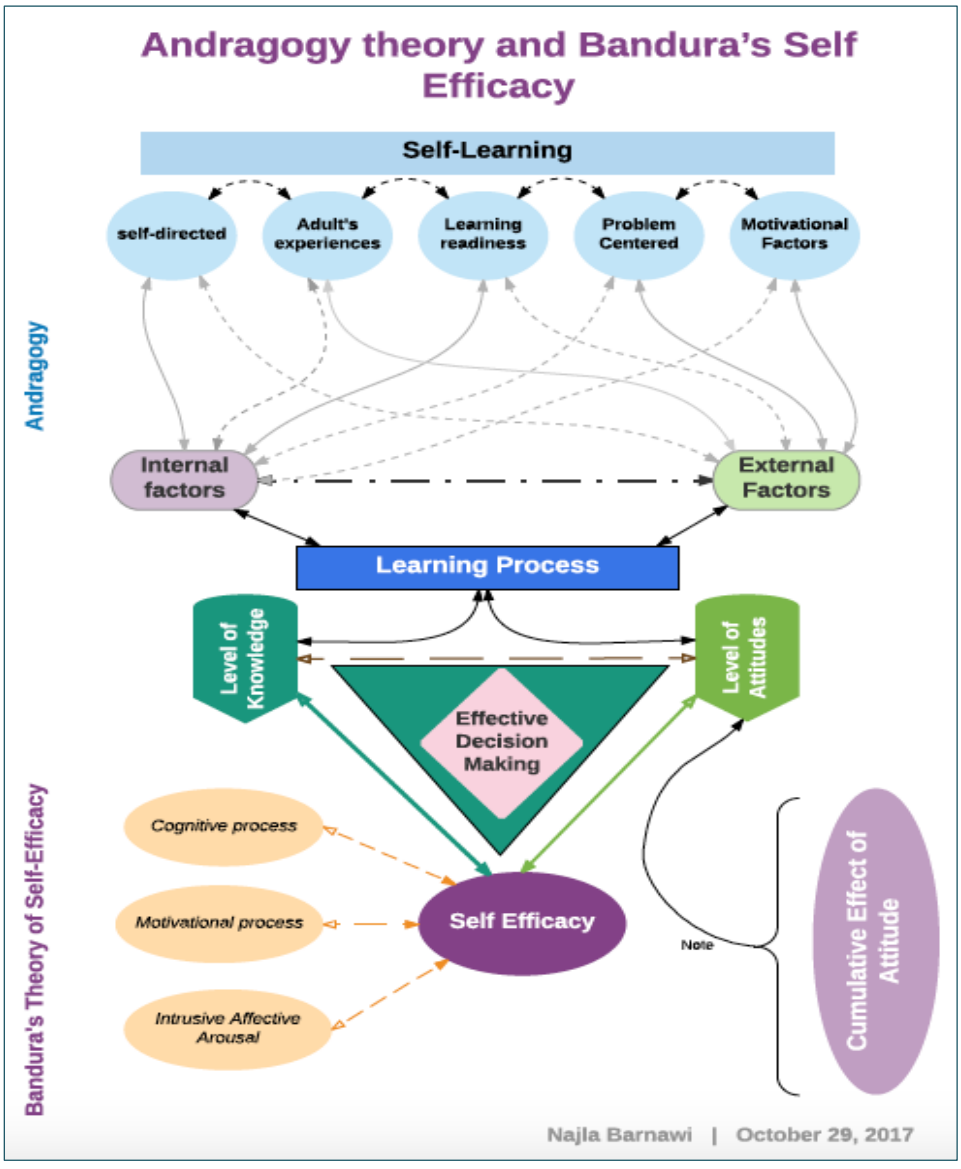
Knowles (1975; 1984a) identified four learning principles that help to maintain the concept of self-directed learning and include the following. Firstly, adults need to be fully involved in developing, planning and evaluating of their learning goals and their instructors (Knowles, 1975; 1984a; 1984b). Secondly, all types of adult experiences, including mistakes, are the basis of learning activities (Knowles, 1975; 1984a; 1984b). Thirdly, adults are most interested in learning subjects that are relevant to them and have an immediate impact on their profession or personal life (Knowles, 1975; 1984b; Blondy, 2007; Henschker, 2009; 2013; Henschke & Cooper, 2011; Kearsley, 2010). Finally, adult learning is a problem-centered approach rather than a content-oriented method (Knowles, 1975; 1984b; Blondy, 2007; Henschker, 2009; 2013; Henschke & Cooper, 2011; Kearsley, 2010).

Bandura's Self-Efficacy Theory.

In 1977, Albert Bandura, a Canadian- American psychologist, introduced the concept of self-efficacy through his social learning theory, which he later renamed a social cognitive theory in the 1980s (Artion, 2012; Bandura, 1977, 1982). Bandura viewed self-efficacy as a core element of a human's actions that develops over the individual's lifespan (Bandura, 1977; 1982). Self-efficacy can be seen as the result of proximal determinants of human cognitive, motivational, affective and selection processes of actions (Artion, 2012; Bandura, 1977; 1982; Zulkosky, 2009). He highlighted that self-efficacy is a process of enhancing the individual's efficacy expectations to achieve the expected outcomes (Bandura, 1977). This implies that identifying the efficacy expectations is an initial step that enhances the development of the self-efficacy. Achieving the intended action, based on Bandura's view, requires

enhancing the individual's self-efficacy through cognitive process, motivational process, and intrusive affective arousal process (Bandura, 1989). Figure 1 is a graphic description of how the author conceives of the intersection of these two theories for the purposes of this research.

Figure 1: Conceptual Map of Knowles Andragogy and Bandura Self-Efficacy Theory



Research Assumptions

- A combination of Knowles' Andragogy and Bandura's self-efficacy models can be used as a theoretical framework to guide the research by understanding the relationship of the adult learning process on their self-efficacy to provide competent nursing care that maintains cultural competency.
- The students' knowledge and attitudes are the conjunction components between the Knowles's model and Bandura's Self-Efficacy Model.
- The undergraduate nursing students' responses to the FGC pre-test and post-test questionnaire are varied based on their perceptions and their readiness to learn about the proposed topic.
- All the students are assumed to have read the FGC digital e-Book to enhance their learning about the FGC.
- All students are assumed to answer the questions honestly.
- The content of the e-Book may increase the students' confidence level to promote competent nursing care that maintains cultural competency for women who underwent FGC.

Research Limitations

- The research includes a convenience sample of subjects who speak only English; therefore, it cannot be generalized to a larger population or students who cannot speak or read English.

- This research relied on self-reporting of the FGC questionnaires, which may have some bias.
- The research was conducted in three heavy load undergraduate nursing classes, which may limit time devoted to completing the e-book content.
- The research relied on the student's skills of using audiovisual technology, which may vary from one student to another.

Significance of this Study in Nursing Profession

There are several international studies highlighting the importance of assessing knowledge, attitude, and self-efficacy of FGC among various healthcare professionals (Abdulcadir, Say, & Pallitto, 2017; Ali, 2012; Balfour, Abdulcadir, Say, Hindin, 2016; Cappon, L'Ecluse, Clays, Tency, & Leye, 2015; Kaplan, Hechavarria, Bernal, Bonhoure, 2013). However, there is no study in American nursing profession that explained the attitude, knowledge and self-efficacy of FGC (Aven, & Jacobson, 2011; Onuh, Igberaje, Umeora, Okoybenin, Otoidem & Gharoro, 2006).

It has been shown that FGC is a complicated socio-cultural phenomenon with various health and clinical controversies. These controversies interfere with the provision of holistic nursing care (Vissandjee`, Denetto, Migliardi, & Procter, 2014). Therefore, assessing and exploring the level of knowledge, attitude, and self-efficacy provides deeper insights about the clinical and cultural aspects of FGC that must focus on the holistic care (Squire, 2017; Varol, Hall, Black, Turkmani, & Dawson, 2017). Targeting nurses and mainly nursing students is ideal to exemplify the foundation of holistic care in this study. Indeed, these individuals are considered to be the 'cornerstones' of their

practice model, including continuity of care, partnership with birthing families and informed maternal choice (Simpson, et al., 2012).

American nurses are well positioned to promote effective communication, safe and appropriate interventions and referrals that are acceptable to their clients (Barnawi, Rouhana, & Pierce, 2016; Craven, Hirnle, & Henshaw, 2017). Thus, the nurses may initiate the first step of establishing a trustworthy relationship with the pregnant women who underwent FGC. Further, optimal health care must be based on effective communication and cultural sensitivity to create a delicate balance that puts the women's best interest in the forefront. This encourages women with FGC to have an active role and be fully involved in their health care, which is essential to improve their quality of life (Shweder, 2002).

A trusting relationship where both pregnant women and nurses or nursing students discuss the risks and benefits of available maternal choices and through partnership engage in mutual problem solving is ideal (Ameresekere, Borg, Frederick, Vragovic, Saia, & Raj, 2011; Shweder, 2002). To achieve this, all nurses need to use non-stigmatizing terminology related to FGC that is acceptable to and understood by their client (Fried, Warsame, Berggren, Isman, & Johansson, 2013; Shweder, 2002). Since most nurses are females, it is the more acceptable choice for women in cultures where there is discomfort or even shame associated with exposing their genitals in the presence of any male other than their husband (Shweder, 2002).

Summary

The tradition of FGC is a harmful practice and socially constructed phenomenon, which the rapid migration process plays a key role in expanding it in the US communities (Goldberg, et al., 2016). The practice of FGC affects at least 200 million women worldwide and more than 500,000 in the US alone (Mather & Feldman-Jacobs, 2015; UNICEF, 2016; WHO, 2016). It has been shown that FGC has serious physical and psychological health complications, which impact negatively on the quality of life among women who underwent the practice in general and pregnant women in particular (Nour, 2015; WHO, 2016).

There are overlapping historical, religious, and sociocultural aspects that sustain the continuity of the practice (Abu-Sahlieh, 2012; Almaghrabi, Kanaan, & Bondaji, 2005; Boyle, 2002; El-Damanhoury, 2013; Slack, 1988). Indeed, considering the current neglect of exploring these aspects within the US nursing context interferes with providing optimal care for this vulnerable group of women. Additionally, such neglect contradicts the core concept of nursing, which is holistic care. Therefore, this scholarly dissertation aims to explore the practice of FGC within the American health care and nursing context. Such exploration is essential to promote the quality of life of women who have undergone FGC. We intended to examine the attitude, knowledge, and self-efficacy of the American healthcare providers especially nurses and nursing students. Therefore, using a three-pronged approach, this study seeks to explore all aspects that concern FGC within the American healthcare context.

Chapter Two

Examining the Literature

The custom of FGC is one of the traditional practices that have overlapping historical, sociocultural, ethical, and clinical controversies. This chapter explores these controversies by introducing a comprehensive literature review that addresses the knowledge gap regarding FGC in the American context. Therefore, the chapter starts with a general overview of the terminologies, classification, and types of FGC. Afterward, it presents a historical analysis of FGC and its dissemination over different ancient eras until the 20th century. Included are common monotheistic religious views of FGC, and a discussion regarding the sociocultural aspects that sustained the continuity of FGC in the societies where the practice is common will be presented. Further, it provides a general overview regarding the global anti-FGC movements and the major international and national collaborative work that diminish the spread of FGC worldwide. The chapter also includes a scoping review that addresses the perinatal experiences of immigrant women who underwent FGC and the healthcare providers' experiences as well. Finally, it provides a detailed explanation of the major concepts and the theoretical framework of the study.

FGC Terminology

Female Circumcision (FC)

The term female circumcision was widely used in the 1970s, mainly to describe the practice of genital cutting and was based in the gender context (Perron, & Senikas, 2012; Rogor, 2007). The term has been criticized due to being perceived as parallel to male circumcision as it creates confusion between the two very distinct practices (Perron, & Senikas, 2012). Adding to this confusion is the fact that some health experts encourage male circumcision to reduce sexually transmitted infections (STIs) such as Human Immunodeficiency Virus (HIV); however, FGC has been shown to increase these risks. Further, the term obscures the serious physical and psychological effects of the practice on women. The United Nations Population Fund (UNFPA) (2005) suggested discontinuing use of this term to emphasize the differences of the health implications between male and female circumcision.

Female Genital Mutilation (FGM)

This term was used in the early 1980s to the mid-1990s to establish a clear distinction from male circumcision (Perron & Senikas, 2012). The term "mutilation" emphasizes the level of violation and the degree of complications that are associated with the practice. Therefore, the term was used in many policy and human rights organizations such as United Nation (UN) to reinforce women's rights in the countries that perform the practice (Rogor, 2007). However, the term also came under ethical scrutiny as some consider it a judgmental term that stigmatizes the communities that believe in it (Perron & Senikas, 2012).

Female Genital Cutting (FGC)

The UN and WHO introduced female genital cutting (FGC) as their official term in the late 1990s to prevent demeaning of individuals or communities who perform the practice (Perron & Senikas, 2012; Rogor, 2007). The term FGC is a highly recommended term to be used in the medical field because it describes the practice in a neutral way and sustains cultural and ethnic sensitivity. It is essential for healthcare providers to use a culturally sensitive term to enhance and initiate effective and therapeutic communication. Therefore, FGC is the term that is used in this dissertation to maintain cultural sensitivity and competency.

Classification & Types of FGC

FGC has different types that are based on various social and cultural justifications (Barnawi, et al., 2016). However, WHO (2016) classifies FGC into four major types based on the degree of cuttings (Figure 2).

Type I- Clitoridectomy is the first degree of FGC, which involves partial or total removal of the clitoris.

Type II- Excision is the second degree of FGC, which involves partial or total removal of the labia minora that may or may not include the removal of the clitoris. .

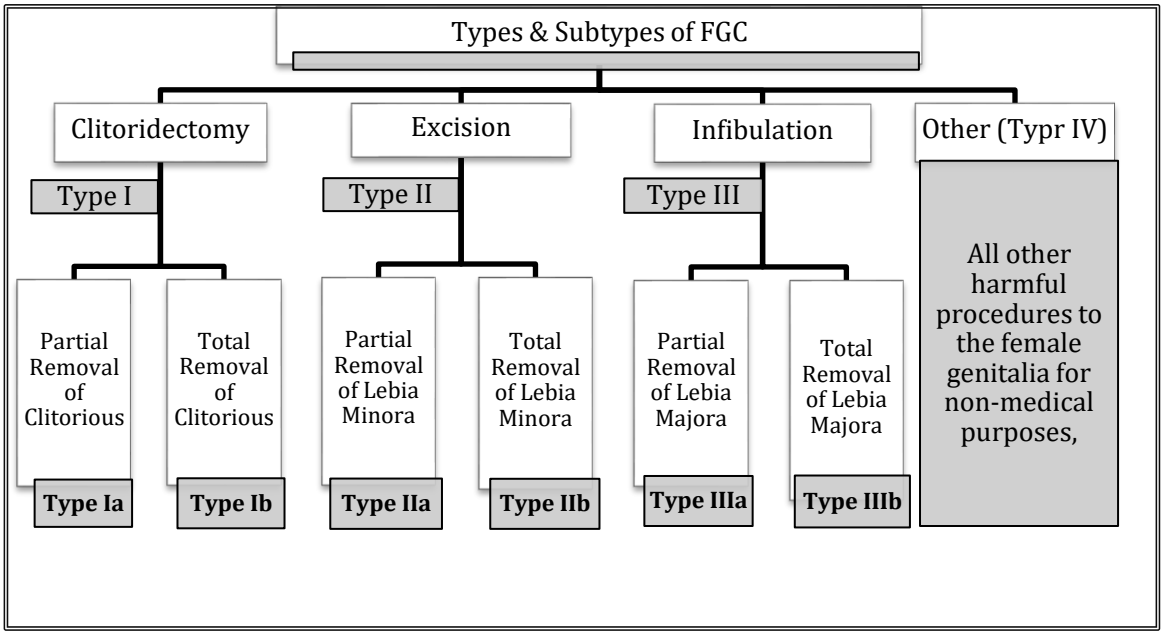
Type III- Infibulation is the third degree of FGC and is sometimes referred to as Pharaonic circumcision (Nour, 2015). It is the most severe type of FGC, and it has the highest associated morbidity (Nour, 2015; WHO, 2016). It involves

partial or total excision of labial minora and majora to reconstruct the vulvovaginal opening.

Type IV- The fourth degree involves all other harmful procedures to the female genitalia for non-medical purposes, such as pricking, piercing, incising, scraping and cauterization.

Types I through III also have subtypes as seen in Figure 2.

Figure 2: Types and Subtypes of FGC. The content of this figure is based on the WHO (2016) classification



The Origin and Dissemination of FGC Throughout History

FGC during Stone-Age Era

The origins of FGC are unknown, and it is unclear if the practice originated in one area and spread or occurred concurrently and independently in various regions (Boyle, 2002; Wassunna, 2000). However, it is reasonable to assume that FGC arose from

equatorial, sub-Saharan Africa during the Middle Stone Age era and spread to the old Kingdom of Egypt (Slack, 1988). The practice appears to have arisen as a social ideology that had various subculture justifications (Barnawi, et al., 2016). For instance, some historians theorize that FGC originated during the Middle Stone Age era (10,000- C 5,500 BC) mainly as a population-controlling strategy. Others claimed that the herders practiced FGC during that era to prevent sexual violence and un-honored pregnancies (Slack, 1988).

FGC during Roman Ancient Era

Other scholars referenced the practice back to the 10th century during the Roman Ancient era (Chipembere, 2006; Slack, 1988). They claimed that the practice was performed among the female slaves to prevent them from procreation. Indeed, FGC used to be a hidden indicator that distinguished the social and gender identity of the slaves from their other female counterparts (Stanlie, 2008; Wasunna, 2000). Further, the term 'infibula', as seen in infibulation, is originally associated with the Roman practice of piercing the outer labia of their female slaves with a fibula or brooch (Abu-Sahlieh, 2012).

FGC during Egyptian Ancient Era

Another theory attributes FGC to the ancient Egyptians, which had more than one social ideological perspective during that era. The types of FGC at that time were distinguished based on social class rather than the technique. For instance, some historians indicated that circumcision was a ritual belief as the soul has a sexual duality (Boyle, 2002; Nielson, 2010; Wasunna, 2000). Therefore, the upper class and noble females underwent clitoridectomy as a gender ritual to confirm their readiness for

marriage. In contrast, infibulation was performed on female slaves to limit their sexual desire. Accordingly, FGC Type III was a form of authoritative control over female slaves who were inhabitants in the Nile River and Red Sea basins (Abu-Sahlieh, 2012; Chipembere, 2006; Shell-Duncan, & Hernlund, 2000; Slack, 1988; Stanlie, 2008). Evidence asserts that infibulated women were considered virgins and for that reason, they were highly valued in Egyptian slave markets. FGC was continued either as a ritual practice among high-class families or as a gender-social control strategy against the lower-class females, mainly slaves until the late 18th century.

FGC during Victorian Era

However, during the Victorian era in the19th century, the practice of FGC shifted from ritual and social concern and became a medical intervention in UK and US (Arnold-Froster, 2014; Black, 1997). Isaac Baker Brown, a famous English gynecologist and obstetrical surgeon during that era, was the first physician in that era who supported clitoridectomy (Type I). He performed this type of FGC in his clinic in Notting Hill, which was named the London Surgical Home for the Reception of Gentlewomen and Females of Respectability Suffering from Curable Surgical Diseases.

Brown and his supporters viewed clitoridectomy as an acceptable treatment for a wide range of women's health conditions (Black, 1997). As he indicated in his book, *On Surgical Disease of Women* (1861), performing a clitoridectomy prevented the development of hysteria and mental diseases, epilepsy, nervousness, sexual irritability or masturbation, and promoted general health (Arnold-Froster, 2014). This type of FGC was clinically and ethically approved by Obstetrical Society of London in 1867 and became a standard procedure (Black, 1997). Arnold-Froster (2014) and Black (1997)

highlighted that the societal debate that ensued was acrimonious because there was no consideration of the women's rights. Indeed, it was felt that these practitioners did not pay attention to the potential damages that might have occurred as a result of Brown's ideas. However, the debate focused on the consent aspects of the practice rather than the health of the women undergoing the procedure. This indicated that the FGC performance during that era had a gender (male) control aspect because the debate was focusing on fathers' and husbands' approval rather than the women themselves.

The procedure of clitoridectomy attracted the attention of many physicians during the late 19th century to early 20th century as an intervention for some women's sexuality abnormalities (Rodriguez, 2008). The male-dominated society of that time was thought to play a key role in increasing the number of Brown's followers in the UK and in other countries (Arnold-Froster, 2014; Black, 1997; Rodriguez, 2008). For instance, John O. Polak, a doctor in Brooklyn, New York performed his first clitoridectomy procedure on a 19-year-old female in 1896 to cure an abnormal enlargement of clitoris. This condition is currently referred to as clitoromegaly or macroclitoris. Polak successfully performed the clitoridectomy after the father's approval, who was seeking medical help to cure his daughter from sexual irritability and masturbation. The clitoridectomy became a standard medical intervention during 19th to early 20th century in the US to treat a pathological condition of clitoromegaly or macroclitoris, while others performed it to maintain chastity among single females. However, there are no scientific studies, which document the number or statistical data of white American women who underwent FGC.

FGC: Religious Debate

While FGC is or has been practiced in some Muslim, Christian, and Jewish communities, there are no scriptural or doctrinal references to FGC in the Torah, Bible or Qur'an (Abu-Sahlieh, 2012; Boyle, 2002; Slack, 1988). The practice of FGC was recorded as early as 163 BC providing evidence that it was practiced in some African tribal regions for more than 2000 years. The current religious justification for FGC appears to be socially and culturally constructed (Almaghrabi, et al., 2005). For example, while male circumcision is a religious obligation in Muslim and Jewish communities, there is no such obligation for FGC in either religion. The following sections provide detailed explanations about the religious justifications found in Judaism, Christianity, and Islam.

Judaism and FGC

Evidence of FGC is found in an Ethiopian Jewish tribe known as the Falasha (Abu-Sahlieh, 2012; Cohen, 2005; Grisaru, Lezer, & Belmaker, 1997); however, there is no evidence of FGC among the Jews elsewhere. The origins of FGC in the Falasha are not clear but may be an obligatory practice that was adopted by the family of Ishmael, a historical figure in the Torah, Bible and the Qur'an. Thus, the practice of FGC among Jews has no religious source but may have been implemented in some conservative Jewish communities to maintain control over female sexuality.

Christianity and FGC

FGC is practiced by some Egyptian Coptic Christians and sub-Saharan Africans but not by Christians of Europe, the Americas, or Asia (Abu-Sahlieh, 2012). In the 13th century, Athanasius, Bishop of Qus, Egypt clearly denounced the practice saying, "female circumcision is a mistake and a sin; it is forbidden by religion, humanity and health" (Abu-Sahlieh, 2012, p. 84). The rationale for Christian condemnation of FGC is that it constitutes a change in God's creation. Despite these views in Christianity, some Egyptian Coptic Christians still continue the practice but possibly more as a social than religious tradition (Abu-Sahlieh, 2012).

Islam and FGC

FGC exists in some Muslim communities of Egypt, Sudan, Yemen, Iraq, Turkey, Indonesia, Malaysia, Pakistan, and Afghanistan. Muslim women who practiced FGC, particularly Type I and Type II, justified their practice on the basis of a *Hadith*, which is defined as a narration that describes an incident attributed to something the Prophet Mohammad said or did. While there are challenges with respect to the authenticity of the Hadith, Muhammad is known to have said to a woman who performed a female circumcision in Medina, "Do not cut severely as that is better for a woman and more desirable for a husband" (Abu-Sahlieh, 2012). While Islamic law forbids FGC, the Hadith continues to be interpreted by some as a recommendation for FGC.

Sociocultural Dimensions of FGC

FGC as Cleanliness and Ritual Passage for Female Adulthood

The sociocultural dimensions of FGC arise from complex socially constructed ideologies such as hygiene, aesthetic, and/or psychosexual wellbeing (Almaghrabi, et al., 2005; Skine, 2005; WHO, 2014). Some view FGC as a required procedure that promotes and maintains chastity and virginity before marriage, fidelity during marriage, and genital cleanness and moral fertility during reproductive life (Almroth-Beggren, et al. 2001). Others enforced FGC as an ideology that confirms the ritual passage of females into adulthood and maintains the cultural or religious identity for a specific community (Abu-Sahlieh, 2012; Toubia, & Rahman, 2000).

Gender Control & FGC

Gender control and social construction of women's roles are major factors that force women to continue practicing FGC (Skine, 2005; WHO, 2014). In many communities where FGC is common, men control almost all aspects of women's lives including those related to their sexuality and reproduction (Almroth-Beggren, et al., 2001; Davis, Ellis, Hibbert, Perez, & Zimbelman, 1999; United Nations Population Fund [UNPF], 1997). Female genital cutting is viewed by some men as a required procedure that sustains the traditional concept of marriage, and maintains family or tribal honor (Goldstein, Meston, Davis, & Traish, 2006; Missailidis, & Gebere-Medhin, 2000; Toubia, & Izett, 1998).

For instance, males in the communities that practice FGC as a rite of passage for womanhood, believe that females who did not receive FGC are sexually overactive.

Accordingly, those women who do not receive FGC are hardly to be married from their communities because they may lead their partner to not be fulfilled in their sexual obligation toward them. Therefore, performing FGC in the male's views controls the women's sexual desire to fit with their sexual expectations. Others perceived the females without FGC are incomplete females because their feminine part is diminished as they have a male part in the clitoris. According to their view, this disturbs the role of gender identity within the family and their society in general. Another social-gender view attributes performing of FGC, mainly infibulation, as a mandatory practice to increase the sexual desire for men because of the tight vaginal opening.

The FGC custom is typically a "silent" practice passed down through generations and only discussed among women within the family (Lane & Rubinstein, 1996; Nour, 2006). A key reason for this silence is the sensitivity around discussion of genitals, which in many cultures is considered private or even shameful (Lane & Rubinstein, 1996; Nour, 2006). For healthcare providers in US, secrecy of this practice outside the immediate family circle complicates their ability to understand the FGC phenomenon.

International Views Supporting the Global Anti-FGC Movements

FGC in European Countries

Performing FGC is considered a criminal act and aggravated assault across the European United (EU) Member States, as it includes bodily injury, mutilation and removal of organs or body tissue (European Union, 2013; United Nation, 2012). Some EU countries have specific criminal laws that address FGC. Sweden was the first European country that adopted specific legislation on FGC in 1982, followed by the UK

in 1985. Additionally, there are other EU nations that introduced specific FGC laws during late 1980s to early 1990s including Austria, Belgium, Cyprus, Denmark, Ireland, Italy, and Spain. Indeed, Ireland and Croatia have enacted the most recent specific criminal law provisions concerning FGC.

Sweden

During 1982, the Swedish Board of Health and Welfare established the Secrecy Act (European Union, 2013). This act obligates all professionals who work in any social welfare organizations to report FGC cases (Johnscotter, 2004). Based on evidence from the European Union (2013) and Johnscotter (2004), any professional individuals who committed or failed to report the FGC incidence would be charged by police authorities with a crime. Furthermore, in 1990 the Child Rights Department in the EU introduced the Act Regarding Special Representative for a Child. This act enables a representative (mainly a lawyer) to initiate a genital physical examination for a child to identify if she underwent FGC without parents' or caregivers' consent. During 1999, the Swedish government mandated the referral of all FGC cases that had been performed on Swedish girls after 1999 to Swedish courts even if it was performed in the countries where FGC is not criminalized. Under this act, custodial interference is the major punishment, which has a period of limitation of 10 years starting from the day the child turns, or should have turned, 18 years old.

United Kingdom (UK)

The British government introduced the Prohibition of Female Circumcision Act in July 16th, 1985 (Prohibition of Female Circumcision Act, 1985; European Union, 2013). This act mandates that all forms of FGC be considered criminal. However, the

government introduced the Female Genital Mutilation Act 2003 to repeal and reenacted the provisions of the 1985 Act. The 2003 Act expanded the maximum penalty for FGC to 14 years of imprisonment (Female Genital Mutilation Act, 2003). Further, it covers all females who are permanent or temporary residents of UK who may perform FGC overseas. Additionally, this act allows the police departments and immigration authorities to condemn any UK national or permanent UK resident who assists a girl to carry out FGC on herself while also creating extraterritorial offences to eliminate the performance of practice. The act came into force on March 3rd, 2004 and applies to England, Northern Ireland and Wales.

Recently, the legal principle of extraterritoriality has increasingly been recognized in the EU Member States (European Union, 2013). This principle is a key to prosecute the practice of FGC when it is committed outside of a country's borders. Accordingly, the majority of EU Member States include this principle in their general criminal law, and especially in all EU Member States with specific criminal legislation on FGC. However, Bulgaria, Greece, Malta, and Romania do not include the principle of extraterritoriality in their general criminal laws. Conditions for the application of this principle differ from country to country. They consider European countries residency as a condition to charge the offender or protect the victim.

Despite the development of FGC policies among many EU Member States, there is a lack of similar initiatives in some other Member States (European Union, 2013) including: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia. However, there are some limited FGC policies that are covered in the context of gender-based violence in Croatia, Cyprus, and

Luxembourg. In general, large countries usually criminalize the performance of FGC under other criminal laws in many EU State Members (United Nation, 2012). However, there are significant variations in terms of the developments and implementations of FGC policies.

For instance, in France, FGC can be treated as a crime, according to the general provisions of the Penal Code particularly in Articles 222−9 and 222−10, which refer to intended bodily harm causing permanent injury or mutilation (European Union, 2013). Further, under general child protection law of Social Protection measures of Article (No. 375 of the Civil Code), The Domestic Violence Act -No. 2006−399, could be applied in cases of FGC. In France and other EU countries, which do not have specific FGC policies, provide several non-governmental networks and some tools that help in implementing these policies. However, they vary in terms of their robustness and efficiency based on the regional level, local needs, and the variations of immigrant population.

Canada

While the importance of eradicating FGC is addressed in the Canadian healthcare policy it is unclear whether it is practiced in Canada. The Canadian government amended the Criminal Code of Canada (Bill C-119) in 1997 (Ontario Human Rights Commission [OHRC], 2000). This Bill deemed the performance of FGC or procuring the services of another to do so as a criminal act (aggravated assault). Indeed, it is a punishable by up to five years in prison. Federal Interdepartmental Working Group on Female Genital Mutilation (FIDWG-FGM) during 1998 highlighted the impact of the Bill in decreasing the prevalence of FGC performance in Canada.

Further, the College of Physicians and Surgeons of Ontario (CPSO), reported in 2001 that performing or making a referral for FGC would be considered professional misconduct and that repair following vaginal birth could not include reconstruction of an infibulation. In 2012 the Society of Obstetricians and Gynaecologists of Canada (SOGC) reinforced the CPSO's statement to Canadian provinces and emphasized that any request for "reinfibulation" after repairing (defibulation) procedure following vaginal birth must be declined (SOGC, 2012).

It is important to highlight that most of the American and Canadian anti-FGC policy emphasize primary prevention aimed to eradicate the practice. However, the real socio-cultural reasons behind FGC including the power of male authority and sexual satisfaction within absolutely male dominated cultures such as Somalia and Ethiopia needs more attention, a process that will likely transcend several generations (Daly & Stubbs, 2007; Shell-Duncan, 2008).

Corporations & International Organizations of Anti-FGC Movements

International Non-Governmental Organizations

WHO, UNICEF, & UNFPA.

During 1997, the WHO issued a joint statement against the practice of FGC with the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA) (WHO, 2016). Since 1997, WHO has provided significant efforts to counteract FGC through research by working within communities and leading changes in public policy. It is clear that WHO has made positive progress at international, national and sub-national levels by a) participating, initiating and funding wider international

involvement to stop FGC, b) monitoring bodies and resolutions that condemn the practice, c) revising legal frameworks and growing political support to end FGC (this includes a law against FGC in 26 countries in Africa and the Middle East, as well as in 33 other countries with migrant populations from FGC practicing countries), and d) documenting the prevalence and trend of FGC in countries and communities that practice FGC.

In 2007 UNFPA and UNICEF collaborated with WHO to initiate the Joint Program on Female Genital Mutilation/Cutting to accelerate the abandonment of the practice (UNFPA, 2013; UNICEF, 2016). During 2008, WHO with nine other United Nations partners, issued a statement on the elimination of FGC to support increased advocacy for its abandonment titled *Eliminating Female Genital Mutilation: An Interagency Statement* (2008) that provided evidence collected over the previous decade about the practice of FGC.

In 2008, the World Health Assembly passed resolution WHA61.16 on the elimination of FGC, emphasizing the need for concerted action in all sectors including health, education, finance, justice and women's affairs (WHO, 2016). Accordingly, the WHO strengthens the health sector response by providing guidelines, training sessions and recommending policy to ensure that health professionals can provide medical care and counseling to girls and women living with FGC. It enhances the evidence-based practice by generating knowledge about the causes and consequences of the practice, how to eliminate it, and how to care for those who have experienced FGC. Indeed, it provided advocacy tools for international, regional and local efforts to end FGC within a generation.

In 2010, WHO published a *Global Strategy to Stop Health Care Providers from Performing Female Genital Mutilation* in collaboration with other key UN agencies and international organizations (WHO, 2016). The WHO in 2016 published "Guidelines on the Management of Health Complications from Female Genital Mutilation" to support health care professionals in their care to girls and women that have undergone FGC. In December 2012, the UN General Assembly under the supervision of WHO, adopted a resolution on the elimination of female genital mutilation. Based on WHO FGC report 2013, UNICEF in 2016 launched an updated report documenting the prevalence of FGM in 30 countries, as well as beliefs, attitudes, trends, and programmatic and policy responses to the practice globally (UNFPA, 2013; UNICEF, 2016).

United Nation (UN).

The UN plays a crucial role in providing international standards and promoting and undertaking research, in collaboration with academic and development partners, to ensure that standards are grounded in sound evidence (United Nation, 2012). United Nations agencies are particularly well placed to promote cooperation and coordination among all actors. Several United Nations committees are tasked with monitoring the implementation of international legal commitments to protect and promote human rights for all without discrimination on any basis.

National Non-Governmental Organizations

Daughters of Eve (UK).

Daughters of Eve is a non-profit organization, supported by UNICEF, offers survivor support, signposting services and initiatives to protect girls and young women who are at risk of undergoing FGC or any other gender-based violence (Mulholland,

Smith, & Yau, 2012). This engagement assist women in accessing the appropriate services to protect them, provide confidential counseling sessions, mainly for medical aspects such as childbirth, reversal procedures and reproductive health. Daughters of Eve maintains a holistic approach and recognizes that FGC occurs in a wider context of gender-based violence and issues relating to gender inequality.

END FGM European Campaign (European Union).

Amnesty International Ireland funds this agency with strategic European based partners to lobby the European Union on policy change that will end FGC (Mulholland, et al., 2012). Their mission is for the European Union to adopt a comprehensive approach to end FGC and protect women and girls fleeing their countries for fear of being mutilated and suffering gender-based violence. The camping of END FGM and other partner organizations worked with experts in the field of law, human rights and development, and called upon the EU to tackle FGC through a four-point strategy including: maintain data protection, improve the quality of health, integrate FGC into a broader strategy to end violence against women, and protect asylum seekers at risk of, or affected by FGC.

Description of the Relationship between Developed and Less Developed Countries

There are significant collaborative efforts between the developed and developing countries, mainly in the Horn of African Countries, to end the FGC practice regionally, sub-nationally, and nationally and internationally (European Union, 2013, WHO, 2016). Evidence asserts that there are 16 non-governmental organizations working in collaboration with international governmental corporations and key countries

(Mulholland, et al., 2012). For the purpose of this scholarly paper, this section covers the most important initiatives that represent the relationship between the developed and developing countries in terms of eradicating FGC practice.

Nigeria-Campaign Against Female Genital Mutilation – CAGeM

This organization was initiated by the US, UK, Nigeria, and Egyptian governments (AllAfrica, 2016; Mulholland, et al., 2012) as a global network aiming to raise public and health professional awareness about FGC. It is a community-level program that reaches Nigerian women in collaboration with some representative offices in Egypt, California and New York. Their workshops offer a safe and non-confrontational space for women to talk about physical, psychological and other social challenges and conflicting feelings surrounding the FGC practice. The campaign of CAGeM recognizes that FGC is a force of gender inequality within practicing societies; therefore, there are many feminist activities that fight against FGC by empowering women and enhancing their economic independence.

Africa-28 Too Many

This agency is non-governmental organization that seeks charity to eradicate FGC in the 28 African countries still practicing FGC (Mulholland, et al., 2012; WHO, 2016). The charity works at community level, mapping best practice, and collecting key data across communities, regions and countries. Further, it aims to create workable networks across education and health to impede or eliminate the practice in Africa.

Africa-African Women's Organization

The African Women's Organization is a non-governmental organization established in 1996 in Vienna, Austria (European Commission, 2016). There are several women with different African backgrounds who came together to develop this organization (European Commission, 2016; Mulholland, et al., 2012) including women from: Somalia, Ethiopia, Eritrea, Sudan, Nigeria, Senegal, Egypt and other African countries. The aim of this organization is to enhance collaborative work with other governmental and non-governmental organizations to provide social services support through welfare for migrated women who came from countries that perform FGC.

Africa-Ban FGM

This organization is supported and funded by United Nations (Mulholland, et al., 2012). The specific aim of this campaign is for a UN resolution which will require all states to adopt and implement legislation to ban the practice of FGC. Indeed, it aims to assist in developing anti FGC-policies, legislative, and operational measures that help end the practice. It is a coalition organization and a partner with other non-governmental organizations such as *No Peace without Women, The National Union of Eritrean Women* and *Save the Somali Women and Girls*. During 2012, the African members submitted a resolution draft to the UN to ban FGC practice, which was agreed to by the UN.

Somalia - FGM – HILFE

This organization was established in Austria and is chaired by Elisabeth Cencig (Mulholland, et al., 2012). It has two main objectives. The first is to provide financial support to the Al Baraka Foundation (ABF) project in Burao-Somalia. The ABF project established a medical center, which provides free medication, gynecological checks and

counseling for women affected by FGC. It also runs a sponsorship program that provides free education for girls and a subsidized school for 200 girls and boys. The second objective is to raise public awareness about FGC and its complications throughout schools across Europe. The Chairperson has visited 65 schools in Austria and Italy to raise the school students' awareness about FGC.

Possible Resolutions to the Decrease the Spread of the FGC Practice

Governmental Role

Most developed countries have legal obligations to respect, protect and promote human rights, and can be held accountable for failing to fulfill these obligations (UNICEF, 2016; WHO, 2008). Accordingly, governments need to take appropriate and firm legislative, judicial, administrative, budgetary, economic and other measures to the maximum extent of their available resources (Denholm, 2011; Matthews, 2011; Zurynski, Sureshkumar, Phu, & Elliott, 2015). Indeed, these measures should ensure that all domestic legislation is fitting with the international and regional human rights treaties.

Governments are also responsible for developing plans of actions and strategies to ensure that health facilities are available and accessible to girls and women for their sexual and reproductive health needs (Denholm, 2011; WHO, 2008; Zurynski, et al., 2015). They should organize public awareness campaigns and education initiatives and ensure that sufficient resources are allocated for prevention. Several ministries should cooperate in such efforts, including ministries of health, finance, education and information, social services and women's affairs (UNICEF, 2016; WHO, 2008). Furthermore, the parliamentarians have a critical role to play in bringing the issue of

female genital mutilation into policy debates as do the legal and judicial sectors in setting and enforcing norms (WHO, 2008).

National and International Nongovernmental Role

Most of the developed and developing countries have key actions in designing and implementing programs for abandonment of FGC practice (WHO, 2008). However, the most successful programs have been community-based with strong support from and involvement of the developed government and high-income cooperation agencies. Religious-based organizations have important roles in decreasing the FGC practice by establishing networks and structures to deliver advocacy messages within the community and influence the attitudes and behavior of community leaders (UNFPA, 2005, 2007b; WHO, 2008).

Such advocacy messages should be based on rejecting the idea of considering FGC as a practice that has a religious base mainly among Muslim communities (Abu-Sahlieh, 2012). For instance, a Fatwā, which is a juristic ruling concerning Islamic law and issued by an Islamic scholar known as a Mufti. There is no consensus or Fatwā about whether FGC is a forbidden or obligatory practice in Islam. Al-Azhar University in Cairo issued Fatwā, which completely banned the practice. In January 2010, Islamic scholars in Mauritania signed a Fatwā prohibiting FGC to prevent religion from being cited as a justification for FGC practice. Such religious-based organization movements need to reinforce their role nationally and internationally.

Professional Organization, Health care Managers, Providers and Policy Makers Role

Professional organizations and associations such as medical associations and nursing councils can promote ethical guidelines in medical training and in practice (UNICEF, 2016; WHO, 2008; Zurynski, et al., 2015). Associations for teachers, lawyers, social workers and healthcare providers including nurses can also contribute towards eliminating FGC within their respective fields through activities such as lobbying, advocacy and conducting appropriate training activities (UNICEF, 2016; WHO, 2008).

Healthcare providers can play a key role in preventing FGC and in supporting and informing patients and communities about the benefits of eliminating it. This can be achieved by providing consultation sessions and by developing easy and handy informational tools that address the normal and abnormal sexual and reproductive health. In their work with communities it is also critical for health care providers to develop a trusting relationship and effective therapeutic communications to address the harmful consequences of FGC (Barnawi, et al., 2016). Health care providers can also play an important role in community outreach, such as through school programs and public health education programs.

Increased Funded Research and Evidence-Based Practice

There is a need to initiate strong and effective programs that support the abandonment of FGC (Zurynski, et al., 2015). This requires both financial resources and considerable capacity building. Training must be comprehensive both in the range of people trained and in the range of topics covered. Consistency in the use of indicators enables comparative analysis at national and international levels across different surveys

(WHO, 2008). Evaluation, including base and end line studies, is essential for measuring feasibility and effectiveness. Further research is needed on aspects that contribute to the elimination and prevention of FGC and better care for females who have been subjected to the practice.

Scoping Literature Review: Exploring the Experiences of FGC and Perinatal Care in the American Context

Exploring FGC within the American perinatal healthcare services requires a knowledge-based framework that covers the major aspects that concern the women's and healthcare providers' experiences. Therefore, a scoping literature review was conducted to examine the existing evidence that addresses the current issues of FGC and perinatal care in the American context. The ultimate objectives of this review were: firstly, to identify the knowledge gap that concerns FGC and maternity healthcare services; and secondly, to illustrate the circumstances and challenges that impede or enhance the optimal maternity healthcare services for pregnant women with FGC. Three major questions were developed to guide this literature review including: a) what are the perinatal experiences of women with FGC in the U.S? b) what are the experiences of the healthcare providers when providing maternity care for these women?; and c) what are the current health policies or national programs that impact on the quality of life of women with FGC during their perinatal cycle?

Method

Study Design and Methodological Framework.

A scoping review is one of the popular review approaches in the medical fields including the nursing profession (Davis, Drey, & Gould, 2009; Tricco et al., 2016). Some scholars debate the efficiency of a scoping approach in providing the evidence because it varies widely regarding the intent, procedure, and methodological rigor (Pham, et al., 2014). A scoping review is not typically dictated by the protocol for a systematic review; however, it maps out the evidence based on a framework that requires a precise aim and guiding questions (Arksey & O'Malley, 2005; Brien, Lorenzetti, Lewis, Kenndey, & Ghali, 2010; Dijkers, 2015).

Utilizing this approach within the nursing field serves to classify and extract the body of evidence based on the framework that fits with the aim and the question of a review (Pham, et al., 2014; Tricco et al., 2016). Using a scoping review approach is essential to mapping the existing literature that concerns FGC and perinatal care in the American context. Further, it quantifies the amount of available literature, synthesizes the nature of the existence literature, and categorizes the evidence based on the literature questions (Arksey & O'Malley, 2005).

Search Strategy.

The search strategy for this review consisted of two main phases including computer searching and hand searching. Computer searching aimed to target the electronic bibliographical databases that cover literature about FGC and perinatal healthcare context in US. The initial and specific key words were searched in CINHAL, Medline, and PubMed databases. The search was focused on the last five years (2010 up

to date) to track the most recent data. These following initial key words were: *female genital cutting, female genital mutilation, female circumcision, pregnancy,* and *the United States.* Additional keywords were combined to expand the research scope and these words are: *maternity, childbirth, perinatal, immigrant women, refugee and asylum females.*

The hand search targeted all key journals of the included articles to maximize the searching scope of this review. There are eleven key journals which focus on FGC and perinatal care: *Journal of Midwifery and Women's Health, Journal of Cultural Diversity, Journal of Child & Adolescent Trauma, Journal of Perinatal Education, Archives of Sexual Behaviour, Journal of Reproductive and infant Psychology, Journal of Immigrant and Minority Health, Journal of Lower Genital Tract Disease, Obstetrics and Gynecology, Journal of Women's Health, Journal of Transcultural Nursing, and Journal of Obstetric, Gynecologic, and Neonatal Nursing.*

Inclusion and Exclusion Criteria.

It is inappropriate to apply rigid inclusion criteria or use a traditional hierarchy of evidence in a scoping review (Pham, et al., 2014; Tricco et al., 2016). However, four main inclusion criteria were developed to sustain the study coherence including: a) original quantitative, qualitative peered review articles, including narrative studies; b) gray literature that focus on FGC; c) articles that been conducted in the English language; d) articles focused on FGC within the American context; and e) literature focused on females during their reproductive years (19-44 years). The content of the literature should have found sufficient evidence/conclusions about the intended objective of this study. Articles that met the inclusion criteria but included a non-human concern such as

technology, business, economy, and newspapers or other media articles were excluded from this review.

Screening Procedure, Data Extraction, & Data Storage.

There were two screening procedures for the data for this review, which included title/abstract screening and a full-text screening. The title/abstract screening, which is the first level of screening, assesses the eligibility of the selected articles based on the key words. The aim of this screening level is to exclude articles that did not meet the minimum inclusion criteria (Pham, et al., 2014; Tricco et al., 2016). The full-text screening, which includes the second level of screening, examined and critically appraised the articles that meet all inclusion criteria. A search using the basic key terms resulted in 1544 items, however, there were 1436 hits after using the additional key words. English and original articles that focused on American context and published between 2010 and 2015 narrowed the search findings to 793 hits. Applying all inclusion and exclusion criteria resulted in only seven articles as it shows in Figure 2.

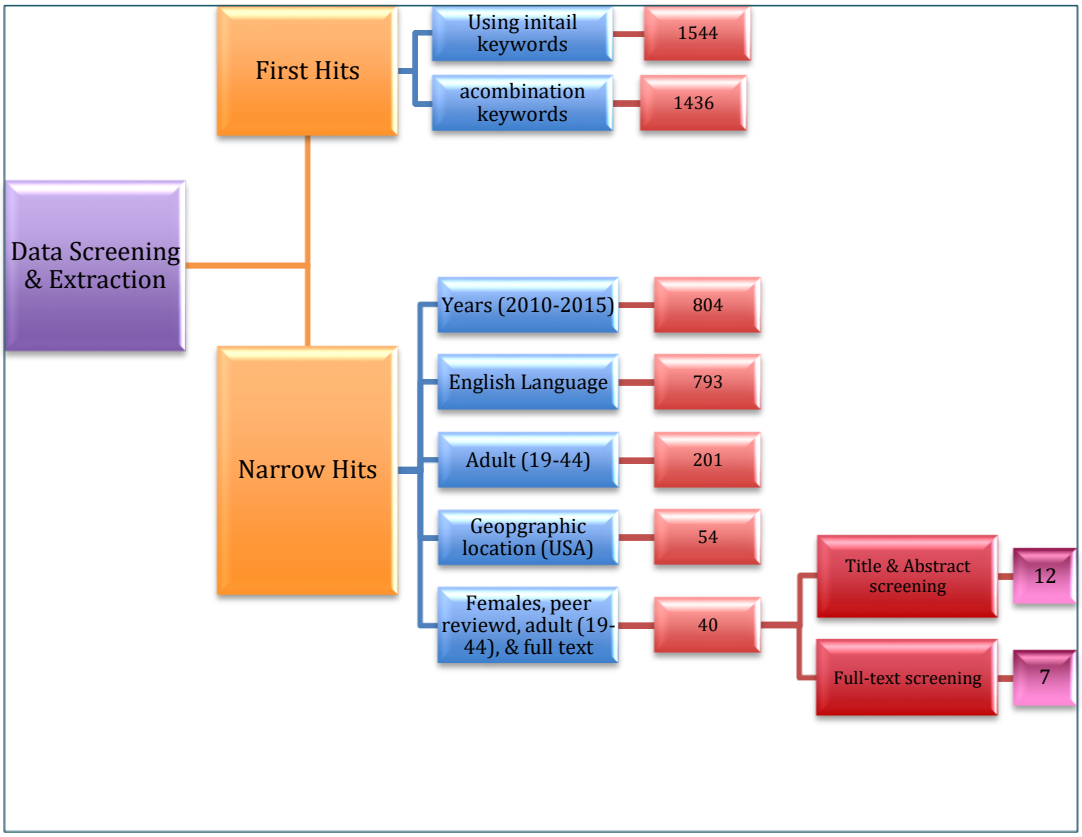
Tabulation is the major method that extracted the data of the included articles. Evidence asserts that tabulation process clearly presents the retrieved data of the included article in a comprehensive way (Armstrong, Hall, Doyle, & Waters, 2011; Pham, et al., 2014; Tricco et al., 2016). A designed data matrix table was developed to extract the data based on the following criteria; article citation, the aim or purpose, the study design or literature type, sample size and description, location (mainly city and/or state), and main findings (Appendix Table 1).

FGC & Immigrant's Perspectives.

Exploring the experiences of immigrant women who underwent FGC contextualizes the circumstance, cultural and social variations that are associated with FGC in the American context. Several studies found that immigrant women with FGC, particularly Type III, and/or their partners were afraid to seek perinatal care in the US. For instance, Amersesekere, Borg, Frederick, Vragovic, Saia, and Raj (2011) conducted a descriptive phenomenological approach to explore the perceptions of Caesarean delivery among Somali women who underwent FGC. Further, they examined the pattern of patient-provider communication. The Institutional Review Board of Boston University Medical Center approved the study. Participants were recruited via snowball sampling from a local community-based organization using the following criteria: Somali-born but currently residing in Greater Boston; aged 18–64 years; previously given birth to at least one child in Africa and another one in the US; and spoke either Somali or English.

Amersesekere et al. (2011) reported that 23 participants completed the self-reported demographic survey in both English (n= 21) and Somali (n = 2). All participants had semi-structured (open-ended questions) interviews to assess their attitudes and perceptions. The interview focused on women's perinatal experience; interaction differences with healthcare providers in the US compared to those in Somalia; and women's perceptions of and experiences with medical interventions used in the US. A note-taker typed, recorded, and reviewed the notes after each interview. A code list was used to code all transcripts; after the transcripts were coded, themes were identified.

Figure (2): Data Screening & Extraction Map. This figure illustrates the included articles for this study.



The study of Amersesekere et al. (2011) indicated that their participants' ages ranged between 25-52 years (mean=37 years); the residency period ranged between 1-12 years (mean= 7 years); and two-thirds (n=15, 65%) had no formal education. Twenty-one (91%) of the women were married. Participants gave birth to at least two children (mean= 6 children), with age at first birth ranging from 14–32 years (mean= 22 years). All of the women affirmed that they had experienced infibulation before their first pregnancy; however, 20 women (90%) reported that they had been defibulated before their first delivery. Nineteen women (86%) reported reinfibulation following first delivery while they returned to their home country.

The authors (Amersesekere et al. 2011) found that the percentage of Somali women who had reinfibulation after deinfibulation (repairing) procedure highlights that reinfibulation is a standard intervention after delivery in Somali healthcare system but not in the US healthcare system. In contrast, Cesarean section, which is a standard perinatal intervention to manage delivery for FGC cases in the US, is not a favorable intervention in Somali women's views. For instance, Amersesekere et al. (2011) wrote that Somali women consider Cesarean section as unnecessary procedure that limits their ability to sustain their household duties, and leads to disability or death. Further, the authors reported the majority of the participants (n= 18, 78%) vaginally delivered in their home country. However, there were only five women (22%) underwent a Cesarean delivery for at least one pregnancy. Four of the five women reported having had a Cesarean section in the US.

Based on Amersesekere et al. (2011) the lack of clinical training to manage the FGC pregnancy cases, mainly during labor, in the American healthcare context, led Somali women to have negative perceptions about the healthcare providers. For instance, the authors reported that there were eight participants who complained about the rashness of labor and being referred too quickly to have Cesarean sections. Furthermore, the authors indicated that lacking effective communication is a crucial factor for the women's negative perceptions. For instance, 15 women reported that the Cesarean section had never been discussed with them during the migration process, or while they were in the refugee camps. A total of 17 women reported that there is a need of further discussion about the reasons behind cesarean section procedure.

Amersesekere et al. (2011) also reported that Somali women perceived that the providers had a lack of childbirth skills for women with FGC, and rarely talked about FGC. For instance, 15 women reported FGC was never mentioned during their perinatal visits, six claimed it was mentioned but never had an explicit discussion in the delivery context, and five wished to have further discussion about the FGC management options during the perinatal care plan. Based on the Amersesekere et al. (2011) findings, women recommended that there is a need to increase the clinical and cultural knowledge base of the healthcare professionals to provide culturally-sensitive and competent perinatal care.

These findings focus on women's perception about Cesarean deliveries within the US and are valuable for planning an educational tool about FGC for healthcare providers. However, the focused sample (Somali population) impacted the external validity of the study (Amersesekere et al., 2011). Reliance on recruitment via a single community agency; lack of audio-recorded interviews; and self-reporting survey decreases the accuracy of demographic data thus limiting the generalizability of study findings. There is a lack of how a discussion about how infibulation contradicts standard perinatal nursing care such as urine catheterization and vaginal examination for women who underwent cesarean delivery. Such information provides more in-depth insight into Somali women's perceptions of their experiences of Cesarean delivery. The authors mentioned that they did not assess the women's degree of acculturation, their trust status, or the degree of assimilation into American society. Each of these could have provided more insight into women's perceptions of obstetric interventions.

Johnson-Agbakwu, Helm, Killawi, and Padela, (2014) conducted a study using community-based participatory research partnerships to examine the perspectives of Somali men toward FGC and women's childbirth experiences in the US. The study was approved by the Institutional Review Board of the Maricopa Medical Center. The authors established a community dialog with stakeholders within a Somali refugee community in Maricopa County, Arizona over nine months during 2008–2009. This community dialogue expands the partnership with Refugee Women's Health Community Advisory Coalition (RWHCAC), which represents an interdisciplinary team including various refugee, ethnic, mental, social services organizations. The key informants from the Somali community played an integral role in the design, recruitment, data collection, and interpretation of this study to assess the men's perspectives on Somali women's childbirth experiences.

The authors (Johnson-Agbakwu, et al. 2014) used a video elicitation strategy to facilitate focus group discussions. All study instrument guides and informed consent documents were translated from English to Somali. The accuracy and face validity of the translated versions were tested in round-table discussions with volunteer respondents and a trained medical interpreter. Pilot testing was performed to ensure the accuracy of interview-questions construction, wording, length, and cultural appropriateness.

Johnson-Agbakwu, et al. (2014) recruited the participants by word-of-mouth referrals within the social networks. Purposive sampling identified persons with diverse views across the age spectrum within the community. Eligible participants were Somali-born male refugees over the age of 18, residing in Maricopa County, Arizona, and fluent in Somali. Participants in the individual interviews spent 2–15 years as displaced

refugees in the neighboring countries prior to resettlement in the US. The authors conducted a focus group with a semi-structured interview for eight Somali males. Most of the participants were married (n=5); all of them were Muslims, and their age ranged between 27-72; six of them are naturalized citizens (75%); and the educational levels are varied from college to some high school.

Johnson-Agbakwu, et al. (2014) developed a frequency table of the codes, and relational maps to organize themes into higher ordered concepts. The five themes identified in this study were: changing dynamics in traditional gender roles with adaptation to an American context, men's insight on Somali women's pregnancy-related health and FGC, men's presence during delivery, Cesarean delivery and the strong aversion to obstetrical interventions, and the men's recommendations to improve healthcare for Somali women.

According to the Johnson-Agbakwu, et al. (2014), the acculturation process influenced changes in traditional gender roles about the FGC performance. It fostered new dynamics in shared decision-making within the household and during childbirth. The Somali men were aware of the complications of FGC, and most of them were against its performance. However, they perceived health-care providers as being unfamiliar with caring for women with FGC. Fear of Cesarean deliveries and miscommunication led these males to distrust the American health-care system. This further supports the need for an educational tool to increase the clinical and cultural awareness of FGC for the healthcare providers.

In 2010, Brown, Carroll, Fogarty, and Holt conducted another study using a phenomenological approach to examine the potential dissatisfaction and resistance related to obtaining a prenatal/obstetrical care among Somali refugee women. The study was approved by the University of Rochester subjects Review Board in New York accepted the study. The objectives of this study were to discover whether women's prior perinatal experiences in Somalia impact on their dissatisfaction level, and to understand whether dissatisfaction or resistance might vary according to specific clinical practices or by a unique ethnic group.

The focus of the Brown et al. (2010) study was on Bantu and non-Bantu Somali women who lived in Rochester, New York. They used word of mouth, primary care–provider referrals, and snowball sampling technique to recruit the participants. Audio-recorded semi-structured interviews were performed with 34 participants (Bantu Somali n=15, non-Bantu Somali n= 19). The median age was 27 years (range = 18-53); 67.7% (n= 23) were non-English speakers. It was noted that Bantu Somali women were more likely to have a lower socio-demographic status when compared to the non-Bantu Somali women.

Furthermore, Brown, et al. (2010) reported that most Bantu Somali women gave birth in Africa; however, more non-Bantu Somali women had experienced giving birth in the US. The authors indicated that Bantu Somali women were resettled for a shorter time period compared to other Somali women. A multidisciplinary team used a grounded theory with a coding-editing approach to conduct data analysis.

The authors also claimed that most of the participants had negative opinions about the perinatal care in their home country because of the inadequate healthcare system in

Somalia (Brown, et al. 2010). For instance, 15 women (45%) claimed that there was a lack of equipment and a reliance on the lay midwives in Somalia, women with FGC were more at risk to have serious complications during pregnancy and labor; and some of them are fatal. In contrast, the authors indicated that most of the participants have positive opinions about the American perinatal healthcare system; mainly regarding the easy accessibility and the standards of care. However, the authors highlighted that, despite the women's positive opinion about the general US healthcare system, several factors led the women to be frustrated when they utilized the American perinatal healthcare services.

The study of Brown, et al. (2010) indicated that a total of 15 women (35%) were complaining about the time pressure from the healthcare providers, and their intent to rush labor by inducing labor, providing augmentation, or early referral for cesarean section. The authors also stated that two of the 15 women claimed that they experienced cesarean section in Somalia after three or four days of labor (prolonged labor). This implies that Somali women who underwent FGC have different perceptions regarding the time of labor in general and the duration of prolonged labor in specific. The authors also stated that 25 of the participants (75%) expressed fear from cesarean sections and all the study participants denied the need for a Cesarean section to manage FGC Type III (infibulation).

The authors in this study explored the perinatal experiences of Somali women who underwent FGC and utilized the perinatal healthcare services in the US. They highlighted that the lack of understanding Somali women's perceptions about the cesarean section to manage FGC is the main reason that decreases their levels of satisfaction. Further, Brown, et al. (2010) highlighted that this was a key factor that

stigmatizes this group of women and prevent them from accessing the American perinatal care. However, the authors did not provide any information about the association between FGC, mainly infibulation, and the level of dissatisfaction about US perinatal care between Bantu and non-Bantu women.

Brown, et al. (2010) also emphasized the importance of providing high-quality and culturally competent obstetrical care. Further, they stressed the importance of increasing and educating the health professionals about common Somali beliefs, fears, and practices. Accordingly, when healthcare providers have a deeper understanding of the Somali traditional birth expectations, it enables them to provide more culturally competent care. These recommendations are consistent with the purpose of this research, which focuses on developing an educational tool that covers the cultural, clinical, and ethical aspects of FGC to provide culturally and clinically competent care.

In 2014, Akinsulure-Smith piloted a descriptive correlational study, to examine the FGC experiences of 23 West African immigrant women. The author intended to understand the impact of FGC on the utilization pattern of immigrant women in the US health care systems. The study was approved by Institutional Review of the City College of New York- The City University of New York. The authors used three major self-report, previously validated tools to measure the women's experiences, including: Life Events Checklist (LEC) (Cronbach's Alpha= 0.667) (Bae, Kim, Koh, Kim, & Park, 2008); Post-Traumatic Stress Disorder checklist (PCL-D) (Cronbach's alpha ranged between 0.94 to 0.97) (Blanchar, Jones-Alexander, Buckley, & Forneris, 1996; Weathers, Litz, Perman, Huska, & Keane, 1993), and the Center for Epidemiologic Studies Depression Scale (CES-D) (Receiver-Operating Curve -ROC = 0.96) (Wada et al., 2007).

The author included a total number of (n=23) participants who were randomly assigned from different community organizations, businesses, and local media to use audio computer-assisted self-interviews to complete the study questionnaire. The focus was on two ethnic backgrounds, which were Sierra Leonine (n=11) and Liberian (n=12) women who lived in New York City. Akinsulure-Smith (2014) indicated that only seven (30 %) of the participants reported a history of FGC. Despite the small sample size of this study the authors conducted the Fisher's exact test, which indicated that Sierra Leonine (p= .045) females and mainly Muslims (p =.027) had significantly higher rates of FGC. Further, the author claimed that there were no statistically significant differences in psychological symptom's scores (LEC p = .992 and CES-D p = 734) and the experiences of traumatic life events (PCL-C p = .882) between females with or without FGC.

However, the Akinsulure-Smith's (2014) instruments are questionable. For instance, despite the strong validity of these three measures, these tools did not evaluate the exact psychological disturbances following the FGC procedure or the impact of the migration process on accessing or utilizing healthcare services. Alachkar (2016) addressed the need to use a specific tool to assess the psychological and post traumatic levels among females who underwent FGC. Therefore, the instrumental threat, which results from using self-reported and general life traumatic event measurements, is a key factor that impacts on the internal and constructional validity of this study. There is a need to use tools that focus only on the psychological and physiological concerns of FGC.

A selection threat that resulted from narrow and small sample size impacts on the generalizability of the Akinsulure-Smith's (2014) study. The author highlighted the significance of examining the physiological and psychological experiences of FGC in a larger scale and diverse ethnic population. However, the findings are consistent with the purpose of the proposed topic of this research, which is an educational tool for healthcare providers. Furthermore, Akinsulure-Smith's pilot study stressed the need of increasing the knowledge base of the healthcare professionals. Thus, there is a need to help healthcare providers to provide culturally-sensitive and competent therapeutic services for this group of women or those females who are at risk for FGC.

FGC & Provider's Perspectives.

Jacoby and Smith (2013) conducted a pilot study to evaluate the effectiveness of an education-training program to increase the confidence level among certified nurse-midwives (CNMs) to manage Somali women with Type III FGC, or infibulation. The authors used Benner's theory of 'novice to expert' to frame the learning objectives, and to facilitate the participant's clinical progress when they perform maternity care for Somali women. It is known that integrating these components is essential to promote competent maternity nursing care for this vulnerable group of women (Lyndon & Kenndy, 2010). The study was approved by Institutional Review Board at the Massachusetts Institute of Health Professions and Central Maine Medical Center (CMMC).

Jacoby and Smith (2013) recruited the participants (n=50) from the American College of Nurse-Midwives association (ACNM). A five-point Likert pre-post self-reported survey was developed to assess the participant's confidence level based on the

learning objectives of the study. The content validity was conducted by two midwives. The authors used a nonparametric analysis because of the small sample size to compare the means of the confidence levels surrounding the learning objectives before and after the educational sessions.

The Jacoby and Smith (2013) study included a total of eleven female participants who completed the pre-test and post-test surveys. The mean age was 45 years. Further, all the participants were white and 91% of them had earned a master's degree. There were only two midwives (18%) who reported direct clinical experience with women who underwent FGC. Following the educational sessions, there was found to be an increase in the confidence level of the knowledge gained for all learning categories, including: a) recognition of all the types of FGC and the indicated respective management (pre-test mean= 2.36 and post-test mean= 4.18); b) the ability to discuss the necessary components of counseling women with infibulation (pre-test mean= 2 and post-test mean=4.09); c) cultural roundtable discussion (pre-test mean=2.36 and post-test mean=4.09); and d) the opportunity to practice deinfibulation and repair using simulated pelvic models (pre-test mean=1.54 and post-test mean= 3.54).

According to Jacoby and Smith (2013), the largest increase in confidence level was in the ability of midwives to identify factors that are contraindications for CNMs to perform repairing (deinfibulation) procedure (pre-test mean=1.63 and post-test mean=4.27). However, they reported the smallest increase in confidence level was in the ability of midwives to understand the historical, cultural, legal, and ethical considerations of FGC (pre-test mean=2.64 and post-test mean=4.09).

A selection threat that resulted from narrow and homogeneous sample size impacts on the generalizability of the study by author (Kukull & Ganguli, 2012). The instrumental threat, which results from using untested tool, is a key factor that impacts on the internal validity of the study. However, the study findings illustrated major content issues that may be used in the proposed study. It appears that here is a need to expand the contextual base to cover the complications that are associated with all types of FGC. Further, there is a need to include more diverse populations with different ethnic and educational backgrounds to generalize the study findings.

Lazar, Johnson-Agbakwa, Davis, and Shipp (2013) piloted a qualitative - descriptive phenomenology to explore providers' experiences, practices, and attitudes towards prenatal care and delivery of women with FGC. They assessed whether the providers had specific training about caring for women affected by FGC. Further, they intended to determine the factors that influence the provision of quality care for Somali women with FGC. The interview guide used was an exploratory questionnaire with open-ended questions that been reviewed by key informants from the Somali community.

The authors (Lazar et al. 2013) used a purposive sample technique of eligible participants by accessing the list serve of local hospitals and medical centers in areas where Somali women accessed obstetric care. The authors sent initial invitation letters to the healthcare providers by e-mail followed by telephone calls to a list of obstetricians, gynecologists, and nurse midwives. The recruitment continued through snowball sampling. Fourteen providers responded; all of them had been interviewed. Most of the participants were white (n=13) and females (n=9). Obstetricians were the largest portion (n=9) followed by nurse-midwives (n=3).

Lazar et al., (2013) reported that the study findings did not indicate that FGC was a primary barrier to the delivery of perinatal care to Somali women. However, they identified four major challenges that the healthcare providers faced when providing care for this group of women. They summarized these factors as following: challenges in patient-provider communication, providers' frustration with perceived Somali women's resistance to obstetric interventions, providers' perception of mistrust by their Somali patients, and suboptimal provider training in the care and management of women with FGC.

The Lazar et al. (2013) study has a lack of in-depth analysis of the impacts of FGC on the consistency of delivering optimal perinatal care. However, the study themes indicated that the healthcare providers needed to initiate effective-therapeutic communication with this group of women. Achieving such communication requires clinical-cultural knowledge about FGC that is used as a resource for the healthcare providers. Therefore, a comprehensive educational tool such as FGC digital e-book is needed to achieving this recommendation; indeed, it facilitates a therapeutic-partnership dialogue with both women and healthcare providers. The authors conducted a mixed methodology study to explore the certified nurse midwives' clinical experiences and knowledge about FGC. A closed-and open-ended survey design with qualitative and quantitative descriptions guided this study. The content validity of the survey was reviewed by three nurses who had experience in women's health and with clients with a history of FGC.

The participants of Lazar et al. (2013) study were randomly selected from the American College of Nurse-Midwives (ACNM) membership list (n = 600). All respondents were asked to complete the survey that included a demographic questionnaire and multiple-choice and true and false questions testing the general knowledge of FGC. The authors developed the questions and reported a Cronbach's alpha coefficient of 0.77. Twelve Likert-type questions included topics the midwife may have raised with clients and listed issues that women with a history of FGC may have broached with the midwife. All the respondents had the opportunity to write additional comments.

Hess, et al. (2010) reported that there were 243 participants who completed the survey and around 98 (40.3%) of them reported that they had provided direct perinatal care for women with FGC. Older midwives were less likely to have provided that care (p=.018). Only 18% of the participants knew that FGC is practiced by Muslims and Christians. However, 39% knew that FGC had no religion base. Further, about 56% of the participants knew that women were not aware that FGC is illegal in the US. Less than 50 % knew that fear is the major factor that prevents women from accessing perinatal healthcare services in US. The authors also stated that the CNMs with experience caring for women with FGC scored better on the 12-point knowledge survey (mean = 6.23, SD = 2.17, $p < .001$) compared to those without experience (mean = 4.51, SD 2.57, $p< .001$). The participants had two main concerns about the FGC nursing care management including pain management and infertility risks.

The qualitative analysis by Hess, Weinland, and Saalinger (2010) identified three major themes. The first theme addressed the ethical and clinical complications regarding performing reinfibualtion after childbirth. The second theme highlighted the major perinatal (immediate and late) complications of FGC especially those that are associated with infibulation. The third theme emphasized the client's preference and concerns regarding the provided care. For instance, they addressed the importance of having female rather than male healthcare providers. This is essential to enhance the understanding and trust-relationship between women with FGC and the healthcare providers.

The authors in the Hess et al, (2010) study focused on Type III FGC-infibulation; however, this study provides deeper insight about the healthcare provider's perception, knowledge, and attitude about providing perinatal care for women who underwent FGC. In fact, the study's themes added new aspects in the proposed educational tool such as pain management and female providers. However, the quantitative results highlight the importance of exploring the cultural aspects and pre-knowledge assessment that assess the women's knowledge about the US legislation about FGC performance.

Themes & Data classifications.

First Theme (Cultural Gap): Lack of understanding the cultural and social aspects behind FGC performance creates a cultural distance between the healthcare providers and immigrant women (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Lazar, et al., 2013). For instance, the women's perception of having FGC, which is not a norm in the US, led them to feel that they are abnormal and aberrant in American society (Johnson-Agbakwu, et al., 2014). These perceptions diminish their willingness to utilize

appropriate perinatal care, which increases the trust gap among the healthcare professionals and the system as a whole (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Suardi, Mishkin, & Henderson, 2010).

Encouraging community healthcare providers' engagement with women who have undergone FGC may be beneficial in decreasing the cultural distance that exists between women and maternity care providers (Johnson-Agbakwu, et al., 2014; Lazar, et al., 2013). It also may promote a holistic approach and enhance egalitarian relationships. For instance, participating in or organizing community initiatives that emphasize different socio-cultural aspects of FGC are relevant in providing culturally sensitive maternity care. Arranging public consultation sessions that include views of Islamic and other religious leaders about FGC may provide increased understanding of women's religious dilemmas about the practice of FGC. Further, developing public group-discussion workshops, which include community leaders, healthcare providers, and the women themselves may spur effective discussion about different social aspects such as gender role, male authority, and other socio-cultural factors of FGC.

Second Theme (Clinical Gap): There is a clinical gap regarding how to manage the complications that occur as a result of FGC (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014). The current clinical management focuses on preventing and managing the complications that occur in Type III or infibulation such as deinfibulation. However, lacking standardized clinical guidelines and training leads the healthcare professionals to use risky alternatives or interventions such as caesarean sections. Furthermore, there is a need to consider the other types of FGC as they develop serious complications that threaten the life of

pregnant women and their babies as well (Reisel & Creighton, 2015). Indeed, there is a lack of full nursing guidelines that sustain the concept of cultural sensitivity and competency. This lack of knowledge and understanding marginalizes this group of women and impedes their accessing and utilizing the optimal quality of nursing perinatal care (Hess, et al., 2010).

A critically important consideration for healthcare educators is to insure that providers develop an understanding of FGC clinical skills, potential complications during pregnancy and birth (Hess, et al., 2010; Jacoby, & Smith, 2013). Further, appropriate interpersonal skills that are needed to support affected women should be integrated into the undergraduate curricula of all potential maternity care providers. Educational and training sessions as well as guidelines for those who perform defibulation need to be developed. Further, there is a need for concise and consistent material such as the FGC digital e-book, a manual for nurses that provides background, definitions, policy, legal responsibilities and clinical interventions for those providing care to women with FGC (Barnawi, et al., 2016).

Third Theme (Lack of Trust): Women and their partners express a concern about the increasing performance of cesarean sections among women with FGC, particularly among women who have Type III, in the US (Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014). Therefore, most of the immigrant women with FGC are afraid to seek medical attention in the US. These fears and concerns created a lack of trust especially if considering their experiences of successful normal vaginal deliveries in their home countries. Immigrant women and their partners attributed the

high rate of cesarean sections performance to providers' lack of knowledge and training on how to manage pregnant women with FGC.

A trusting relationship where both pregnant women and their partners interact with healthcare providers to discuss the risks and benefits of available maternal choices and engage in mutual problem solving is ideal (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014). It is reasonable to assume that FGC interferes with the willingness of immigrant women to share their values and beliefs with the healthcare providers (Lazar, et al., 2013). This is because of their concern about the sensitivity, private nature, gender and other many cultural implications associated with FGC (Fried, Warsame, Berggren, Isman, & Johansson, 2013). However, such resistance creates a cultural distance between the healthcare providers, women with FGC and their partners. It decreases the confidence and trust level toward the US healthcare professional, which lead women with FGC and their partners to be unwilling to rely on the US maternity care.

Fourth Theme (Lack of Effective Therapeutic Commination): Misunderstanding the different cultural and ethnic backgrounds may block effective therapeutic communication between American healthcare providers and immigrant women and their partners (Suardi, et al., 2010). Such lack of effective communication generates ethnocentrism, discrimination, stereotyping, cultural blindness, and cultural imposition (Nazroo, 2003), and, thus, impacts negatively on the national healthcare standard in general and quality of maternity care services specifically (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014).

Furthermore, different or non-understandable language is one of the major barriers that lead to inappropriate and less-effective communication.

Competent perinatal care must be based on effective communication and cultural sensitivity to create a delicate balance that puts the women's best interest in the forefront (Ameresekere, et al., 2011; Johnson-Agbakwu, et al., 2014). Effective communication is one of the essential factors that promote optimal delivery of maternity health-care (Brown, et al., 2010). Furthermore, different or non-understandable language is one of the major barriers that lead to inappropriate and less-effective communication. For instance, the healthcare providers in most of the cases used a female interpreter or a family member who assists with translation. However, women may not feel comfortable to disclose details about such a sensitive topic in the presence of a stranger.

Allowing family members to interpret for the woman assumes they will be able to accurately interpret the complex issues associated with FGC (Suardi, et al., 2010). However, if the interpreter is a young daughter of the mother or relative of the woman, pressure can be placed on them to talk about the health issues experienced by their mother or listen to adult health issues (Fried, et al., 2013). Therefore, misleading information can be deliberately delivered by family members who may want their relative to submit to community or family wishes, rather than representing her true information if they go against cultural tradition.

To initiate effective communication, it is essential to realize that all caregivers need to use non-stigmatizing terminology related to FGC that is acceptable to and understood by their client (Johnson-Agbakwu, et al., 2014). Establishing partnerships with this group of women requires midwives and other caregivers to have a deep

understanding of FGC and any potential or existing medical, obstetrical or psychological consequences (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Hess, et al., 2010). For instance, when taking a client history during the initial visit, it is important to consider asking about FGC (Jordan, Neophytou, & James, 2014). Despite the exceptions, initiating such a dialogue creates a first step to developing effective and therapeutic communication. Additionally, it is important to recognize the country of birth as an indicator that the woman or girl may have undergone FGC and may identify its type (Suardi, et al., 2010). This may assist the healthcare providers to ask about the potential health complications, which may need to be addressed.

The perspectives of women with FGC need to be understood and respected, particularly those related to privacy and confidentiality (Akinsulure-Smith, 2012; Amersesekere, et al., 2011). Each woman also needs to be confident that the maternity care she, as a unique individual, values will be respected. It is recommended that women from areas where FGC is prevalent be respectfully asked about their status during their initial interview/appointment. Those who have experienced FGC should also be consulted about FGC terminology that they find appropriate and inoffensive and this should be recorded (Johnson-Agbakwu, et al., 2014). Moreover, it is critical for the healthcare providers to be direct and clear from the onset with respect to what is possible within the American healthcare system (Hess, et al., 2010). For example, legal and malpractice issues around re-infibulation and disclosure of female children at risk for FGC need to be included in the dialogue.

Strength & Limitations.

This analysis identified the key ethnic and cultural backgrounds of women who experienced FGC, the interventional scope of interest within American context, the major states that focused on FGC and immigrant women, the major professional backgrounds that initiate effective intervention to manage women with FGC, and the clinical dimensions that require further studies to promote the perinatal healthcare services for women who underwent FGC. Accordingly, this review may be used as an initial framework for all stakeholders such as policy makers, healthcare providers, and immigrant women with FGC for an effective use of the findings.

However, this scoping review has various limitations that need to be acknowledging for further consideration. For instance, there was a limited number of the available data/articles. Furthermore, this review did not include a consistent framework, which threats the methodological rigor of the included data. The absence of the appraisal system to assess the quality of evidence of the primary research is the major threat for the internal validity of this review. However, such threat may not be taking in the consideration, as this review does not have any attention to generate standardized and direct interventions.

This scoping review examined the existing evidence surrounding FGC and perinatal care in the American context. Indeed, it identifies the knowledge gap that concerns FGC and maternity healthcare services. It illustrates the circumstances and challenges that impede or enhance the optimal maternity healthcare services for pregnant women with FGC. Furthermore, it provides deeper insight about the maternal experiences of immigrant women with FGC, and the healthcare providers as well in the

US. One of the optimal objectives of this review was to highlight the current health policies or national programs that impact on the quality of life of pregnant women with FGC.

The Current Challenge

Statement of the Problem

Caring for immigrant women with FGC, especially during pregnancy, is a key challenge in the American healthcare context. The challenge occurs as a result of lacking a standardized clinical tool or a guideline that promote the culturally competent clinical care for immigrant women with FGC. Based on the previous literature review, there is a knowledge gap at the types, historical, religious, sociocultural, policies, and clinical aspects of FGC within the American healthcare context. This gap marginalizes this vulnerable group of women and impedes their accessing and utilizing healthcare, and more specifically, perinatal services. Such marginalization serves to prevent healthcare professionals, including nurses, from providing effective and efficient care for this group of women. Thus, there is an increased risk of having poorer health outcomes among these women, which impacts negatively on their quality of life. There is a critical need to provide culturally and clinically competent care to optimize the quality of life of this group of women and improve the overall quality of the perinatal healthcare services.

FGC Digital e-Book: New Tool for the American Healthcare Providers

The FGC digital e-book is an innovative educational tool for use by nurses caring for women who are at risk or have undergone FGC. The author of this study developed this e-book to assist the healthcare providers in expanding their knowledge regarding

various aspects of FGC, which helps them to overcome the current challenges and to provide culturally and clinically competent care for pregnant women who underwent FGC. The e-book is an electronic version of a traditional print book, which can be easily accessed by using a personal computer or an e-book reader device such as those in smartphones, iPad, or tablet. It has comprehensive educational materials that cover clinical, historical, sociocultural, and ethical aspects related to FGC.

The FGC digital e-book involves three learning modules; the first module covers the general information about the FGC such as definition, classification and types, historical, religious, and sociocultural aspects of FGC. The second module covers the clinical aspects of FGC such as the health complications of FGC and the essential clinical interventions required to prevent or manage these complications. The third module covers the policies and ethical aspects of FGC and the scope of practice for various healthcare professions.

To address the variation of the scope of practice toward different healthcare professionals (nurses, midwives, obstetricians and the gynecologists), the author created three separate editions of the clinical and ethical modules of this e-book to link the clinical interventions based on the scope of practice of each of these professions. However, for the purpose of this study, the author included only the edition that focuses on nursing profession. Each module starts with critical thinking questions and ends with reflective exercises to sustain the concept of self-reflective learning strategy, which allows the learners to engage effectively with this resource and monitor their learning progress.

Selecting an appropriate learning method is a crucial concept in the healthcare context, especially if considering the variations in teaching the adult learners (Abela, 2009; Aliakbari, Parvin, Heidari, & Haghani, 2015; Brangrat, & Brangrat, 2007; Moore, 2010). Indeed, the challenge increases when the teaching materials focus on traditional practices that may be harmful to populations and, in this case, women with FGC (Gruenbaum, 2005; Jenkins, 2009; Moore, 2010). Therefore, the author integrated the concept of e-learning strategy to facilitate the learning process of this topic by utilizing advanced audiovisual learning technology and interactive methods to enhance the adult self-learning, self-reflective strategies and rationalization, which are core principles in nursing and medical education.

Theoretical Support

This section explores the major theories that conceptualize the meaning of adult learning, nursing knowledge, and self-efficacy, which are the core phenomena of this study. The author of this study considered these three phenomena as foundations that assist the healthcare professionals, including nursing students, to provide competent care for pregnant women who underwent FGC. Therefore, the author integrated the Adult Learning (Andragogy), Carper's pattern of knowledge, and Bandura's self-efficacy theories to identify the components that theoretically support investigating these concepts.

Adult Learning Theory (Andragogy) and FGC Digital e-Book

History of Andragogy.

Andragogy in etymology is a combined term of two Latin words, which are andra that means ‘man,' and agogos, which means ‘leader’ (Ferro, 1997). Recently, the term of andragogy is a codified word that symbolizes the educational and learning process of adults (Henschke, 2008). However, evidence indicates that andragogy has a historical origin back to early in the nineteenth century (Ferro, 1997; Henschke, 2009; Henschke & Cooper, 2011). Alexander Kapp –a German teacher- introduced the term of andragogy in 1833 mainly to emphasize the necessity of lifelong learning through childhood to adulthood (Henschke, 2009). Kapp argues that andragogy exemplifies the core foundation of adult education, which is the concept of self-reflection (Henschke & Cooper, 2011; Merriam, 2001; Moore, 2010).

Applying critical thinking implies that self-reflection in andragogy was an abstracted phenomenon that differentiates the process of the learning from the dictated technique, which was popular in the traditional educational system (Moore, 2010). He added that andragogy frames the concept of self-reflection through integrating some inner and outer competencies (Henschke & Cooper, 2011; Merriam, 2001; Moore, 2010). For instance, individual personality is an example of inner competencies (Hampson, 2012; Henschke, 2009). Kapp (1833) claimed that the learning process requires a particular individual character that is comprised of personal attitude, internal motivation, and individual intellectual ability. From a critical analysis point of view, it is logical to assume that Kapp’s interpretation of the inner competencies referred to what is currently known as reflexive learning.

Reflexive learning is a self-critical approach that allows learners to process and critique the received knowledge to guide their life choices and decision-making (D'Cruze, Gillingham, & Melendez, 2007; Rothman, 2014). In contrast, professional background is an example of the outer competencies, which Kapp referred to as 'vocational education' (Henschke, 2009). Kapp stated that the external influence of the individual's professional knowledge impacts the pattern of processing the knowledge (Hampson, 2012; Henschke, 2008). Applying critical thinking to this view indicates that the outer competencies refer to the concept of reflective learning. Reflective learning is a sophisticated internalization process that allows learners to appraise their learning experiences to improve their practical performance (Lones & Jones, 2013; Shapiro, 2010).

Kapp's educational views of andragogy and self-reflection were a scholarly debate for decades; nevertheless, the implementation of andragogy was not constructed formally during that time (Henschke, 2008; 2009; Henschke & Cooper, 2011). The first application of andragogy was in Germany during the 1920s mainly after World War I. Rosenstock Huessy in 1925 posed andragogy as a method to regenerate the knowledge of German history (Henschke, 2010). He suggested that andragogy helps the Germans to use their experiences during the war to reunite the German Society. Huessy's view adds another foundation into andragogy, which is the utilization of critical thinking of the historical evidence to generate knowledge (Henschke & Cooper, 2011). This implies that Huessy's view structured the concept of rationalization in andragogy, which is an essential aspect of adult learning in general and in nursing education specifically (Henschke, 2008; 2009; Henschke & Cooper, 2011).

The two approaches of andragogy, which are self-reflection and rationalization, spread as new concepts of adult education (Henschke, 2009). However, there was no clear integration of these two approaches in educational system until the early 1920s (Henschke & Cooper, 2011). Eduard Lindeman, an American educator, reintroduced these two concepts during 1962 to identify the scopes of adult learning education (Henschke, 2009). Lindeman contradicted the Kapp's view of vocational learning, and Huessy's view of integrating distinct historical experiences (Lindeman, 1926). He argued that both views delimit the adult learning process from including new experiences (Lindeman, 1926). Therefore, he did not use andragogy as a term or as a core concept in adult learning because his view of education was beyond bounding learning to classrooms and formal curricula (Henschke, 2009).

According to Lindeman, internal factors such as an individual's motivation, perception, emotion, and attitude are core factors in adult learning (Blondy, 2007; Henschke, 2009; Lindeman, 1926). He identified five major assumptions as a framework to maintain self-reflection and rationalization. These assumptions illustrate the scopes of adult learning, which include: first, individual experiences are the major motivation in adult education; second, the learning process is a life-centered orientation; third, the natural experience is the core source for adult's learning; fourth, the individual's self-directing is essential to sustain learning process; and finally, individual's learning process varies based on age.

Andragogy as a Learning Theory.

Andragogy shifted from abstract concept to became more of a methodological or technical framework during the years 1964 to 1970 (Henschke, 2009; 2013; Henschke & Cooper, 2011). For instance, Simpson, an English writer, in 1964 claimed that andragogy conceptualizes the learning process that has a similar foundation of child learning. However, it systematizes the body of knowledge that was relevant for adult education and training (Clark, 1993). In contrast, Malcolm Knowles, an American educator, in 1968 presented andragogy as "a new label and a new approach" to adult education in the American context (Knowles, 1980, p. 351). Contradicting Simpon's view, Knowles considered andragogy as an approach that conceptualizes the adult learning process differently from children's learning (Knowles, 1984). Indeed, Knowles was the first scholar who applied andragogy as a formal training to test the practicality of self-reflective learning among adult students. The major focus of Knowles was to guide and assist the students in taking responsibility for learning to achieve the course's objectives.

During the 1970s, andragogy became an official term that describes adult learning, mainly after Knowles published his famous book 'The Modern Practice of Adult Education: Andragogy vs. Pedagogy' (Henschke, 2009). He distinguished the learning process in pedagogy versus andragogy by referring to pedagogy as a learning approach for children, while andragogy is a constructed approach that systematizes the adult-learning process (Knowles, 1980; Henschke, 2013). Knowles's view of andragogy highlights the importance of sustaining the concept of self-direction, which he considered as a fundamental element in adult learning (Knowles, 1984a; Henschke & Cooper, 2011). Since the 1980s, Knowles's innovation of andragogy became a key principle in the

context of adult learning.

However, some scholars opposed Knowles's views of andragogy because they consider it an unscientific approach (Blondy, 2007; Henschke, 2009; 2013; Henschke & Cooper, 2011). In contrast, numerous adult educators support the Knowles' view, as some scholars used it as a practical framework to facilitate adult learning within their academic contexts and learning settings (Clark, 1993). Other scholars such as Henschke (1995) utilized Knowles's views as a theoretical framework, as he referred to andragogy as Knowles' theory of andragogy.

Knowles's Principles of Andragogy.

Knowles emphasized the importance of maintaining the concept of self-directed learning and considering the learner's educational interest in adult learning (Knowles, 1975; Blondy, 2007; Henschke, 2009; 2013; Henschke & Cooper, 2011; Kearsley, 2010). He identified four learning principles that maintain the concept of self-directing learning, which include the following: firstly, adults need to be fully involved in developing, planning, and evaluating their learning goals and their instructors (Knowles, 1975; 1984a). Secondly, all types of adult experiences -including mistakes- are the basis of learning activities (Knowles, 1984b). Thirdly, adults are most interested in learning subjects that are relevant to them and have an immediate impact on their profession or personal life. Finally, adult learning is a problem-centered approach rather than a content-oriented method.

Application of Knowles's Assumptions of Andragogy to the FGC Digital e-Book.

In 1980 Knowles hypothesized a set of four assumptions to characterize and distinguish the adult learning andragogy from the learning assumptions of child learners' pedagogy (Knowles, 1975; 1984b; Blondy, 2007; Henschke, 2009; 2013; Henschke & Cooper, 2011; Kearsley, 2010). However, in 1984, he added the 5th assumption, which constructs his view of what he referred to as 'self-directed' learning in andragogy. The following sections explain these assumptions and how they were involved in the FGC digital e-book.

First Assumption (Adult learning is a self-directed approach): Knowles indicated that as a person matures the self-concept increases, which shifts the individual from being a dependent person toward being a self-directed individual in their learning process (Blondy, 2007; Henschke & Cooper, 2011). Enhancing the self-direction approach in adult education encourages the learners to be more involved in the decision making of their learning process. Thus, self-direction increases their capabilities to be autonomous in managing the critical situations and be more accountable for handling complex cases (Blondy, 2007; Henschke & Cooper, 2011; Manning, 2007).

An e-learning approach sustains the self-directed approach by giving an opportunity for the adult learners to select the learning materials that fit with their learning needs. When using the FGC digital e-Book, the undergraduate nursing students can determine which modules or scenarios they need to review to enhance their knowledge or skills concerning the topic. Such determination is an example of the students' involvement in decision making in their learning process.

Furthermore, sustaining the assumption of self-directed in the learning process requires a compliant educational environment that allows the adult learners to focus on the learning process as well as the learning contents (Blondy, 2007; Blandul, 2015; Henschke, 2009; Henschke & Cooper, 2011). Therefore, by integrating the e-learning approach, the FGC digital e-Book creates an active learning environment that allows the nursing students to be fully engaged in the learning aspects of the e-book.

Indeed, taking into consideration that FGC is not a popular topic and contains sensitive and complex content, e-learning allows for a safe learning environment (Blondy, 2007; Henschke & Cooper, 2011). Thus, the format of the eBook allows the nursing students to take the control that empowers their self-directed skills within the course to achieve their learning goals (Blondy, 2007; Jennings, 2007; Manning, 2007; McKie et al., 2012).

Second Assumption: Adult's experiences are essential resources to promote the learning process: Knowles viewed the adults' experiences as a valuable resource for both learners and the facilitators (Knowles, 1984a; 1984b; Blondy, 2007). He recognized that learner's previous life experiences, either negative or positive, impacted the learning process (Knowles, 1984b; Blondy, 2007; Henschke & Cooper, 2011). Accordingly, he recommended the idea of group discussion that would draw out the various experiences that promote the learning process (Knowles, 1984a; 1984b; Blondy, 2007; Henschke & Cooper, 2011). Indeed, Knowles reinforced the foundation of learning contracts, which allow the learners to explore and develop personal learning plans that fit their learning needs and personal experiences (Knowles, 1984b; Blondy, 2007).

Fostering this assumption in the context of FGC digital e-book enhances the interactive discussions among the undergraduate nursing students (Aliakbari, et al, 2015; Blondy, 2007; Brangrat, & Brangrat, 2007; Henschke & Cooper, 2011). Interactive discussion requires the educator to create discussion questions that guide the learners to exchange their experiences and concerns about the course content (Blondy, 2007; Henschke & Cooper, 2011). Guiding questions are fundamental to elaborate the complex clinical aspects, particularly among those that have sophisticated socio-cultural issues (Jenkins, Purushotma, Weigel, Clinton, & Ronison, 2009). Therefore, the author of the e-book developed guiding questions about the various aspects of FGC that allow the nursing students to grasp the controversies that impact healthcare standards, such as cultural, ethical and clinical aspects (Gruenbaum, 2005).

Third Assumption: Adults learning readiness enhances the learning experiences: Knowles indicated that as a person matures, the individual's readiness increases to accomplish the full involvement of his/her social roles (Knowles, 1984a; 1984b; Blondy, 2007; Henschke & Cooper, 2011). Maturation, in his view, motivates a person to experience specific life events that prompt the need for new knowledge (Knowles, 1984b; Blondy, 2007; Henschke & Cooper, 2011). Therefore, Knowles indicated that the learner's readiness is associated with new social experiences, thus urging the need of learning something new (Knowles, 1984b; Blondy, 2007; Henschke & Cooper, 2011). Accordingly, the readiness of adult learners is a continuous knowledge-generating process, which needs a model of competencies that reflect both the personal and organizational needs (Knowles, 1984b; Blondy, 2007; Henschke & Cooper, 2011).

Therefore, the educational tool and the course curriculum in the healthcare context should be manageable (Aliakbari, et al., 2015; Blondy, 2007; Henschke & Cooper, 2011). This allows the learners to develop and accomplish their individual goals through a constructed educational framework such as that involved in the FGC digital e-book (Brangrat, & Brangrat, 2007). However, the learners are responsible for pursuing their learning goals under the guidance of the course instructors (Blondy, 2007; Brangrat, & Brangrat, 2007). Integrating the e-learning approach sustains this assumption by helping the undergraduate nursing students to prioritize their learning needs, order their clinical decision making, and systematize their clinical skills.

Fourth Assumption: Adult Learners are Problem-Centered: Knowles believed that adults usually pursue learning because they need to demonstrate their knowledge to manage various life situations (Blondy, 2007; Henschke & Cooper, 2011; Knowles, 1984a; 1984b). Therefore, he asserted that the structure of learning or educational materials should fit and represent the real-life situations (Blondy, 2007; Knowles, 1984a; 1984b). The problem-centered approach allows learners to expand their knowledge relevant to their professional goals or daily life tasks. (Blondy, 2007; Henschke & Cooper, 2011). Paulo Freire during 1990s reinforced this idea in his philosophical approach as he indicated that there is a need to unite theory and practice in the learning process (Blondy, 2007).

There are several educators and scholars who have integrated this approach in the healthcare context as a core learning style (Zhang, 2014). Problem-Based Learning (PBL) allows the learners to reiterate the subject-centered material (Pourshanazari, Roohbakh, Khzaei, & Tajadini, 2012; Yuan, Williams, Yin, Lia, Fang, & Pang, 2011;

Zhang, 2014). Sustaining the PBL in the healthcare context in general and within nursing in specific, helps the learners to have a deeper understanding of the real clinical aspects of the proposed materials (Yuan, et al., 2011; Zhang, 2014). Indeed, it also provides more challenging situations for the adult learners, which enhances their critical thinking and motivates them to have in-depth learning process (Yuan, et al., 2011; Zhang, 2014).

In this situation, the lack of social, cultural, and clinical knowledge of FGC within the American healthcare context increases the urgency of integrating a PBL approach. Therefore, the author of this study developed the FGC digital e-book in a way that involves an interactive learning style, by infusing several problem-based scenarios. Increasing the PBL materials in the FGC digital e-book assists the undergraduate nursing students to have a deeper understanding of the core clinical and cultural components of FGC (Gruenbaum, 2005). Indeed, PBL motivates the students to use their critical thinking, demonstrate their knowledge efficiently, and prepare their readiness to provide care in real clinical worlds.

Fifth Assumption: Internal Factors Motivated Adults to Learn: Knowles believed that some internal factors, which develop through life, motivate adults to learn (Blondy, 2007; Knowles, 1984b). These internal factors include increased self-esteem, and the self-actualization motive (Knowles, 1984b; Blondy, 2007). These factors, based on Knowles's view, encourage the adult learners to succeed with their educational goals (Blondy, 2007; Knowles, 1984b).

Integrating this assumption in the real healthcare learning context is a complex task for the educators because it requires a deeper understanding of the students' attitudes about themselves as learners (Benson, & Dundis, 2003; Groff-Paris & Tehaar, 2011;

Zhang, 2014). Therefore, the healthcare educators should enhance the learner's self-esteem by providing continuous support theoretically and clinically (Groff-Paris & Tehaar, 2011; Zhang, 2014). Integrating the e-learning approach can easily enhance the students' self-esteem, which increases their potentiality to achieve the theoretical and clinical learning objectives (Benson & Dundis, 2003; Clarke, 2007; Tayebinik & Puteh, 2012; Zhang, 2014). Indeed, it increases learners' self-confidence while they are providing care in uncertain situations (Zhang, 2014).

Drawing on learners' particular backgrounds during the e-learning course discussion helps learners to master their personal and clinical knowledge in a safe learning environment (Blondy, 2007; Knowles, 1984b). Such an approach is a fundamental aspect of the FGC digital e-book and perinatal care in general. For instance, the existence of FGC increases the complexity of managing pregnant mainly during labor, which interferes with the learners' full engagement of their prior learning. However, the continuous learning support in the e-learning process enhances their self-esteem and self-recognition, which is essential to help the learners to demonstrate and practice their clinical skills in the real world.

Rationalization for Carper's Pattern of Knowing in Development of the FGC Digital e-Book

Barbara Carper introduced the fundamentals of nursing knowledge in 1978 when nursing knowledge was thought to be based only on rationalism and scientific knowledge (Baixinho, Pereira, Ferreira, & Rafael, 2014; Carper, 1978; Montzorou & Mastrogiannis, 2011). Carper's four patterns of knowing in nursing support the concept of holistic care and include: empirical, personal, ethical, and aesthetic knowledge (Carper, 1978).

Carper's model of nursing knowledge considers that each pattern is parallel and computable to the others (Fawcett, Waston, Neuman, Walker, & Firzpatric, 2001; Risjord, 2011).

Empirical knowledge in Carper's (1978) view is factual knowledge that develops from science, or other external sources, that can be empirically verified. This type of knowledge is essential to raise the clinical awareness of nursing at the cognitive level. Therefore, integrating empirical knowledge in the FGC digital e-book assists the undergraduate nursing students to gain a deeper understanding regarding the clinical aspects of FGC. This pattern of knowledge is included in chapter two of the FGC-Digital Book, which has four sections that cover, the physical, psychological, and sexual complications of FGC, the general-clinical managements of FGC complications, and the maternal-clinical management of women with different types of FGC.

On the other hand, the personal pattern of knowing is a type of knowledge that derives from individual's self-understanding and empathy, including imagining one's self in the patient's position (Carper, 1978). Integrating the personal pattern of knowing in the FGC digital e-book increases the student's self-awareness about the personal challenges that women with FGC may face. It also provides deeper insight about the student's interpersonal clinical and cultural controversies regarding FGC.

However, based on Carper, personal pattern of knowing is one of the most difficult types of knowledge to master or teach (Carper, 1978). Therefore, the FGC digital e-Book maintains the personal knowledge by providing cohesive background to enhance the student's interpersonal awareness regarding the FGC controversies. For instance, the first chapter of the e-book includes definition and various terminologies

about FGC; clinical classification and cultural types of FGC; and historical and religious backgrounds. Further, it includes different types of videos that show various social, cultural, psychological views about FGC in various chapters of the book. Further, the e-book includes various learning activities that enhance the critical thinking about potential personal-based controversies such as cases scenarios.

The ethical pattern of knowing is one of the essential elements in nursing knowledge (Carper, 1978). It is a type of knowledge that is derived from an ethical framework, including an awareness of moral questions and choices. Ethical knowledge is a necessary component in helping the nursing students to recognize the ethical dilemmas that are associated with FGC (Baixinho, et al., 2014; Hassuanin, Ahanchian, Ahmadi, Gholizadeh, & Karimi-Moonaghi, 2015; Jackson, 2015; Montzorou & Mastrogiannis, 2011). Further, it constructs the scope of practice that the nursing students require to accomplish in order to provide competent and holistic nursing care.

Accordingly, integrating the ethical pattern of knowing in the e-book helps the undergraduate nursing students to illustrate the competent interventions that fit the ethical-legal dimension of the U.S. perinatal healthcare standards, and meet the women's socio-cultural concerns. Chapter three of the FGC digital e-Book covers this type of knowledge by providing a comprehensive legislative and ethical overview about the FGC practice at the national and international levels. For instance, it involves overview about the international-global ethical and legal issues of FGC, national ethical and legal aspects of FGC, human rights aspects of FGC, and ethical-culturally competent nursing and clinical care of managing cases with FGC.

The aesthetic pattern of knowing is the component that differentiates nursing knowledge from any other healthcare knowledge (Baixinho, et al., 2014; Carper, 1978; Jackson, 2015; Montzorou & Mastrogiannis, 2011). Based on Carper, this type of knowledge maintains the concept of patient-centered care (Carper, 1978). It is a pattern of knowing that associates with the nurse's awareness of a clinical situation, seated in immediate practical action. It also emphasizes the importance of the gained knowledge regarding the patient and their circumstances as uniquely individual. The aesthetic pattern of knowing is an ideal pattern of knowing that exemplified the concept of holistic care because it combines the wholeness of the patient situation.

Integrating aesthetic pattern of knowing in the FGC digital e-book helps the nursing students to reconstruct the meaning of reflective holistic care by recognizing and demonstrating their personal and professional communication and skills (Baixinho, et al., 2014; Helyer, 2015; Josephsen, 2014; Koole et al., 2011; Montzorou & Mastrogiannis, 2011). Further, this pattern of knowing enhances the nursing students' ability to balancing their insider and outsider roles as professionals when they provide care for women with FGC. Such balancing optimizes their professional communication skills, which are required to provide competent nursing care that involves culturally and clinically bases.

Bandura's Self-Efficacy and the FGC Digital e-Book Study.

In 1977 Albert Bandura introduced the concept of self-efficacy in his social learning theory, which was renamed as a social cognitive theory in 1986 (Kardong-Edgren, 2013; Winslow, DeGuzman, Kulbok, Jackson, 2014; Zulkosky, 2009). He defined self-efficacy as an individual's self-perception of one's ability to perform

competently and to achieve a task or goal effectively (Bandura, 1986). However, Bandura in 1989 added that the self-efficacy is "an important set of proximal determinants of human motivation, affect, and action" (Bandura 1989, p. 1175). This implies that self-efficacy is a group of beliefs that constitute a form of action through three overlapping components, which are cognitive process, motivational process, and intrusive affective arousal process (Zulkosky, 2009). The following sections explain each component and the author's justification of including each one of them in the FGC digital e-book.

First Component of Self-Efficacy (Cognitive process): Based on Bandura, the individual's self-efficacy is an inner perception that involves a sophisticated cognitive simulation and highly analytical thinking, which constructs the specific and reiterates anticipatory scenarios (Bandura, 1989). Further, he emphasized that the perceived self-efficacy and cognitive simulation has bidirectional effects. For instance, individuals who have a high sense of efficacy in their cognitive constructions move toward effective actions; while the individuals who have a cognitive reiteration of efficacious courses of action strengthen their self-perceptions of efficacy. The author intended in this study to enhance the cognitive process that increases the readiness of the nursing students' self-efficacy toward providing competent care to pregnant women who underwent FGC. Therefore, the author included interactive audio-visual materials such as case scenarios to motivate the students' cognitive constructions toward providing competent care for this group of women.

Second Component of Self-Efficacy (Motivational process): Based on Bandura, individual's self-efficacy requires enhancement of what he referred to as the individual's

cognitive motivation (Bandura, 1989). Cognitive motivation in Bandura's view is how individuals motivate themselves "to guide their anticipatory actions through the exercise of forethought" (Bandura, 1989, para 5). Furthermore, he highlighted that cognitive motivation requires the individual to anticipate the likely outcomes of prospective actions, set goals, and plan courses of actions to realize valued futures.

Such a component is an essential aspect in this study; one of the author's intentions is to assist the undergraduate nursing students to prioritize their learning, personal, and professional goals. Thus, prioritizing process helps them to have a higher level of learning commitment to achieve their learning goals, which may increase their self-efficacy to provide culturally and clinically competent care. Based on Bandura, it is better to overestimate capabilities and thoughts to succeed (Zulkosky, 2009).

Third Component of Self-Efficacy (Intrusive Affective Arousal): Based on Bandura, enhancing the individual's self-efficacy requires adequate perceived coping efficacy, which is influenced by the individual's level of affective arousal (Bandura, 1989). Bandura defined the individual's affective arousal as a cognitive coping mechanism at the cognitive level that helps the individuals to handle stressful situations. Indeed, Bandura indicated that perceived coping efficacy plays a crucial role in controlling dysfunctional apprehensive cognitions, which as a result impacts the individual's perceived self-efficacy. Bandura also emphasized that intrusive affective arousal requires the individual to practice control over the individual's consciousness at the cognitive level. Thus, action fulfills the individual's desired goals that then affect the evaluation of self-worth and ability to secure things that sustain inner satisfaction.

Sustaining or maintaining this component is a complex task in real life; however, increasing the individuals' knowledge and perception regarding the potential stressors situations that may occur in specific situations helps (Bandura, 1989). Therefore, the author intended to prepare the nursing students to observe potential complex, stressful, and challenging situations that they may face when they provide care for pregnant women who underwent FGC. For instance, the digital e-book involves several audio-visual materials that address the social, cultural, clinical and ethical controversies that concern FGC. Each chapter of the e-book ends with a reflective activity that asks the students to share their experiences by typing in their attitudes, opinions, and their goals. This encourages them to enhance their receptive coping, which assists them in expressing and enhancing their affective arousals.

Summary

The custom of FGC is one the traditional practices that is not a very well-known topic in the American context. It has overlapping social, cultural, clinical, and ethical controversies, which require exploration, especially considering the rapid migration process in the US from countries where FGC is common. This chapter provided a comprehensive literature review to provide a general overview about FGC and to address these controversies, mainly those that concern the American healthcare context. Accordingly, the author began this chapter by articulating the differences between the three FGC terms to reinforce the importance of using FGC as a recommended term, which sustains the ethnical and cultural sensitivity within the healthcare context. The author then explored the WHO classification, types and subtypes of FGC to strengthen

the importance of understanding the variation in the degree of cutting of each type and subtypes.

A brief historical analytical review was also included to explain how the FGC was disseminated during the history. The historical review highlighted that FGC has been practiced since the Stone Age as an example of population and gender control. Further, the religious background was also included in this chapter, which indicated that FGC has no scriptural or doctrinal references in any of the three monotheistic religions. The author also included a section that covers some sociocultural dimensions that concern FGC to justify the continuity of practice in societies where FGC are common.

Furthermore, this chapter explored the role of global and national anti-FGC movements, which has a primary level of prevention focus that aims to impede the practice. The author in that section highlighted the urgency of including policies that include secondary and tertiary levels of preventions to manage and prevent the complications for females who already underwent the practice. There is another section in this chapter explored the short, long, and perinatal complications of FGC. It indicated that FGC has serious complications that are interfering with the providing a standard healthcare intervention, particularly during pregnancy.

The author also conducted a scoping review to examine the existing evidence that concern FGC and perinatal care in the American context. This scoping review aimed to identify the current knowledge gap that concerns FGC and the US perinatal healthcare services. It illustrated the circumstances and challenges that impede or enhance the optimal perinatal healthcare services for pregnant women with FGC. Furthermore, it highlighted the experiences of immigrant women with FGC, and the healthcare providers

with the US. One of the optimal objectives of this review is to highlight the current health policies or national programs that impact on the quality of life of pregnant women with FGC. However, the limitations of this review prevent to discover such an important aspect.

This scoping review illustrated that there is a clinical and cultural gap about the FGC within the US healthcare system. Such clinical and cultural gap led the healthcare provider to provide invasive procedures such as cesarean sections to manage cases of pregnant women who underwent FGC. Furthermore, there is a lack of effective therapeutic communications between the pregnant women who underwent FGC and the healthcare providers. All these factors decreased the level of satisfaction and trust of the pregnant women who underwent FGC and their partners among the American healthcare providers. Lacking clinically and culturally competent care for this group of women marginalizes them from utilizing the optimal perinatal healthcare services.

There is a need to increase the knowledge of the US healthcare providers about the FGC at the clinical, ethical, social, and cultural levels to provide competent care. Therefore, the author proposed and explored the developed FGC digital e-book and provided a detailed explanation about the theoretical framework that supports the proposed topic. The author integrated three theoretical frameworks to conceptualize the phenomena of adult learning, knowledge and self-efficacy in the FGC digital e-book that serve the nursing profession context.

The author used Knowles's andragogy theory to illustrate the major concepts of adult learning. Based on Knowles's view, it is essential to maintain the concepts of self-directed and self-reflective in the adult learning process. The author articulated how the

e-learning approach maintained these two concepts in the FGC digital e-book. Further, the author used Carper's pattern of knowledge, which are empirical, personal, ethical, and aesthetic knowledge. Further, the author articulated the reasons of integrating these four patterns of knowledge in the FGC digital e-book. Finally, the author utilized Bandura's self-efficacy theory to explore the mechanism of enhancing the individual's self-efficacy. Based on Bandura, three important processes increase the level of self-efficacy of the study sample. These processes are cognitive, motivational, and affective arousal; the authors describe each one of them and how the e-learning approach of the FGC digital e-book is enhancing them.

Chapter Three

Methodology

This chapter presents and describes the methodological process that the investigator used to address the research problem and the scientific techniques to test the study hypotheses. The first section of this chapter describes the study design and provides a brief explanation of the reasons behind choosing the selected design. Further, this section includes an explanation of the study variables and some conceptual and operational definitions of them. The second section covers the methods of the study and how the investigator collected the data. It also describes the study instruments that the investigator used to measure the study variables and measures of reliability of each one of them. Finally, the chapter ends with a section that covers a description of the data analysis technique.

Study Design

This study is a quasi-experimental quantitative approach with nonrandomized, one group, pretest-posttest design. One of the benefits of this approach is providing closer investigation about the impact of a specific intervention with a careful measurement before and after providing the study intervention (Campbell, 2015). Integrating this quantitative approach in this study helps to examine and validate the impact of the developed FGC digital e-book. It fits the aim of this study taking into consideration that the FGC digital e-book is a newly developed tool. Further, it assists the

the investigator to address the potential associations between the study variables and the associated theoretical components (Campbell, 2015). Furthermore, it is more feasible considering the limited time and resources for this study.

Variables

The Independent Variable

This study has one independent variable that is exposure to the FGC digital e-book. This variable is operationalized based on the total number of the students who completed the FGC digital e-book. The compilation form indicates that the study subjects finished the content of the e-book. The students' learning engagement was assessed by monitoring their learning progress of the e-book materials, which include chapters' objectives, learning questions, and the reflective and opinion exercises.

The Dependent Variables

This study includes three dependent variables; the following sections explain them further and include their conceptual and operational definitions.

FGC Attitude.

Conceptual Definition: Fishbein and Ajzan in 1975 defined an attitude as "an individual's disposition to react with a certain degree of favorableness or unfavorableness to an object, behavior, person, institution, or event or any other discriminable aspect of the individual's world" (Ajzan, 1993, p. 41). According to the views of Fishbein and Ajzan, attitude is a cognitive process that develops from a set of beliefs toward attributes of a particular object, idea, characteristics, or event that lead to a specific behavior (Ajzan, 1993). Therefore, they classified attitudes into two types that are positive or

favorable attitudes and negative or unfavorable attitudes (Ajzan, 1993). Integrating the definitions offered by Fishbein and Ajzan provides a deeper understanding of the degree of the negative and positive attitudes that the undergraduate nursing students may have toward sociocultural, ethical and clinical aspects of FGC.

Operational Definition: The term is operationalized using the FGC attitudes Likert subscale (See appendix D). Further description regarding the number of items, validity, and reliability of the FGC attitude scale is included in the instrument section (p.102-103)

FGC knowledge.

Conceptual Definition: There are different types, definitions, and interpretations of knowledge within the healthcare system. However, for the purpose of this study, Carper's (1978) patterns of knowledge were used to conceptually define the pattern of knowledge from nursing point of view, which is essential to maintain the concept of holistic nursing care. Carper introduced four fundamental "patterns of knowing," which are the key elements of this conceptual definition. The patterns of knowing based on Carper's work include: empirical knowledge that focuses on factual knowledge from science, or other external sources, that can be empirically verified; personal knowledge, which is the knowledge derived from personal self-understanding and empathy, including imagining one's self in the patient's position; ethical knowledge that focuses on the knowledge that derives from an ethical framework, including an awareness of moral questions and choices; and aesthetic knowledge, which is the knowledge that enhances the individual's awareness toward specific situations, seated in immediate practical

action. Aesthetic knowledge includes awareness of the patient and their circumstances as a unique individual and of the combined wholeness of the situation.

Operational Definition: The term is operationalized using the FGC Likert subscale (See appendix D). Further description regarding the number of items, validity, and reliability of the FGC knowledge scale is included in the instrument section (p. 103-104).

FGC Self-Efficacy.

Conceptual Definition: Bandura in the 1989 defined self-efficacy as a group of beliefs that function as "an important set of proximal determinants of human motivation, affect, and action" (Bandura, 1977, p. 1175). This indicates that self-efficacy is a group of beliefs that constitute a form of action through cognitive, motivational, and affective intervening processes (Bandura, 1977). Achieving the intended action, based on Bandura's view, requires enhancing the individual's self-efficacy through cognitive process, motivational process, and intrusive affective arousal process (Bandura, 1989). Integrating these components within this study provides deeper insight regarding the circumstances that increase or decrease the students' self-efficacy to provide a clinically and culturally competent nursing care for women who underwent FGC.

Operational Definition: The term is operationalized using the FGC self-efficacy Likert subscale (See appendix D). Further description regarding the number of items, validity, and reliability of the FGC self-efficacy scale is included in the instrument section (p. 104-105).

Methods

Participants

Study Population.

This study focuses on American healthcare providers who provide any perinatal care for women who underwent FGC. For healthcare providers, caring for women with FGC may present a challenge due to some sociocultural factors. Evidence indicates that there are discordant perspectives on health care expectations and recommended interventions between women with FGC and their providers. This creates patient-provider misunderstanding and miscommunication, which may have a negative impact on perceived quality of care and reproductive outcomes. A growing body of evidence from different western countries such as Norway, Sweden, USA, UK, and Spain, indicates the existence of significant gaps in training providers, as well as gaps in general knowledge about caring for women who underwent FGC (Dawson & Varol, 2017; Denholm, 2017; Essen & Johnsdotter, 2017; Lamy, Neyrink, Richard, Yerduyckt, & Alxander, 2017; Richard, 2017). Therefore, there is a need to improve the knowledge and cultural understanding for all healthcare providers who provide perinatal care within the American healthcare system. This includes students and professionals in nursing, nurse-midwifery, midwifery, medicine, obstetric, gynecology, and women's health nursing practitioners.

Sample.

Based on the understanding that nurses are the frontline healthcare providers and often involved in the care of women during their perinatal care, a decision was made to

include undergraduate nursing students who enrolled in the Bachelor's degree in nursing program. A purposive sampling technique was used to recruit the study sample, which helps in selecting a group of participants that share the same qualification criteria and educational environment. During the Academic Year 2016-2017, the investigator sent an announcement letter through a list serve of undergraduate faculty members and course instructors. Three faculty members were willing to share the FGC digital e-book in their courses. Accordingly, 351 participants were recruited from two junior (n= 251) and one senior (n=176) undergraduate nursing courses.

Inclusion & Exclusion Criteria.

Potential participants in this study were undergraduate nursing students who enrolled as full-time students in DSON at Binghamton University. The students had to read and speak English and were willing to participate in the study. The participants had to be registered in one of the undergraduate nursing courses and have access the DSON Blackboard system, which provided a link to the FGC digital e-book and the study pre-test and post-test questionnaires. All the participants had to have basic computer skills to download and navigate the e-book.

Human Subjects Protection.

Approval of this study was obtained from the Institutional Review Board (IRB) of Human Subject Review Research Office (HSRRC) at Binghamton University (Protocol Number: 3812-16) on February 3rd, 2017 (Appendix B). The potential participants received an electronic consent form through the course management system for the course for which they were registered. The consent form had a short description of the study and asked potential subjects about their willingness to participate in the FGC digital

e-book study (Appendix C). They were asked to electronically sign the consent form, which was a requirement for them to access the pre-test, e-book, and the post-test content. Their participation in this study was entirely voluntary, and the potential participates were able to discontinue completion of the study at any time without penalty. No personal identifiers were collected or reported, and findings were reported as aggregate data. Risks in participating in this study were considered to be minimal. An agreement between the Primary Investigator (PI) of this study and the DSON faculty members who included the e-book in their course outlines that the potential subject participation was considered as an extra credit and did not affect their course grade. All the data were saved in one computer, which required password access.

Procedure.

Between 2/6/2017 to 8/7/2017, each participant who was willing to participate in the study and met the study inclusion criteria immediately accessed the FGC digital e-book module through their My-Courses (Blackboard) accounts. For those who volunteered to participate, the purpose of the study and the nature of the study's intervention were verbally explained by the PI of this study. All the participants received oral and written instructions about how to download, access, and utilize the learning materials of the e-book efficiently. All the participants had to finish the self-administered pre-test questions to access the e-book and the self-administered post-test questions. At the end of the study, each participant completed and submitted the evaluation form about the module. The participants who were in the senior course received a completion of one hour and fifty minutes of continuing education (CE) certificate (Appendix D). However, the participants who were in the junior courses received 10 points extra credit added to

their coursework. All the participants received a $25 Econo silicone mobile pocket as a thank you gift.

Setting.

The principal investigator created an online module that was easily accessed electronically via the courses that the participants registered in during the period of the study. The module was integrated in a streamlined system, which is a third-party multimedia creation that hosts the works of the participants all in one place. The module has five parts, which included;

1. An online debriefing page that included a general overview of the study, the purpose of the study, consent form and instructions of how to use the module.
2. An online self-administrative set of pre-test questions that included multiple choice, rating scales, and selecting answers questions.
3. The FGC digital e-book, which is a downloaded PDF format file that included several chapters with various interactive and audiovisual learning methods.
4. An online self-administrative posttest questionnaire that has the same questions of the pre-test. However, the principal investigator changed the orders of the questions to minimize the threat to validity arising from having seen the questions previously.
5. Each module ended with an online evaluation form asking the participants about their feedback about the module.

Instruments.

Due to lack of accurate instruments that assess the actual level of knowledge, attitude, and self-efficacy, the principal investigator developed three scales that measured these variables (Appendix E). The following sections provide explanations about these instruments.

Demographic and Previous Knowledge and Experience of FGC Information: Demographic information was collected to address the following variables: age, race, marital status, and gender. Additionally, the author asked the participants if they lived in countries during anytime of their life where FGC is common. The participants were also asked to indicate whether they had any previous knowledge about FGC and to verify the source(s) of their information. Further, they were asked if they had previous clinical experience(s) with women who underwent FGC either by providing direct or indirect care. Assessing information regarding residency in countries where FGC is common, previous knowledge, and clinical experiences regarding FGC helps the investigator to address and control the confounding factors that may interferes with the accuracy of the study intervention (FGC digital e-book).

FGC Attitude Scale: The FGC attitude questionnaire has 13 close-ended questions to assess the level of attitudes among the undergraduate nursing students regarding the clinical, sociocultural, and ethical components of FGC. The investigator developed the questions based on the FGC e-book content. Further, these questions were classified based on the Fishbein and Ajzan (1975) classification (positive or favorable attitude, and negative or unfavorable attitude) to serve the purpose of this study. Each question is

categorized into strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree.

The positive attitude subset includes 7 questions that range from 7 to 35, where the strongly agree answer is scored as (5), the agree answer is scored as (4), the neither agree nor disagree is scored as (3), the disagree answer is scored as (2), and the strongly disagree answer is scored as (1). The score of (7) indicates the lowest positive attitude score, while (35) indicates the highest scores.

The negative attitude subset has 6 questions that range from 6 to 30, where the strongly agree answer is scored as (1), the agree answer is scored as (2), the neither agree nor disagree is scored as (3), the disagree answer is scored as (4) and the strongly disagree answer is scored as (5). The score of (6) indicates the lowest level of disagreement with negative attitude, and the score of (30) indicates the highest level of disagreement with negative attitudes.

The principal investigator calculated a Cronbach's alpha to statistically examine the reliability and the internal consistency of the FGC attitude scale, which was (0.77). The alpha indicates that this scale has a strong internal consistency to examine the level of attitude regarding the FGC performance from clinical point of view.

FGC Knowledge Scale: The FGC knowledge questionnaire has 14 close-ended questions. This questionnaire aims to assess the historical, clinical, sociocultural, and ethical aspects of FGC. The investigator developed these questions based on the FGC e-book content and within the framework of Carper's four patterns of knowledge (Empirical, Personal, Aesthetic, and Ethical). Each question is categorized into True, False, and Uncertain. The total score that addresses the level of knowledge ranged from

14 to 42, where the incorrect answer is scored as (1), the correct answer is scored as (3), and the uncertain answer is scored as (2). The 14 score indicates the lowest knowledge score, and 42 indicate the highest score. The principal investigator ran a Cronbach's alpha to statistically examine the consistency of the FGC knowledge scale (0.523), which indicates a very low and unacceptable level of alpha. However, the investigator did an item analysis of the knowledge scale to investigate the internal consistency of the scale item, which led to increase the Cronbach's alpha to (0.72).

FGC Self-Efficacy Scale: The questionnaire has 14 close-ended questions, which aim to assess the level of self-efficacy of different clinical, sociocultural, and ethical aspects of FGC. The questions are based on the FGC e-book content and cover the four Bandura's self-efficacy sources of enhancing the individuals' self-efficacy. Therefore, the questions were classified into the following: a) readiness beliefs and capability of accomplishing a competent clinical and sociocultural nursing care performance, b) readiness beliefs and capability of modeling and sharing vicarious experience especially those that address the challenged health circumstances of FGC, c) readiness beliefs and capability of utilizing the learning information to provide competent care, and d) readiness beliefs and capability of increasing the coping mechanism process to manage challenged health circumstances of FGC.

Each question is categorized into Yes, No, and Neither Yes or No. The total score that addresses the level of self-efficacy ranged from 14 to 42, where the No answer is scored as (1), the Yes answer is scored as (3), and the uncertain answer is scored as (2). The 14 score indicates the lowest score, and 42 indicate the highest scores. The PI calculated a Cronbach's alpha to statistically examine the consistency of the FGC attitude

scale, which was (0.71). The alpha indicates that this scale has an acceptable internal consistency of the 14 items of self-efficacy scale that been tested among study participants (n=86).

Construct Validity of the Study Instrument: There were two steps to determine the construct validity of the instrument, which includes face validity and content validity. The investigator conducted the face validity by piloting a survey to investigate the study instrument among 81 participants with different demographical, educational, and professional backgrounds. The author randomly communicated with the participants to complete and share their feedback regarding the construction, context, and length of the instrument. A total of 30 participants completed the study questionnaire and shared their feedback; all of the thirty participants reported that the questionnaire assessed their attitudes, knowledge, and self-efficacy regarding various aspects of FGC.

Regarding the content validity, the PI of this study, who was a primary expert in the FGC topic, developed the study instrument. The PI earned a master degree in nursing and had nationally and internationally scholarly involvements that focused on the impact of FGC on perinatal and migration health since 2005. The instrument was shared with an associate professor and researcher in the health illiteracy and vulnerable population health for more than 20 years to assess the contextual content of the study instrument in general. Moreover, the chair of the American College of Nurse-Midwives Division of Research, who works in the field for at least 20 years, reviewed the clinical and perinatal aspects of the instrument's content. Moreover, a psychologist, full professor, researcher and theorist who had experience for more than 20 years in several theories reviewed the concepts and theoretical aspects of the instrument content.

Data Analysis

IBM SPSS © version 25 (IBM Corporation, 2017) was used to analyze descriptive and inferential statistics for this study. Descriptive statistics of several demographic factors and factors related to previous experiences or knowledge of FGC were collected for comparison purposes. Furthermore, a dependent t-test was used to measure the mean differences of the level of knowledge, attitude, and self-efficacy before and after exposure to the FGC digital e-book. Furthermore, it compares the mean differences against the study hypotheses at 95% confidence interval to determine if the differences between these pre-test and post-test values are statistically significant. The author also calculated a Pearson r correlation to identify if there is a relationship between the scales of knowledge, attitude, and self-efficacy.

Summary

This chapter described the methodological framework that had been used to examine the proposed research questions of this study. The investigator used a quasi-experimental approach with a pre-test and post-test for one group design. Furthermore, this chapter explored the conceptual and operational definitions of the study variables. The method section of this chapter involved a detailed explanation of the study participants, which focused on the health care providers, mainly undergraduate students. A purposive sampling technique was used to recruit the study sample, which included 351 undergraduate nursing students from the Decker School of Nursing at Binghamton University. This chapter also described the sitting, ethical and human subject protection

aspects, and the procedure that had been used in conducting this study. The principle investigator in this chapter discussed the instrument and the data analyses that had been used to collect and analyze the data of this study.

Chapter Four

Study Analysis & Results

Introduction

The purpose of this study was to examine the impact of the FGC digital e-book on the level of attitude, knowledge, and self-efficacy among the undergraduate nursing students. The investigator proposed four research questions, which were:

- What is the impact of the FGC-digital eBook on the level of attitudes among undergraduate nursing students?
- What is the impact of the FGC-digital eBook on the level of knowledge among undergraduate nursing students?
- What is the impact of the FGC-digital eBook on the level of self-efficacy among undergraduate nursing students?
- Is there a relationship between the level of knowledge, attitude, and self-efficacy among undergraduate nursing students who have completed the education available in the FGC- digital eBook?

This chapter explores the final results of data analyses used to answer the four proposed research questions that are aligned with the purpose of the study. The investigator started this chapter by providing a general overview regarding the characteristic of the participants, which was conducted via descriptive statistical analyses. The descriptive statistical analyses focused on exploring the demographic data of the study subjects, which included the participants' age, gender, previous knowledge

and experiences of FGC, and the sources of knowledge about FGC. Afterward, the investigator provided in-depth discussion regarding the results of each research question by interpreting the scales and subscales scores of all the dependent variables, which involve the levels of FGC attitude, FGC knowledge, and FGC self-efficacy. Further discussion about paired *t*-test was also included in this chapter to illustrate the differences in the pre-test and post-test scores. The chapter ends with an exploration of the Pearson r correlation test to address the potential relationships between the study dependent variables.

Description of Study Participants

General Demographic Data.

A total of 86 subjects were included in this study, and the study participants were enrolled in one of the two junior undergraduate nursing courses. The females represented the largest sample group (87%) compared to the only 10 males who completed the study. One participant reported as transgendered (Table 2). The age factor was classified into four groups based on the acceptable age for entering the university program. The age factor classification included later adolescences group (18-24 years), early adulthood group (25-34 years), early middle adulthood group (35-44 years), and later middle adulthood group and above (45 years and above). The result indicated that the later adolescence group represented the largest population (n=55, 64.7%), followed by the early middle adulthood group (n=21, 24.7%, Table 3). There was one participant who did not indicate the age; however, the data implied that around 89% (n=76) of the study sample were aged 34 and younger compared to the only 11% (n=9) who were aged 35 and above.

Table 2

Participation by Gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	75	87.2	87.2	87.2
	Male	10	11.6	11.6	98.8
	Transgender	1	1.2	1.2	100.0
	Total	86	100.0	100.0	

The results indicated that the participants with the white race background represented the most significant portion of the study sample (n=59, 69.4%), which was followed by the African American background (n=17, 20%). This implied that 89.4% of the study sample was either with white or African American backgrounds. However, there were eight participants reported that they had a Hispanic or Latino background and only one participant reported a native/American Indian background (Table 4).

Table 3

Participation by Age

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Later Adolescence (18-24)	55	64.0	64.7	64.7
	Early Adulthood (25-34)	21	24.4	24.7	89.4
	Early Middle Adulthood (35-44)	8	9.3	9.4	98.8
	Late Middle Adulthood and above 45-Above	1	1.2	1.2	100.0
	Total	85	98.8	100.0	
Missing		1	1.2		
Total		86	100.0		

Table 4

Participation by Race and Ethnicity Background

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	59	68.6	69.4	69.4
	Hispanic/Latino	7	8.1	8.2	77.6
	African American	17	19.8	20.0	97.6
	Native/Indian American	1	1.2	1.2	98.8
	Asian	1	1.2	1.2	100.0
	Total	85	98.8	100.0	
Missing		1	1.2		
Total		86	100.0		

Specific Demographic Data.

Knowing and Sources of Knowing about FGC: There were 60 participants (69.8%) who reported that they knew about FGC before conducting the study, while only (n=26, 30.2%) of the participants had no previous knowledge about FGC (Table 5). However, the investigator had a more in-depth analysis of the source of knowing about FGC among the participants who reported that they knew about FGC. The participants were asked to select at least one of the FGC knowing sources list, which was represented in (Table 6).

Table 5

Participation by previous knowing about FGC

Knowing about FGC					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	60	69.8	69.8	69.8
	No	26	30.2	30.2	100.0
	Total	86	100.0	100.0	

The result indicated that the educational program and public media were the primary sources of knowledge about FGC among the study participants. For instance, there were 29 subjects (33.7%) who reported that the educational program was the source of knowledge, and 11 subjects (12.8%) gained their previous knowledge about FGC from the public media. The result also showed that there were other sources of knowledge about FGC such as hearing about it from friends (n=5, 5.8%), searching the internet websites (n=5, 5.8%), or attending community or public health educational sessions (n=4, 4.7%). Table 6 represented the frequencies and percentage of the participants' selections of the other sources of knowledge about FGC.

Previous Experiences about FGC: The investigator asked the study participants 11 questions that focused on exploring whether they had previous experiences with FGC or not. Table 7 showed these questions, which they responded as direct, indirect, personal, or clinical experiences with FGC. The results indicated that there were only four questions had been asked by the all study participants (Table 8). For instance, there were 54 participants (62.8%) who reported that someone told them about FGC but they had not witnessed it themselves. However, there were two participants who reported that they had been in a country were FGC is common but they had not witnessed it, and only one participant reported self-witnessing the FGC practice. None of the participants had directly cared for women with FGC.

Table 6

Participation by source of knowing about FGC

	Source of FGC				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	23	26.7	26.7	26.7
	Family members	1	1.2	1.2	27.9
	Friend	5	5.8	5.8	33.7
	Educational Program	29	33.7	33.7	67.4
	Community or Public Health Education	4	4.7	4.7	72.1
	Public Media	11	12.8	12.8	84.9
	News paper(s)/magazine(s)	1	1.2	1.2	86.0
	Internet Website(s)	5	5.8	5.8	91.9
	Educational Program + Internet website	1	1.2	1.2	93.0
	Educational Program, News Paper, Internet website, Political Camping Campaign	1	1.2	1.2	94.2
	Family, friend, educational program, public media, news paper, internet website	2	2.3	2.3	96.5
	Educational program, community-public health education, news paper or magazine, internet website	1	1.2	1.2	97.7
	Educational Program, Public Media, Social Media, advertisement	1	1.2	1.2	98.8
	Educational Program and Public Media	1	1.2	1.2	100.0
	Total	86	100.0	100.0	

Table 7

Questions of Previous Experiences of FGC

Questions of Previous Experiences of FGC	
Q1.	I have witnessed FGC myself
Q2.	Someone told me about FGC but I haven't witnessed it myself
Q3.	No one told me about FGC and I have never witnessed it
Q4.	I have been in a country where FGC is common, but I never witnessed any FGC
Q6.	I have been in a country where FGC is common and I witnessed FGC
Q7.	I directly managed a women with FGC when I was in my clinical training
Q8.	I have managed a pregnant women with FGC
Q9.	I assisted a provider with managing a woman with FGC during labor
Q10.	I assisted a provider with managing a woman with FGC during labor
Q11.	I have managed a woman with FGC during labor

Table 8

Participation by the Previous Experiences of FGC

Previous Experience of FGC					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I have witnessed FGC myself	1	1.2	1.2	1.2
	Someone told me about FGC but I haven't witnessed it myself	54	62.8	63.5	64.7
	No one told me about FGC and I have never witnessed it	28	32.6	32.9	97.6
	I have been in a country where FGC is common, but I never witnessed any FGC	2	2.3	2.4	100.0
	Total	85	98.8	100.0	
Missing		1	1.2		
Total		86	100.0		

Descriptive Statistics for the Study Variables

Research question 1: Attitude

Assessing Normality (Pretest & Posttest): The investigator conducted the normality test for attitude scores by using Shapiro-Wilk tests with α (0.05) with 95% confidence interval to compare the sample distribution differences between the pretest and posttest scores. The results indicated that the pretest scores were normally distributed (Shapiro-Wilk$_{(p\ value)}$= .132l, $p < 0.5$) compared to the posttest scores which indicated that the data were not normally distributed (Shapiro-Wilk$_{(p\ value)}$= .011, $p > 0.5$). However, the investigator ran variance-stabilizing procedure for the posttest attitude score to convert the data set to be normally distributed in order to use a parametric analysis. The result showed that the post-test attitude score became more normally distributed (Shapiro-Wilk$_{(p\ value)}$= .768, Table 9). Figures 3 and 4 show the graphical presentations of the sample distribution for the attitude variable.

Table 9

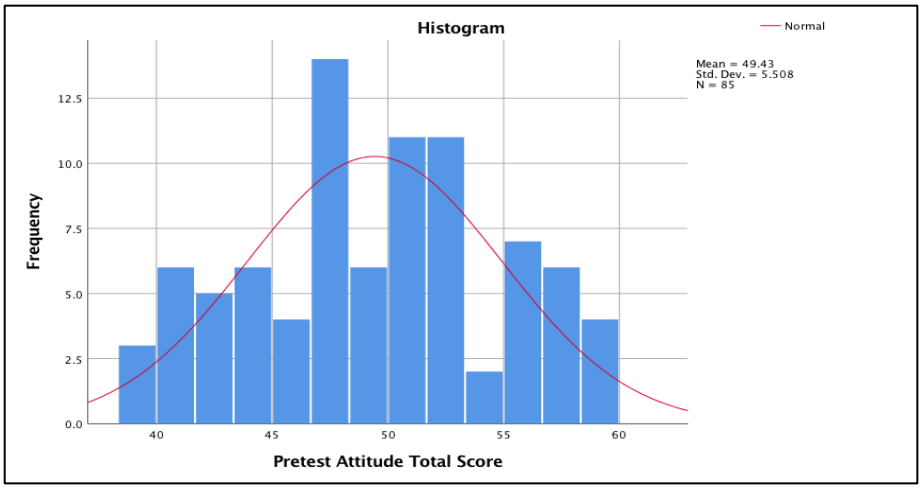
Normality Distribution of the FGC Attitude Scores (Pretest & Posttest)

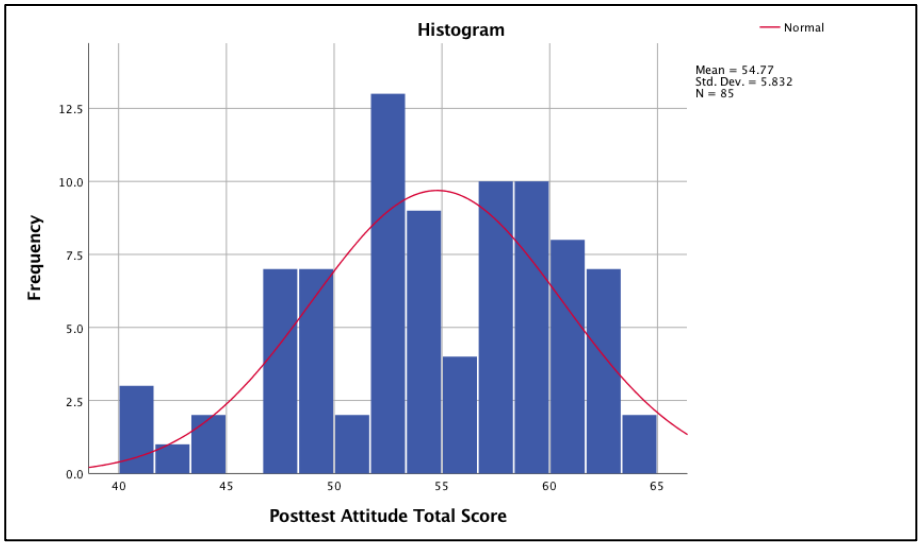
	Tests of Normality					
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Attitude Total Score	.060	85	.200*	.977	85	.129
Posttest Attitude Total Score	.098	85	.042	.961	85	.011
Variance- Stabilizing Posttest Attitude Score	.059	85	.200*	.990	85	.768

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 3: Histogram Graphs of Normality Tests (FGC Attitude Scores)





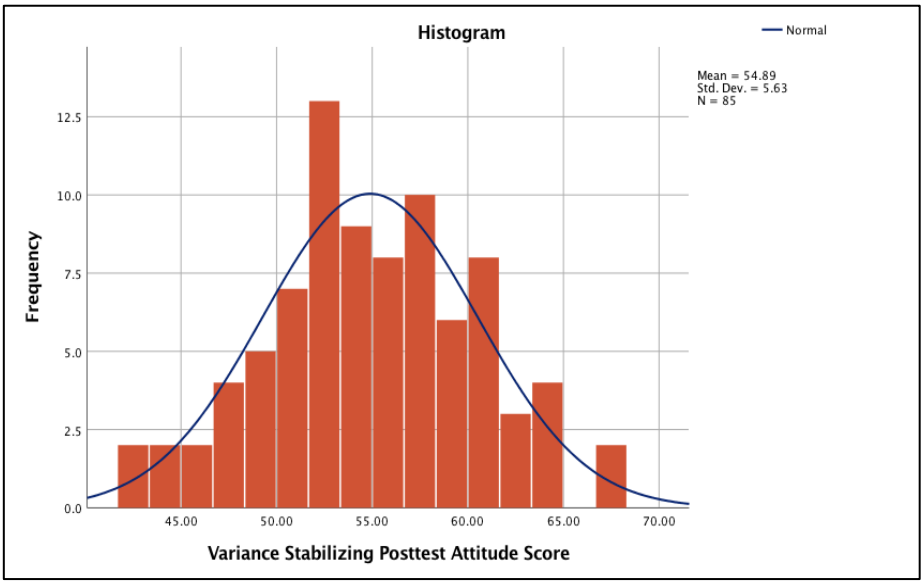
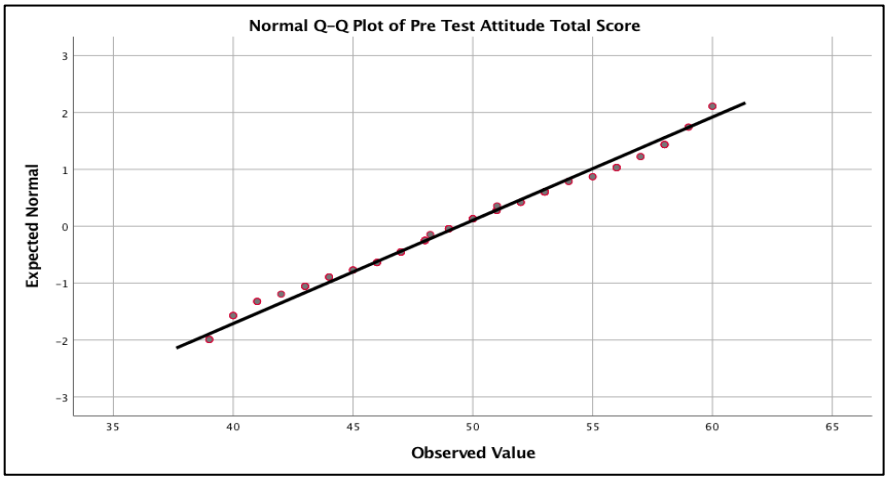
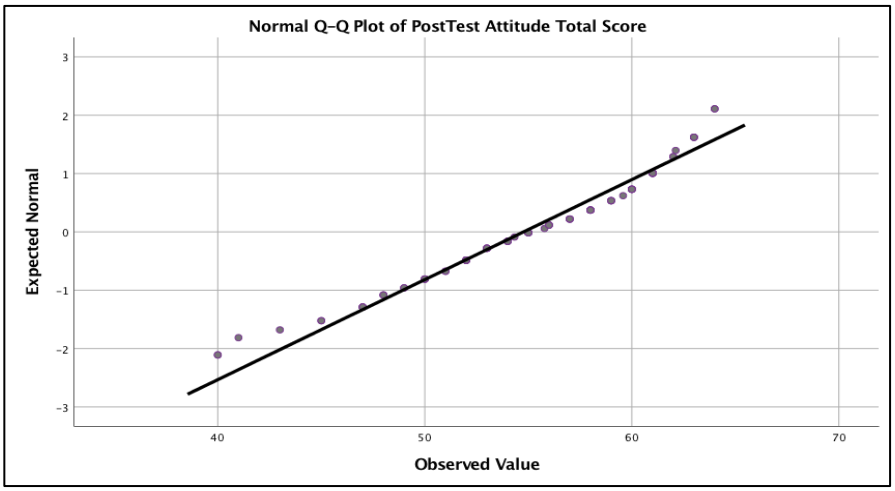
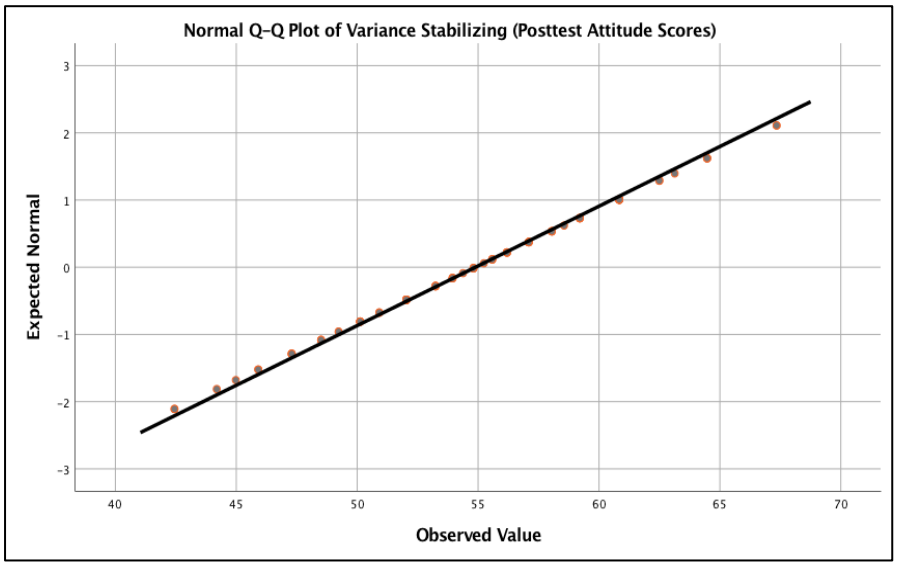


Figure 4: Normal Q-Q Plot of Normality Tests for Attitude Scores







Testing the Hypothesis: To test the hypothesis of the pretest attitude scores (*M*= 49.42, *SD*= 5.475) and posttest attitude scores (*M*= 54.89, *SD*= 5.902), which were unequal (Table 10), a dependent samples *t*-test was performed. Prior to conducting the analysis, the assumption of normally distributed differences scores was examined as it was indicated in the previous section of this chapter. The assumption was considered satisfied, as the (Shapiro-Wilk$_{(p\ value)}$ for Pretest= .132l vs. Shapiro-Wilk$_{(p\ value)}$ for posttest= .768) as it was indicated in Table 9. Based on the dependent samples *t*-test result, the null hypothesis of FGC attitude equal resilience means of the pretest and posttest was rejected ($t(85)= -6.132$, $p < .001$). Thus, the posttest FGC attitude scores mean was statistically higher than the pretest FGC attitude mean (Table 11). Cohen's *d* was estimated at -0.7 which was a medium effect based on Cohen's (1992) guidelines.

Table 10

Pretest & Posttest FGC Attitude Scale Scores

Paired Samples Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Pair 1	Pretest Attitude Total Scores	86	49.42	5.475	.590
	Posttest Attitude Total Scores	86	54.89	5.902	.636
Pair 2	Total Negative Pretest Attitude Scores	86	25.2443	3.55778	.38365
	Total Negative Posttest Attitude Scores	86	29.1811	3.67770	.39658
Pair 3	Total Positive Pretest Attitude Scores	86	24.1770	2.86726	.30919
	Total Positive Attitude Posttest Scores	86	25.7120	2.98765	.32217

Table 11

FGC Attitude Pretest-Posttest (t-Test)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pre Test Attitude Total Score – Post Attitude Total Scores	-5.472	8.275	.892	-7.246	-3.698	-6.132	85	.000
Pair 2	Total Negative Pretest Attitude Score-Total Negative Posttest Attitude Scores	-3.93680	5.29068	.57051	-5.07112	-2.80247	-6.901	85	.000
Pair 3	Total Positive Pretest Attitude Scores-Total Positive Attitude Posttest Scores	-1.53497	4.08802	.44082	-2.41145	-.65850	-3.482	85	.001

The attitude variable in this study had two subscales score, which included one for the negative attitude scale and one for the positive attitude scale. Regarding the negative attitude scores, the result showed that there was a mean difference in the pretest scores (*M*= 25.2443, *SD*= 3.55778) compared to the posttest scores (*M*= 29.1811, *SD*= 3.67770). The assumption of normally distributed differences scores was examined. The assumption was considered satisfied, as the skew and kurtosis levels were estimated for the pretest at -.080 and -.616, respectively (Table 12). While for the posttest the skew and kurtosis levels were estimated at -.435 and -.053, respectively (Table 12). The data indicated that the pretest and posttest skews and kurtosis were less than the maximum allowable values for a *t*-test (i.e., skew < |2.0| and kurtosis < |9.0| (Posten, 1984). Based on the dependent samples *t*-test result, the null hypothesis of equal resilience means of the pretest FGC attitude and posttest FGC attitude was rejected, $t(85) = -6.901$, $p < .001$. Thus, the posttest FGC negative attitude mean was statistically higher than the pretest FGC attitude mean. Cohen's *d* was estimated at 0.8 which was a large effect based on Cohen's (1992) guidelines.

However, the positive attitude scores result indicated that there was a mean difference in the pretest scores (*M*= 24.1770, *SD*= 2.86726) compared to the posttest scores (*M*= 25.7120, *SD*= 2.98765). The assumption of normally distributed differences scores was examined. The assumption was considered satisfied, as the skew and kurtosis levels were estimated for pretest at -.249 and -.230, respectively (Table 12); while the posttest skew and kurtosis levels were estimated at -.325 and -.053, respectively (Table 12). Thus, both skew and kurtosis pretest and posttest results were less than the

maximum allowable values for a *t*-test (i.e., skew < |2.0| and kurtosis < |9.0| (Posten, 1984).

Based on the dependent samples *t*-test result, the null hypothesis of equal resilience means of the pretest FGC attitude and posttest FGC attitude was rejected, $t(85) = -3.482$, $p < .001$. Thus, the posttest FGC positive attitude mean was statistically higher than the pretest FGC attitude mean. Cohen's *d* was estimated at 0.8 which was a large effect based on Cohen's (1992) guidelines.

Research question 2: Knowledge.

Assessing Normality (Pretest & Posttest): The investigator conducted the normality test for knowledge scores by using Shapiro-Wilk tests with α (0.05) with 95% confidence interval to compare the sample distribution differences between the pretest and posttest scores. The results indicated that the FGC knowledge pretest scores were more normally distributed compared to the FGC knowledge posttest scores (pretest Shapiro-Wilk$_{(p\ value)}$= .969; posttest Shapiro-Wilk$_{(p\ value)}$= 0.898, $p < 0.05$). Accordingly, the investigator ran variance-stabilizing procedure for the posttest knowledge scores to convert them to be normally distributed. However, the variance-stabilizing procedure failed to represent the FGC knowledge scores as normally distributed (Variance Stabilizing Posttest Shapiro-Wilk$_{(p\ value)}$= .768, Table 13).

Conversely, the assumption of normally distributed differences scores was examined based on the Posten (1984) guideline of skewness and kurtosis level estimation. The assumption was considered satisfied, as the skew and kurtosis levels were estimated for pretest at .260 and -.693, respectively (Table 14).

Table 12

Descriptive Statistics of the Attitude (Pretest & Posttest)

Descriptive Statistics

	N	Range	Min	Max	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Total Negative Pretest Attitude Scores	86	15	17	32	25.24	3.558	-.080	.260	-.616	.514
Total Negative Posttest Attitude Scores	86	16	19	35	29.18	3.678	-.435	.260	-.053	.514
Total Positive Pretest Attitude Scores	86	13	17	30	24.18	2.867	-.249	.260	-.230	.514
Total Positive Attitude Posttest Scores	86	11	19	30	25.71	2.988	-.325	.260	-.809	.514
Valid N (listwise)	86									

While for the posttest the skew and kurtosis levels were estimated at -1.139 and 1.626, respectively (Table 14). Thus, both skew and kurtosis pretest and posttest results were less than the maximum allowable values for a *t*-test (i.e., skew < |2.0| and kurtosis < |9.0| (Posten, 1984). Figures 5 and 6 showed the graphical presentations of the sample distribution for FGC knowledge variable.

Figure 5: Histogram Graphs of Normality Tests (FGC Knowledge Scores)

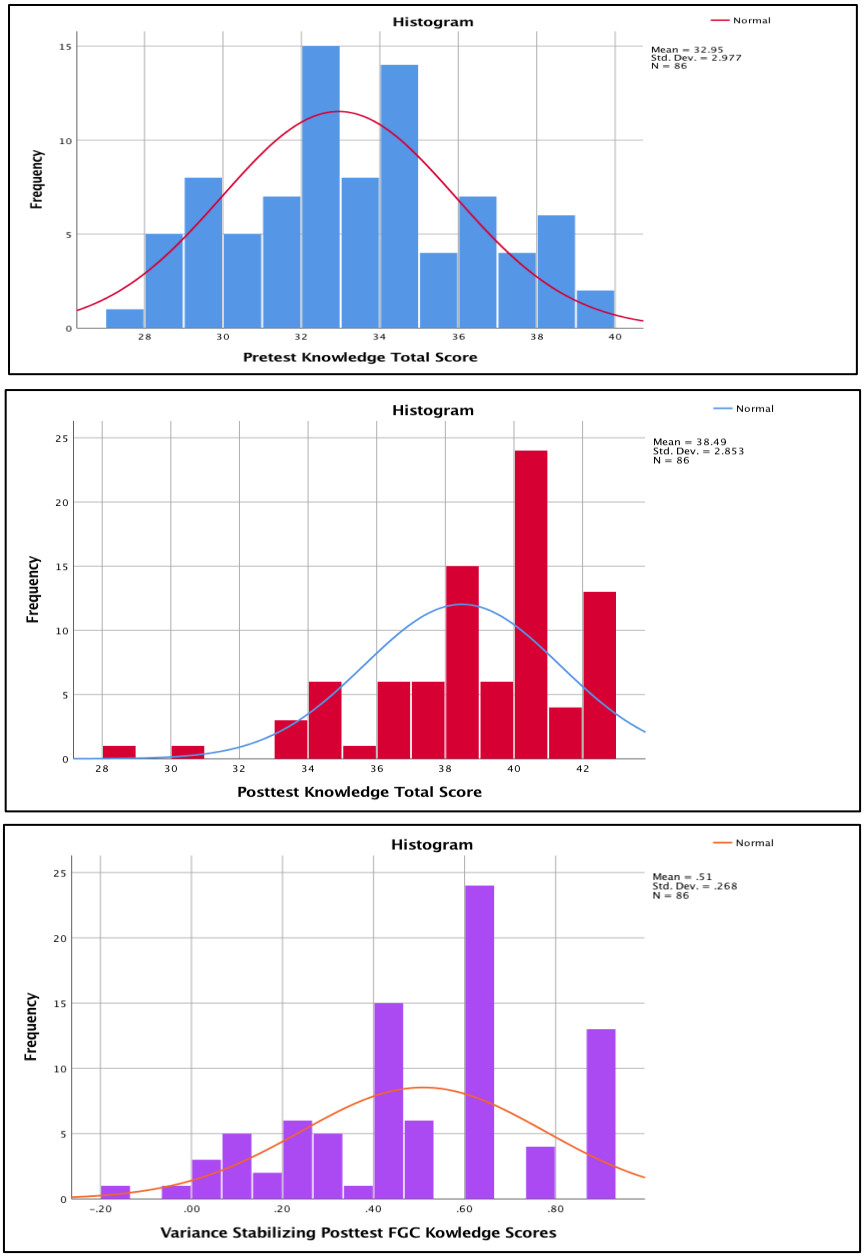
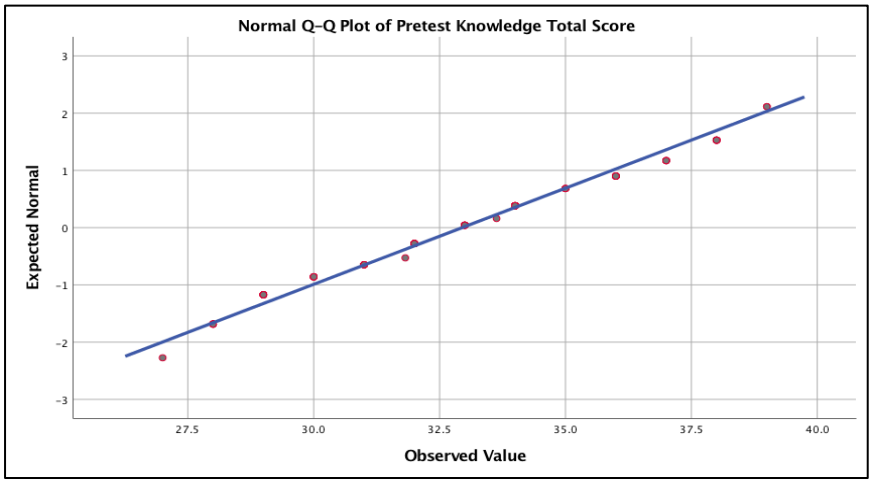
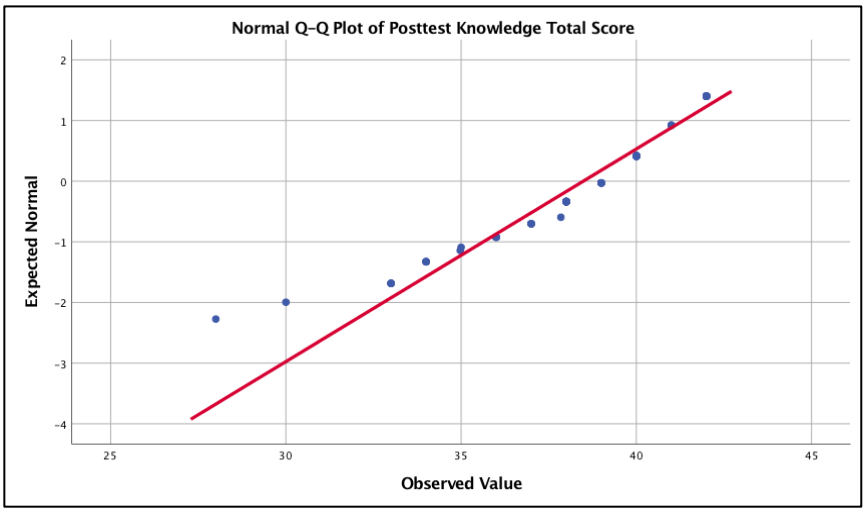


Figure 6: Normal Q-Q Plot of Normality Tests for FGC Knowledge Scores





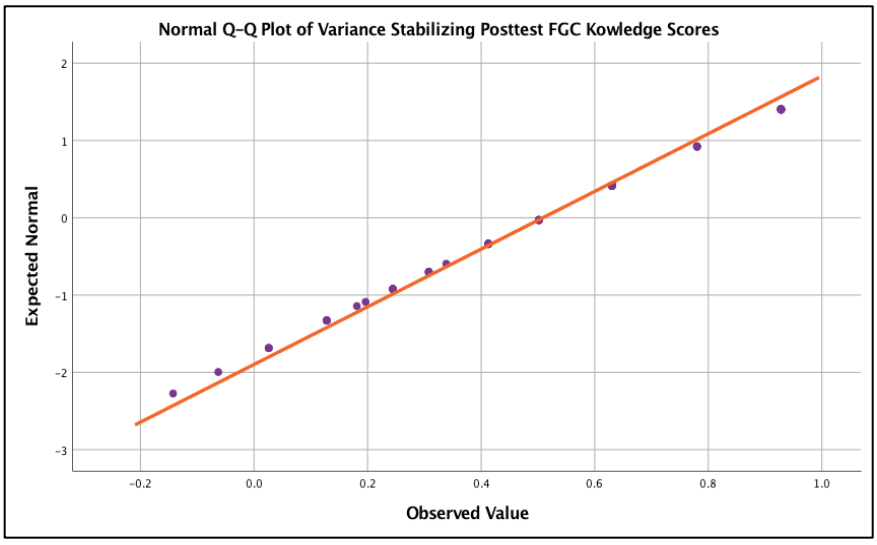


Table 13

Normality Distribution of the FGC Knowledge Scores (Pretest & Posttest)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test Knowledge Total Score	.102	86	.029	.969	86	.037
Post Test Knowledge Total Score	.179	86	.000	.898	86	.000
Variance Stabilizing Posttest FGC Knowledge Scores	.152	86	.000	.950	86	.002

a. Lilliefors Significance Correction

Table 14

Descriptive Statistics of the FGC Knowledge Scores (Pretest & Posttest)

Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Pretest Knowledge Total Scores	86	27	39	32.95	2.977	8.865	.110	.260	-.693	.514
Posttest Knowledge Total Scores	86	28	42	38.49	2.853	8.139	-1.139	.260	1.626	.514
Valid N (listwise)	86									

Testing the Hypothesis: To test the hypothesis of the pretest FGC knowledge scores (*M*= 32.95, *SD*= 2.977) and posttest FGC knowledge scores (*M*= 38.49, *SD*= 2.853), which were unequal (Table 15), a dependent samples *t*-test was performed. Prior to conducting the analysis, the assumption of normally distributed differences scores was examined as it was indicated in the previous section of this chapter. Based on the dependent samples *t*-test result, the null hypothesis of equal resilience of the FGC knowledge means of the pretest and posttest was rejected, $t(85) = -11.520$, $p < .001$ (Table 16). Thus, the mean of the posttest FGC knowledge scores was statistically higher than the pretest FGC knowledge scores mean. Cohen's *d* was estimated at -1.24 which was a large effect based on Cohen's (1992) guidelines.

Table 15

Pretest & Posttest FGC Knowledge Scale Scores

Paired Samples Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Pair 1	Pretest Knowledge Total Scores	86	32.95	2.977	.321
	Posttest Knowledge Total Scores	86	38.49	2.853	.308
Pair 2	Pretest Total Correct False FGC Knowledge Scores	86	11.7486	1.69958	.18327
	Posttest Total Correct False FGC Knowledge Scores	86	13.1029	1.84746	.19922
Pair 3	Pretest Total Correct True FGC Knowledge Scores	86	21.1985	2.01061	.21681
	Posttest Total Correct True FGC Knowledge Scores	86	25.3834	1.79049	.19307

Table 16

FGC Knowledge Pretest-Posttest (t-Test)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest Knowledge Total Scores-Posttest Knowledge Total Scores	-5.539	4.459	.481	-6.495	-4.583	-11.520	85	.000
Pair 2	Pretest Total Correct False FGC Knowledge Scores-Posttest Total Correct False FGC Knowledge Scores	-1.35427	2.73605	.29504	-1.94088	-.76766	-4.590	85	.000
Pair 3	Pretest Total Correct True FGC Knowledge Scores-Posttest Total Correct True FGC Knowledge Scores	-4.18495	2.89317	.31198	-4.80525	-3.56465	-13.414	85	.000

The knowledge variable in this study had two subscale scores, which included one for the correct false knowledge scale and one for correct true knowledge scale. Regarding the false correct knowledge scores, the result showed that there was a mean difference in the pretest scores (M= 11.7486, SD= 1.69958) compared to the posttest scores (M= 13.1029, SD= 1.84746) (Table 15). Based on the dependent samples t-test result, the null hypothesis of equal resilience means of the pretest FGC attitude and posttest FGC attitude was rejected, $t(85)= -4.590$, $p < .001$ (Table16). Thus, the posttest FGC false correct scores mean was statistically higher than the pretest FGC false correct scores mean. Cohen's d was estimated at -.5 which was a medium effect based on the Cohen's (1992) guideline.

Moreover, the true correct FGC knowledge scores result indicated that there was a mean difference in the pretest scores (M= 21.1985, SD= 2.01061) compared to the posttest scores (M= 25.7120, SD= 1.79049) (Table 15). Based on the dependent samples t-test result, the null hypothesis of equal correct true FGC knowledge resilience means of the pretest and posttest was rejected, $t(85)= -13.414$, $p < .001$ (Table 16). Thus, the posttest FGC positive attitude mean was statistically higher than the pretest FGC attitude mean. Cohen's d was estimated at -1.5 which was a very large effect based on Cohen's (1992) guidelines.

Research Question 3: Self-Efficacy.

Assessing Normality (Pretest & Posttest): The investigator conducted the normality test for self-efficacy scores by using Shapiro-Wilk tests with α (0.05) with 95% confidence interval to compare the sample distribution differences between the pretest and posttest scores. The results indicated that the FGC self-efficacy pretest scores were

normally distributed (Shapiro-Wilk$_{(p\ value)}$= .980, p < 0.05) compared to the posttest scores which indicated that the data were not normally distributed (Shapiro-Wilk$_{(p\ value)}$= .943, p > 0.05; Table 17). However, the investigator ran variance-stabilizing procedure for the posttest self-efficacy score to convert the data set to be normally distributed in order to use a parametric analysis. The result showed that the post-test self-efficacy score became more normally distributed (Shapiro-Wilk$_{(p\ value)}$= .987, p > 0.5; Table 17). Figures 7 and Figure 8 showed the graphical presentations of the sample distribution for the self-efficacy variable.

Table 17

Normality Distribution of the FGC Self-Efficacy Scores (Pretest & Posttest)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Self-Efficacy Total Score	.097	86	.043	.980	86	.213
Posttest Self-Efficacy Total Score	.134	86	.001	.943	86	.001
Variance Stabilizing Posttest Self-Efficacy Scores	.071	86	.200*	.987	86	.538

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Testing the Hypothesis: To test the hypothesis of the pretest self-efficacy scores (M= 28.35, SD= 3.525) and posttest self-efficacy scores (M= 34.71, SD= 3.886), which were unequal (Table 18); a dependent samples t-test was performed. Prior to conducting the analysis, the assumption of normally distributed differences scores was examined as it was indicated in the previous section of this chapter. Based on the dependent samples t-

test result, the null hypothesis of equal resilience means of the pretest and posttest FGC self-efficacy was rejected, $t(85)= -11.449$, $p < .001$) (Table 19). Thus, the posttest FGC self-efficacy scores mean was statistically higher than the pretest FGC self-efficacy mean. Cohen's *d* was estimated at -1.24 which was a large effect based on Cohen's (1992) guidelines.

The self-efficacy variable in this study had two subscale scores; the first subscale measures the level of readiness of students to provide competent care to manage the FGC cases, while the other self-efficacy subscale measures the actual actions that the students performed to develop their skills of providing competent care. Regarding the self-efficacy readiness subscale, the result showed that there was a mean difference in the pretest scores ($M= 15.7629$, $SD= 1.883636$) compared to the posttest scores ($M= 18.567989$, $SD= 1.889293$) (Table 18). Based on the dependent samples *t*-test result, the null hypothesis of equal resilience means of the pretest and posttest FGC readiness self-efficacy was rejected, $t(85)= -10.658$, $p < .001$) (Table 19). Thus, the posttest FGC self-efficacy readiness scores mean was statistically higher than the pretest scores mean. Cohen's *d* was estimated at -1.24 which was a large effect based on the Cohen's (1992) guideline.

Moreover, for actual self-efficacy scores the result indicated that there was a mean difference in the pretest scores ($M= 12.5840$, $SD= 2.25628$) compared to the posttest scores ($M= 16.1452$, $SD= 3.01985$, Table 18). Based on the dependent samples *t*-test result, the null hypothesis of equal resilience means of the pretest and posttest FGC actual act self-efficacy was rejected, $t(85)= -8.631$, $p < .001$) (Table 19). Thus, the posttest actual self-efficacy scores mean was statistically higher than the pretest scores

mean. Cohen's *d* was estimated at -.93 which was a large effect based on the Cohen's (1992) guideline.

Figure 7: Histogram Graphs of Normality Tests (FGC Self-Efficacy Scores)

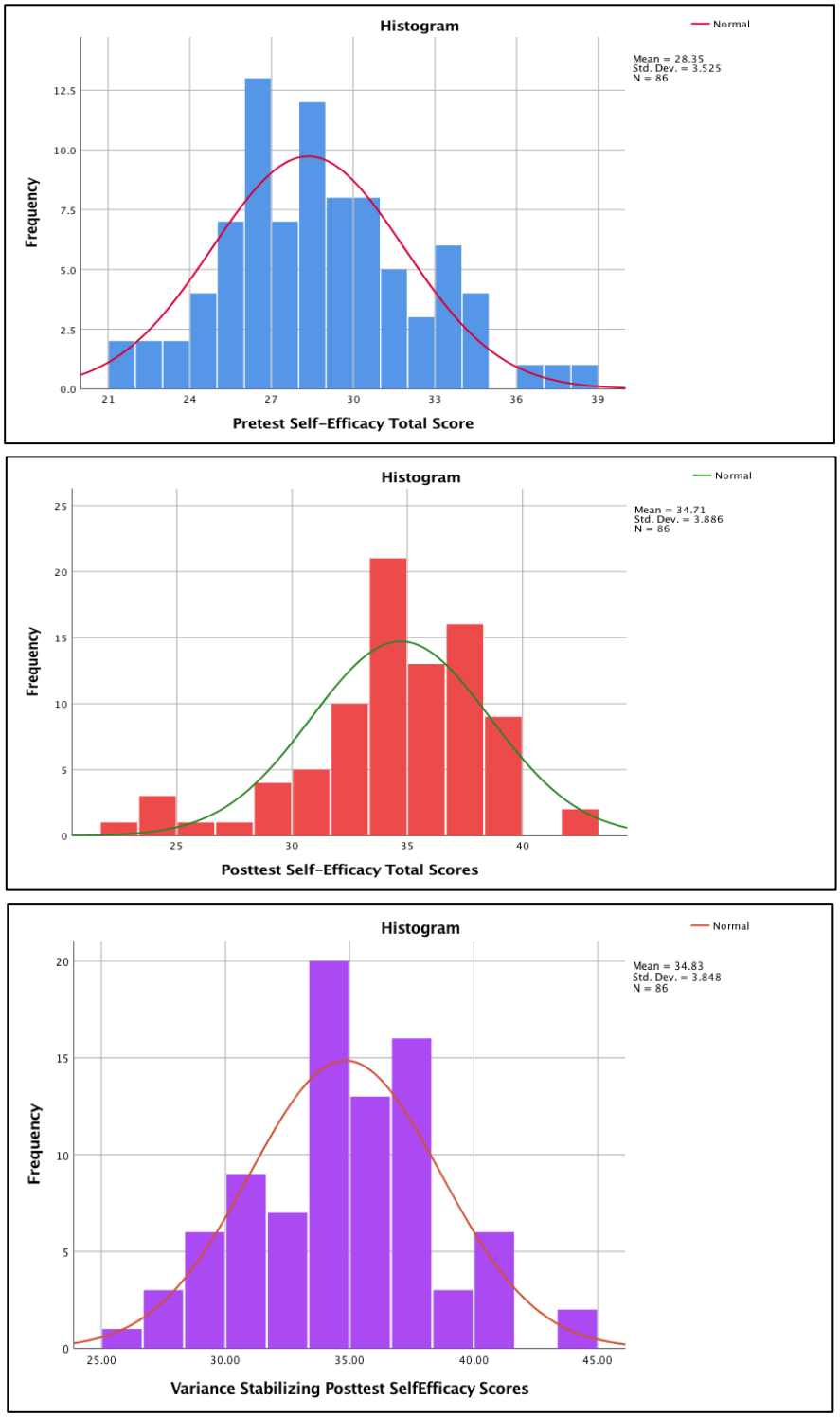
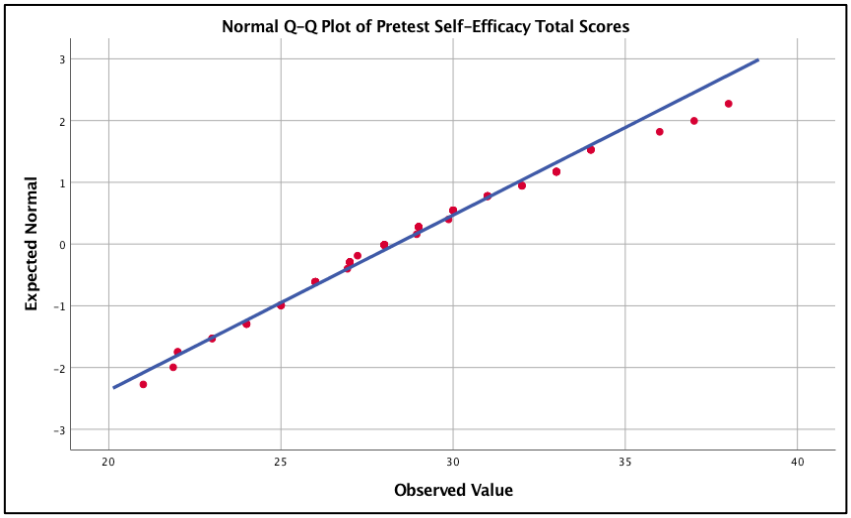
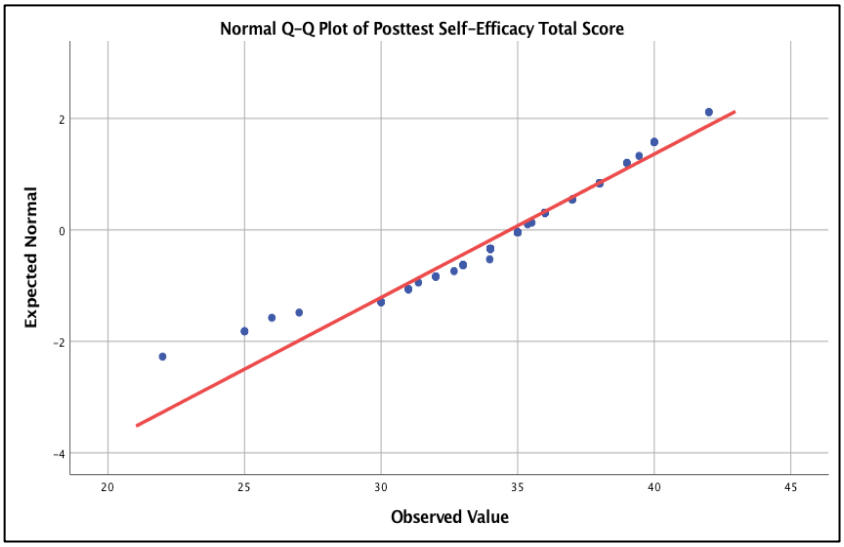


Figure 8: Plot Normal Q-Q of Normality Tests for FGC Self-Efficacy Scores





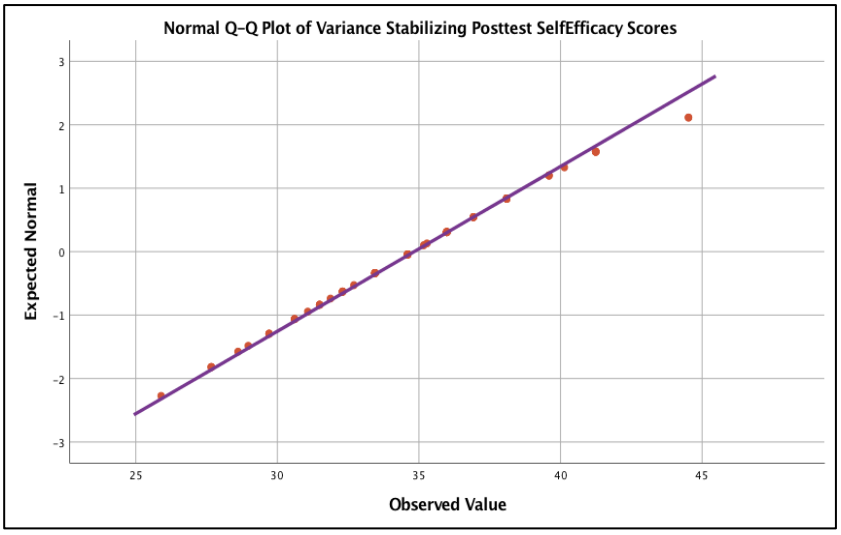


Table 18

Descriptive Pretest & Posttest FGC Self-Efficacy Scale Scores

Paired Samples Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Pair 1	Pretest Self-Efficacy Total Scores	86	28.35	3.525	.380
	Posttest Self-Efficacy Total Scores	86	34.71	3.886	.419
Pair 2	Pretest Readiness Self-Efficacy	86	15.7629	1.88364	.20312
	Posttest Readiness Self-Efficacy	86	18.5680	1.88929	.20373
Pair 3	Pretest Actual Self-Efficacy	86	12.5840	2.25628	.24330
	Posttest Actual Self-Efficacy	86	16.1452	3.01985	.32564

Table 19

FGC Self-Efficacy Pretest-Posttest (t-Test)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest Self-Efficacy Total Scores - Posttest Self-Efficacy Total Scores	-6.366	5.157	.556	-7.472	-5.261	-11.449	85	.000
Pair 2	Pretest Readiness Self Efficacy-Posttest Readiness Self-Efficacy Scores	-2.80510	2.44073	.26319	-3.32839	-2.28180	-10.658	85	.000
Pair 3	Pretest Actual Self-Efficacy-Posttest Actual Self-Efficacy Scores	-3.56123	3.82617	.41259	-4.38156	-2.74089	-8.631	85	.000

Research Question 4. Posttest FGC Knowledge & FGC Attitude Relationships.

The investigator conducted a Pearson's r coefficient correlation to test the relationship between the posttest knowledge and the attitude results. The analysis revealed a statistically significant positive moderate relationship between these two variables (r=0.5, $p < 0.01$, Table 20). However, the results indicated that there was a non-significant positive and week relationship of the posttest FGC knowledge and FGC self-efficacy variables (r=.047, $p > 0.01$, Table 20). Furthermore, the Pearson's *r* revealed a non-significant positive week relationship between the posttest attitude and self-efficacy variables (r= .173, $p > 0.01$, Table 20).

Table 20

Posttest FGC Attitude, Knowledge, & Self-Efficacy Relationship (Pearson's r Correlation Test)

Correlations

		Posttest Attitude	Posttest Knowledge	Posttest Self-Efficacy
Posttest Knowledge Total	Pearson Correlation	.470**	1	.047
	Sig. (2-tailed)	.000		.667
	N	86	86	86
Posttest Self-Efficacy Total	Pearson Correlation	.173	.047	1
	Sig. (2-tailed)	.110	.667	
	N	86	86	86
Posttest Attitude Total	Pearson Correlation	1	.470**	.173
	Sig. (2-tailed)		.000	.110
	N	86	86	86

**. Correlation is significant at the 0.01 level (2-tailed).

Summary

The research questions and hypotheses in this study were statistically tested and presented in this chapter. Descriptive data analyses were used to analyze the demographic data of this study. A dependent t-test statistical analysis was used to examine the mean differences in the FGC attitude scale, FGC knowledge scale, and FGC self-efficacy scale. The subscales differences of both attitude and knowledge variables were also examined and explored in this chapter. Overall, the data results showed that there were statistically significant differences between the pretest and posttest scores at the attitude, knowledge, and self-efficacy levels. Finally, the Pearson's r was used to test the existence of a relationship between the levels of FGC posttest attitude, knowledge, and self-efficacy scores. The results indicated that there were variations regarding the significance, direction and the strength of the relationship between the study variables.

Chapter Five

Discussion, Conclusion, & Recommendations

Introduction

This chapter explores and provides a comprehensive articulation regarding the final study findings related to the impact of the FGC digital e-book on the undergraduate nursing students' attitude, knowledge, and self-efficacy related to FGC. The articulation starts with a discussion section that explains the result of each proposed question. The author also discusses the major limitations, which threaten the internal and external validity of this study. Furthermore, the author includes a discussion about the implication of this study. The chapter includes with a recommendation section of how to disseminate the findings of this study, which is an essential step to improve the scholarly work on this topic. The chapter ends with a conclusion section that provides general overview and summary of this study.

Discussion

Discussion of the Research Question 1

The first research question of this study was "What is the impact of the FGC-digital eBook on the level of attitude among undergraduate nursing students?" This question aimed to compare the level of attitude among the undergraduate nursing students before and after they used the e-book. Assessing the students' attitudes regarding the FGC is an essential element in this study considering the current gap in the literature

regarding American healthcare providers' attitude about FGC practice (Abdulcadir, et al, 2017; Balfour, et al., 2016; Cappon, et al., 2015; Kaplan, et al., 2013).

For instance, three studies indicated that there are overlapping attitudes and misperceptions regarding the practice of FGC among the healthcare providers (Hess, et al., 2010; Jacoby, & Smith, 2013; Lazar et al., 2013). These overlapping attitudes and misperceptions impact negatively on delivering the optimal nursing care to manage the women who underwent FGC. This earlier work was done without a standardized FGC attitude scales for the American healthcare context (Lazar et al., 2013; Squire, 2017; Varol, et al., 2017). Therefore, the investigator developed an attitude tool that has 13 statements based on the Fishbein and Ajzan (1975) classifications (positive or favorable attitude, and negative or unfavorable attitude). These attitude statements include:

- "FGC as a practice is not a big deal to me as a person." (Negative attitude)
- "FGC as a practice is not a big deal to me as a nurse." (Negative Attitude)
- "I think FGC should be perceived as traditional practice rather than health problem; therefore, there is no need to address it as an important aspect in nursing profession." (Negative attitude)
- "I will share my knowledge about FGC with my coworkers and colleagues to increase their awareness." (Positive attitude)
- "It is important for me to understand the origin and historical aspects of FGC as a nurse." (Positive attitude)
- "I know that using appropriate terms is important in nursing profession; therefore, I will use female genital mutilation or female circumcision to refer to FGC to make my point clear when I talk with a patient." (Negative

attitude).

- "I believe that there is a need to address the ethical aspects about FGC within the nursing profession." (Positive attitude).
- "I think encouraging women that underwent FGC to express their feeling towards the practice should be an essential intervention in my nursing care plan." (Positive attitude)
- "As a nurse, I believe young girls who are at risk for FGC should be protected, but it is not my responsibility to provide such a level of protection." (Negative attitude)
- "I prefer not to talk about FGC with my patient because it is a sensitive topic." (Negative attitude)
- "I believe that FGC is not a big deal in the US." (Negative attitude)
- "I believe that FGC is a complex social practice that needs community leader involvement." (Negative Attitude)
- "As a nurse I believe that minority females with FGC receive "less preferred" forms of treatment than minority females without FGC." (Negative attitude)

The analysis of this tool indicated a strong internal consistency (Cronbach's alpha=0.77). Indeed, the tool covers various social, clinical, cultural, and professional aspects that concern FGC, and meets the scope of practice of the nursing profession. Thus, it provides a more in-depth understanding and accurate analysis of the degree of changes in both types of attitudes that enhance or prevent the undergraduate nursing

students from providing culturally, clinically, and ethically competent nursing care to women who underwent or are at risk of undergoing FGC.

Results for this scale and its subscales were found to be statistically significant, suggesting that the digital e-book had a substantial influence on changing the students' attitudes toward several aspects that concern FGC and providing care for women who underwent the practice. This was shown on the total attitude differences of the posttest and pretest scores ($M_{(differences)}$= 5.47, SD= 8.275, [t(85)= 6.132, $p < .001$]). Regarding the positive attitude, the e-book influenced the students' attitude to be more positive toward providing clinical, cultural, ethical competent care to manage FGC cases. This was shown on increasing the positive attitude posttest scores vs. pretest scores ($M_{(differences)}$= 1.55, SD= 4.09, [t(85)= 3.482, $p < .001$]). For instance, their perception of sharing their knowledge with other healthcare professionals when managing FGC complications was increased. Such an increase in the perception of sharing knowledge minimizes the current clinical gap regarding managing complications that occur because of FGC (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014).

Furthermore, the students showed a strong inclination toward encouraging women to express their feelings and health concerns. This an essential aspect of maintaining a trusting relationship where both pregnant women and their partners engage in mutual problem solving and interact effectively with nurses and other healthcare providers to discuss the risks and benefits of available health and maternal choices (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014). Accordingly, the women's willingness to share their values and beliefs with the

healthcare providers might increase, taking into consideration the students' positive attitude regarding the importance of including community and religious leaders if necessary (Lazar, et al., 2013). Thus, it is hoped that this conversation will minimize the cultural distance and increase the women's confidence regarding nursing care and perinatal healthcare services in general (Fried, et al., 2013).

The results also indicated that the students had a positive attitude about the importance of understanding the historical, sociocultural, and ethical aspects of FGC in providing culturally competent nursing care for this vulnerable group of women. Further, there was an increase in their perceptions about taking an active role in protecting women's health rights. Such an increase in these perceptions should diminish the level of marginalization among this vulnerable group of women (Lazar, et al., 2013). Indeed, it will enhance their accessibility and utilization to perinatal and other healthcare services (Hess, et al., 2010; Jacoby, & Smith, 2013). Further, such attitudes are critical in answer the critical need of providing culturally competent care that optimizes the quality of life of this group of women.

Furthermore, the research indicated an increase in the students' negative attitude toward unfavorable beliefs and actions that concern the clinical, cultural, ethical, and professional aspects of FGC as seen in the posttest negative attitudes scores vs. pretest scores ($M_{(differences)}$= 3.94, SD= 5.29, [t(85)= 6.90, $p < .001$]). For instance, there was an increase in the students' negative perceptions about denying the magnitude of the FGC problems at their personal and professional level. Recognizing the magnitude of the FGC health consequences in the American healthcare context helps healthcare providers to realize the importance of providing a competent care for this group of women (Hess, et

al., 2010; Jacob & Smith, 2013; Lazar, et al., 2013). So what are the implications of this failure?

The students also had a very strong negative perception regarding not initiating an effective discussion about FGC with women who underwent FGC. Indeed, they strongly disagreed with use of inappropriate and stigmatizing terms such as FC or FGM when they will provide perinatal nursing care for women who underwent FGC. Such negative perceptions influence the students' professional interaction to establish and sustain a trusting relationship and providing culturally competent care for this group of women (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014).

Discussion of the Research Question 2

The second research question of this study was "What is the impact of the FGC-digital eBook on the level of knowledge among undergraduate nursing students?" This question aimed to compare the pretest and posttest FGC knowledge scores among the students. Examining the undergraduate nursing students' knowledge regarding FGC is essential in answering the current literature that indicates a significant gap in the theoretical and clinical knowledge of healthcare workers regarding FGC within the American healthcare context (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014).

The absence of an accurate instrument that assesses the actual knowledge of FGC led the investigator to create an FGC knowledge scale (14 statements) that was developed based on the FGC digital e-book content. Further, the questions illustrated Carper's four patterns of knowing (empirical, personal, aesthetic, and ethical) mainly to ensure that all

the required knowledge was involved in the FGC knowledge scale. These knowledge statements include the following:

- "FGC is "a procedure involving partial or total removal of the female external genitalia or other injury to female organs whether for cultural or other non-therapeutic reasons." (True)
- "FGM is the recommended term to use when we deal with women who have undergone this practice." (False)
- "There are four types of FGC that vary based on the severity of cutting and tissue removed." (True)
- "Pricking, piercing, incising, scraping, and cauterization are considered type IV FGC." (True)
- "During ancient history infibulation was performed among female slaves." (True)
- "During the 19th century, FGC was practiced and recommended by U.S. physicians." (True)
- "No American women have experienced FGC." (False)
- "FGC is or has been practiced only among some Muslim, but not Christians or Jewish" (False)
- "Girls who have not been excised may be socially stigmatized, rejected by their communities, and unable to marry locally." (True)
- "FGC is a direct cause for the transmission of sexually transmitted infections." (False)
- "Performing FGC is a violation of the ethical principles "do no harm" and

"do not kill." (True)

- "Medicalized FGC is an illegal practice in U.S. and considered a federal aggravated assault." (True)
- "FGC should be performed in health care establishments or by health professionals." (False)
- "Most countries where FGC is common have laws and legislations against FGC." (True)

The analysis of this scale indicated an acceptable level of internal consistency (Cronbach's alpha = 0.72). Accordingly, examining the students' knowledge by using this developed FGC knowledge scale provides an accurate analysis of the level of knowledge that concerns FGC within the healthcare context. The statistical analysis to examine the four patterns of knowing is beyond the purpose of this study.

However, the statistical analysis for this research question indicated that there was a significant increase and considerable difference in the posttest knowledge scores compared to pretest scores ($M_{(differences)}$= 5.54, SD= 4.459, [t(85)= 11.520, $p < .001$]). Moreover, the results signified that the digital e-book had a meaningful impact on increasing the students' correct-true knowledge regarding the FGC practice at the cultural, clinical, and ethical levels. This was shown in the mean differences of the posttest scores compared to pretest score ($M_{(differences)}$= 4.19, SD= 2.89, [t(85)= 13.414, $p < .001$]). Additionally, the results signify that the digital e-book had a significant impact on increasing the students' correct-false knowledge regarding the FGC practice at the cultural, clinical, and ethical levels. This was shown in the mean differences of the

posttest scores compared to pretest score ($M_{(differences)}$= 1.35, SD= 2.74, [t(85)= 4.59, $p < .001$]).

These results indicated that the content of the FGC digital e-book addressed the current knowledge gap in the American healthcare context. For instance, module one of the digital e-book provided comprehensive scientific, historical, and sociocultural knowledge that allowed the undergraduate nursing students to be more socially and culturally oriented toward the FGC practice. Such social and cultural knowledge increases their cultural awareness and sensitivity, which is required to overcome the current cultural gap. As was indicated in the literature overview of this study, the cultural gap is one of the key challenges that prevent healthcare providers from delivering culturally competent care for women who underwent FGC.

There were four studies that emphasized the importance of increasing healthcare providers' social, cultural, and historical background on FGC to improve the standard of care for this vulnerable group of women (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Johnson-Agbakwu, et al., 2014). Therefore, the results indicated that the FGC digital e-book can be an educational tool to use to increase cultural and social consciousness among the undergraduate nursing students specifically and all potential healthcare providers in general.

In terms of the clinical dimension, module two of the digital e-book covers the clinical nursing management that focuses on preventing and managing the complications that are associated with all types of FGC. The book addressed the clinical knowledge gap in the existing literature, but goes beyond the earlier work which was focused only on providing general information about FGC and managing the FGC Type III (infibulation),

and its complications (Hess, et al., 2010; Jacoby, & Smith, 2013; Reisel & Creighton, 2015). Further, this module addressed the clinical strategies that prevent marginalizing this group of women from accessing and utilizing the optimal quality of nursing care in general and perinatal care specifically (Hess, et al., 2010). For example, it provides strategies to initiate effective professional interpersonal skills that maintain the trust-relationship and encourage women to take an active role in their health care plan. The lack of a trust relationship between the healthcare providers and women who underwent FGC is one of the critical concerns in the current studies.

There were three studies that highlighted the fact that the care for this group of women must be based on effective communication to create a delicate balance that puts the women's best interest in the forefront (Ameresekere, et al., 2011; Johnson-Agbakwu, et al., 2014). Accordingly, the FGC digital e-book provided a general framework of providing effective and professional communication skills, which is one of the necessary factors that promotes optimal delivery of nursing care, especially during the perinatal care (Brown, et al., 2010).

The ethical knowledge dimension was covered in module three of the FGC digital e-book. A gap exists in the literature regarding the ethical interventions that the nurses and other healthcare professionals need to consider when providing care for women who underwent FGC (Akinsulure-Smith, 2012; Brown, et al., 2010; Hess, et al., 2010). Therefore, this module was developed to overcome the current gap of the ethical aspects of FGC by providing the necessary content that enhances the students' knowledge about the type of the ethical clinical interventions to manage FGC cases suitable within the nursing scope of practice standards.

Discussion of the Research Question 3

The third research question of this study was "What is the impact of the FGC-digital eBook on the level of self-efficacy among undergraduate nursing students?" This question aimed to compare the level of self-efficacy among the undergraduate nursing students before and after they used the e-book. Based on Bandura (1986), self-efficacy is an individual's self-perception of one's ability to perform competently to achieve a task or goal effectively (Bandura, 1986). Correspondingly, examining the self-efficacy in this study aimed to explore the nursing students' ability to provide clinically, culturally, and ethically competent care for women who underwent FGC. However, examining self-efficacy requires measuring both the individual's readiness to act and the actual act performance (Bandura, 1986). Accordingly, the investigator created a self-efficacy scale (14 statements), which has seven questions that measure the readiness of performing actions, while the rest measure the actual action performance. The statistical analysis of this scale indicated an acceptable level of internal consistency, with a Cronbach's alpha of 0.71.

- "I want to develop my professional skills for working with women who underwent FGC." (Readiness)
- "I am developing my professional skills for working with women with FGC." (Actual)
- "I want to monitor my competency about FGC through consultation, supervision and self-education." (Readiness)
- "I monitor my competency about FGC through consultation, supervision and self-education." (Actual)

- “I am willing to work with women who underwent FGC.” (Readiness)
- “I am able to work with women who underwent FGC.” (Actual)
- “Currently, I have the knowledge but not the skills or training to work with women who underwent FGC.” (Readiness)
- “Currently, I have the training but not confidant that I have the skills to work with women who underwent FGC.” (Readiness)
- “I am confident that I have clinical skills to manage women with FGC but with guidance.” (Actual)
- “At that point in my professional development, I feel competent, skilled and qualified to work with women with FGC without any guidance.” (Actual)
- “I want to improve my professional communication skills to be more culturally oriented to provide an effective therapeutic communications for women with FGC.” (Readiness)
- “I am working on my professional communication skills to be more culturally oriented to provide an effective therapeutic communications for women with FGC.” (Actual)
- “I know the foundations of maintaining the cultural competency among women with FGC; however, I am not confident enough about my ability to demonstrate that in my clinical areas.” (Readiness)

- "I am confident that I will demonstrate the clinical skills that are required to maintain cultural competency when provide care for women with FGC." (Actual)

The analysis for this question was found to be statistically significant, implying that the digital e-book had a substantial influence on enhancing the students' self-efficacy to provide clinically and culturally competent care for women who underwent FGC. For instance, there was an increase in the total posttest self-efficacy scores compared to pretest scores ($M_{(differences)}$= 6.37, SD= 5.16, [t(85)= 11.45, $p < .001$]). Moreover, the results signified that the digital e-book had a meaningful impact on increasing the students' readiness to provide a competent care at the cultural, clinical, and ethical levels. This was shown in the mean differences of the reediness self-efficacy posttest scores compared to pretest score ($M_{(differences)}$= 2.81, SD= 2.44, [t(85)= 10.658, $p < .001$]). Additionally, the results signify that the digital e-book had a significant impact on increasing the students' actual self-efficacy of providing competent care. This was shown in the mean differences of the posttest scores compared to pretest score ($M_{(differences)}$= 3.56, SD= 3.83, [t(85)= 8.63, $p < .001$]).

Most of the studies reviewed emphasized the need of enhancing the healthcare providers' self-efficacy to provide culturally and clinically competent care for women, including pregnant women, who underwent FGC (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al. 2010; Jacoby & Smith, 2013; Johnson-Agbakwu, et al., 2014; Hess, et al. 2010; Lazar et al., 2013). Therefore, studying self-efficacy in this study answered the current gap in the existing literature. Indeed, it illustrates the required interventions that enhance the healthcare providers' skills to

optimize the standardized level of care. For instance, in terms of nursing profession, initiating a trust relationship between the nurses and women who underwent FGC requires a strong self-efficacy. Such strong self-efficacy is essential to initiate effective and therapeutic communication to provide the intended competent care. Sensitive communication should minimize the current dissatisfaction among women who underwent FGC and their partners (Amersesekere, et al., 2011; Brown, et al. 2010; Jacoby & Smith, 2013; Johnson-Agbakwu, et al., 2014; Hess, et al. 2010; Lazar et al., 2013).

Further, increasing the nurses' self-efficacy regarding their knowledge and skills regarding FGC helps them to provide accurate interventions that sustain the concept of holistic care when managing cases with FGC. Sustaining holistic care, a fundamental concept in nursing, minimizes the incidence of stigmatization among women who underwent FGC (Johnson-Agbakwu, et al., 2014). Enhanced self-efficacy also helps establish partnerships with this group of women, which implies that the nurses and other caregivers have a deep understanding of FGC and can manage with confidence any potential or existing medical, obstetrical or psychological consequence (Akinsulure-Smith, 2012; Amersesekere, et al., 2011; Brown, et al., 2010; Hess, et al., 2010).

Discussion of the Research Question 4

The fourth research question of this study was "Is there a relationship between the level of knowledge, attitude, and self-efficacy among undergraduate nursing students who have completed the education available in the FGC- digital eBook?" This question explores the existence and type of the relationships between the study variables, which are the level of attitude, knowledge, and self-efficacy after using the FGC digital e-book.

The investigator conducted Pearson's r correlation coefficient tests to answer this question. The analysis of this question indicated that there were relationships between the study variables; however, there were variations regarding their direction, strengths and statistical significance levels.

For instance, there was a statistically significant moderate positive relationship between the level of FGC knowledge and the perceived attitude among the undergraduate nursing students after they used the FGC digital e-book (r=0.5, *p*=0.000). This indicated that having more knowledge about historical, sociocultural, clinical, and ethical aspects of FGC is associated with better attitudes; both of the gained knowledge and adequate attitude should improve their ability to provide culturally and clinically competent care to manage pregnant women who underwent FGC. In contrast, the results indicated that there was no relationship between the level of FGC knowledge and the self-efficacy among the undergraduate nursing students (r=.047, *p*=0.667). Furthermore, there was no relationship between the students' level of attitude and self-efficacy (r= .173, *p*=0.110). Despite the lack of statistical significance of these relationships, it is important to highlight that increasing the students' level of knowledge and attitude is associated with some increase in their confidence level to perform competent care for women who underwent FGC.

Examining the relationships of the study variables helps to have more in-depth investigation toward one of the key proposed assumptions of this study. Explicitly, the relationship between the level of knowledge and attitude supported the current assumption, which stressed that the students' knowledge and attitudes are the conjunction components between the Knowles's Andragogy model and Bandura's Self-Efficacy

model. This implies that understanding the relationship of the adult learning process, mainly knowledge process, and perceived attitude components, had an impact on providing competent nursing care that sustains the concept of cultural competency. Furthermore, the current relationships support the importance of e-learning approach (FGC digital e-book) on sustaining Knowles's view of the importance of maintaining the concepts of self-directed and self-reflective in the adult learning process. Indeed, integrating the Carper's four patterns of knowledge in the FGC digital e-book gives a deeper insight about the type of knowledge that enhances or decreases the students' level of attitude and individual's self-efficacy, which are key components in the Bandura's model.

Limitations

Limited literature presents one of the essential challenges in this study. For instance, there is a lack of scientific resources that address the expansion of FGC cases within the American population. Furthermore, there is a literature gap of clinical, cultural, and ethical interventions to prevent and manage the FGC complications among the females who underwent or at risk to undergo the FGC practice. Thus, there were limited clinical, cultural and ethical resources to develop the content and educational materials of the FGC digital e-book. However, the author relied on the results of the face and content validity that had been conducted to develop the e-book. Moreover, the investigator used other international scientific and peer-reviewed studies, organizational recommendations, and legislative documents to sustain the accuracy of the e-book's content.

Further, this study is the first study that proposes the FGC digital e-book as an educational tool and examines its impact on the undergraduate nursing students' attitude, knowledge, and self-efficacy. The design of this study was pretest-posttest quasi-experimental, which serves the aim of this study. However, some limitations influence the study findings because the lack of randomization is one of the major threats to the internal and external validity of the study. For instance, the research included a convenience and small sample size (n=86) and focuses only on undergraduate nursing students in Decker School of Nursing at Binghamton University. Therefore, the generalizability of the result required further study with a larger sample size drawn from all responsible healthcare providers such as midwives and medical students.

Furthermore, the study relied on the students' skills with using audiovisual technology and this may vary from one student to another. All of these factors can create some bias in the responses. The author minimized this limitation by providing a clear explanation of the questionnaire's content and clear instructions about how the participants could complete them. Furthermore, the author provided a 20-minute orientation of how to access, download, and utilize the FGC digital e-book and the study resources. Further, the author attached written instructions to the module that they accessed online. These instructions provided a clear guideline about how to access and utilize the FGC digital e-book, learning resources, and the study pretest and posttest questions.

Additionally, the testing threat is one of the critical limitations of this study due to the use of the same test for the pretest and posttest questions. However, the author minimized this threat by allowing the students to complete the posttest after completion

of the pretest by at least one week. Furthermore, a mortality threat occurred when ten of the participants dropped out of the posttest after accessing the FGC-digital eBook. The reason for this was unclear. Experimental mortality was also a limitation of this study because of the loss of study subjects due to the limited time and students' commitment to other coursework.

Recommendations

Recommendations for Future Research

Increase the Evidence-Based Literature.

The lack of relevant literature focused on managing FGC cases within the American healthcare context was one of the key challenges in this study. Therefore, there is a need to conduct highly advanced types of studies such as randomized control trails (RCT) that aim to examine the impact of this digital e-book on providing competent care by the healthcare professionals. Further, mixed methods and qualitative research studies is highly recommended to assess the level of satisfactions of pregnant women who underwent FGC when receiving care from healthcare professionals who used this e-book. Conducting such types of studies develops a robust scientific level of evidence that concern clinical and cultural aspects to manage the pregnant cases with FGC within the American context. Moreover, there is a need to have further literature that addresses ways other than the current standardized -cesarean sections- perinatal care to prevent and manage the perinatal complications of the FGC. For instance, there is a need to have further literature to assess the impact of the de-infibulation procedure on allowing normal vaginal births for pregnant women who underwent FGC. Increasing the literature to

address the attitude, knowledge, and attitude regarding FGC among the American healthcare professionals is highly recommended as well. Indeed, this is a needed type of evidence especially to inform those healthcare professionals who live in gateway states, which have a large population of immigrant women who underwent or at risk to undergo the FGC.

Expand the diversity of study sample.

Since this study was the first scientific research that had only focused on undergraduate nursing students, further studies to be carried out should involve students from other colleges and faculties to investigate whether there are any similarities in the findings. Because this study only is done in the nursing school at Binghamton University, further studies should be carried out on undergraduate and graduate students from other national and international universities. Furthermore, future research could also explore the efficacy of this digital e-book on other healthcare professionals such as obstetricians, gynecologists, midwives, and nurse practitioners.

It would also be beneficial to examine the impact of this e-book on non-health care professionals who provide indirect care for this vulnerable group of women such as social workers. Examining the impact of this e-book on social workers would provide a deeper understanding of the challenges that the healthcare providers face when providing care for pregnant women who underwent FGC. According, the social workers who have greater knowledge about FGC can better facilitate access and use of the social services that help the women receive optimal perinatal care. For instance, partnering with communities to which women with FGC belong may be beneficial in decreasing the social distance that exists between women and maternity care providers.

An increased understanding about FGC also can serve to promote a holistic approach and enhance egalitarian relationships. For example, participating in or organizing community initiatives that emphasize different socio-cultural aspects of FGC could be relevant in providing culturally sensitive maternity care. Arranging public consultation sessions that include views of Islamic and other religious leaders about FGC may help to understand women's religious dilemmas about the practice of FGC. Further, developing public group-discussion workshops, which include community leaders, healthcare providers, and the women themselves may be relevant to create effective discussion about different social aspects such as gender role, male authority, and other socio-cultural factors of FGC.

Integrating Different Virtual Reality Technologies.

The expansion of advanced technology tools in the current education system in nursing and other healthcare professions increases the urgency to intervene with different types of e-learning strategies (Ardura, & Meseguer-Artola, 2016; Lateef, 2010). For instance, some studies and technology organizations highlighted the impact of the virtual reality (VR), and Oculus Rift VR on the competent medical knowledge and clinical skills in medical and surgical fields (Aliakbari, et al., 2015; Anderson, et al., Anderson, & Taylor, 2015; Grantcharow et al., 2004; Johnson et al., 2004; Moore, 2010; Oculus VR, 2017). Therefore, there is a need to pilot several studies aiming to utilize an advanced VR technology such as Oculus Rift on educating the healthcare professionals regarding the FGC clinical and cultural interventions. Developing an FGC educational tool that relies on Oculus Rift VR technology increases the clinical and cultural knowledge competency among the healthcare providers mainly nurses. Such technological

innovations increase the healthcare provider's self-efficacy to demonstrate optimal skills training to manage and prevent the potential perinatal complications of FGC.

Recommendations for Practice

Healthcare Professional Level.

Transferring the findings of this study at this level targets the healthcare professionals inside and outside the study settings. It is highly recommended that educational workshops sessions be developed to address the importance of using a useful educational tool regarding FGC. These workshops need to be monitored and developed by research team members in Kresge Center staff at Decker School of Nursing at Binghamton University. These workshops aim to increase the clinical, sociocultural, and ethical aspects of FGC for the faculty and health-staff members at the DSON at Binghamton University. Regarding the outside, the research setting, regular conferences or teleconference can be conducted with other health universities and hospitals locally, nationally, and internationally targeting obstetricians, gynecologists, midwives, nurse practitioners.

Academic Level.

The dissemination plan at this level is directed to the academic institutions and publication journals. Local and national conferences and workshops should be conducted between the universities in the US. Effective and culturally sensitive Standard Practice Guidelines should be introduced in Academic-health curricula such as nursing and nursing-midwifery programs within and outside the US. This ensures the knowledge dissemination in the future at the medical and nursing profession.

Policy-Makers Level.

The knowledge transformation at this level is directed to all policymakers within the US. Reaching the key policymakers requires the knowledge to be disseminated by a collaborative effort between the administrative, academic, health managerial staff members, and Women's Health Network at Binghamton University. This collaborative work targets all the stakeholders of this study such as practitioners, researchers, educators, policymakers, and other stakeholders interested in ethnicity and health. Accordingly, the knowledge will be transferred easily and quickly with facilitating of this network. To ensure understanding and knowledge transfer, conducting some presentations and seminars are highly recommended to ensure open discussions and face-to-face interactions.

Conclusion

The practice of FGC is one of the sophisticated socially constructed phenomena, which has tight traditional roots and overlapping cultural ideologies developed throughout history. However, it is a kind of traditional practice that has serious health implications at physical, psychological and mental levels. Despite the positive impact of the global anti-FGC movements in impeding the practice mainly to the young generations, particularly in the western countries, rapid migration to the US from countries where FGC is common increases the number of women who underwent the practice within the American population. These realities make caring for women who underwent FGC a key challenge and one of the substantial debates within the American healthcare context.

Lack of knowledge and skills to clinically and culturally manage women who underwent FGC are the major factors in the current challenge. Such a lack of knowledge impacts negatively on the quality of life among this group of women, especially during their perinatal cycle. Therefore, this study tested the efficacy of the FGC digital e-book to overcome the current challenge. The purpose of this study was examining the impact of the e-book on the healthcare providers' levels of attitude, knowledge, and self-efficacy. The investigation focused on the undergraduate nursing students, mainly to assess its impact within the nursing academic realm.

A pretest-posttest one group quantitative approach was the main research design for this study. Regardless the limitations of this design and the study in general, the result indicated that there was a statistically significant positive impact of the e-book on the students' attitude, knowledge, and self-efficacy regarding managing pregnant women with FGC. This implied that the FGC e-book is a recommended educational tool that helps the nurses to optimize the current perinatal care and to provide culturally and clinically competent nursing care.

Appendix

Appendix A- Table 1: Summary of Scoping Review Article

Citation	Type of Study	Measurement or Tool	Aim	Sample	City/State	Main Findings
Akinsulure-Smith, (2012). Exploring Female Genital Cutting Among West African Immigrants. *Journal of Immigrant Minority Health, 16*, 559–561.	Pilot Study	Semi-structured interview	To examine the experiences of FGC among West African immigrant women	N: 23 f Country of Origin: Sierra Leonean and Liberian immigrant women Age: 20-57	NY City, Harlem Bronx Staten Island.	1. Women with FGC were from Sierra Leone (Fisher's Exact = .027) 2. Understand the socio-cultural of FGC 3. Prevalence of women with FGC Develop clinical interventions
Amersesekere, M., Borg, R., Frederick, J., Vragovic, O., Saia, K., & Raj, A. (2011). Somali immigrant women's perceptions of caesarean delivery and patient-provider communication surrounding female circumcision and childbirth in the USA. *International Journal of Genecology and Obstetrics, 115*(3), 227-230.	Qualitative Phenomenology	Semi-structured in-depth interviews	To explore perceptions of caesarean delivery and patient-provider communication surrounding female circumcision and childbirth through interviews with Somali women residing in the USA.	23 Somali women. Age: 25-52 years living in the USA for an average of 7 years	Boston	1. 5 women had C-section. 2. Fear of C-section, death or disability. 3. US providers rarely FGC 4. US provider have lack of childbirth skills about FGC. 5. Explain the reasons of C-section. 6. Enhance therapeutic communication
Brown, E., Carroll, J., Fogarty, C., & Holt, C. (2010). "They get a C-section…they gonna die": Somali women's fears of obstetrical interventions in the United States, *Journal of Transcultural Nursing, 21*(3), 220-227.	Qualitative Phenomenology	Semi-structured Interview	To assess the experiences of Somali who underwent FGC about U.S. prenatal services	N =34 f Country of Origin: Somali Age: ≥ 18 years	Rochester/NY	Fear of dying from C/section. Belief that doctors rush obstetrical interventions. **Providers need:** 1. to be aware of these fears and concerns 2. to provide compassionate culturally competent care.

Hess, R. F., Weinland, J., & Saalinger, N. M. (2010). Knowledge of female genital cutting and experience with women who are circumcised: A survey of nurse-midwives in the united states. *Journal of Midwifery & Women's Health, 55*(1), 46-54. doi:10.1016/j.jmwh.2009.01.005	Mixed methodology-	Self-reported Survey	To explore CNMs' clinical experiences and knowledge about FGC	600 CNMs from the member list of the American College of Nurse-Midwives	Canton, OH	**Quan-Aspects:** 1. 243 (40.5%) completed the survey. 2. Providing direct care: n=98 (40.3%) 3. Older midwives were less likely to Provide care (P=018). 4. Reliability of the knowledge survey (Cronbach alpha=.77). 5. 18% knew FGC practiced by Muslims & Christians 6. 39% knew FGC has no religion base 7. 56% of knew women were not aware of FGC is illegal 8. Less than 50% knew that fear is a major factor. 9. Better care if have previous experience about FGC (P < .001). 10. Pain management and infertility key topic. **Quali-Aspects:** Themes emerged from those descriptions: 1. Reinfibulation after childbirth 2. Complications of FGC Clients' preference for female providers.
Jacoby, S., D., & Smith, A. (2013). Increasing certified nurse-midwives' confidence in managing the obstetric	Pilot study Pre-post test	Self-reported survey	To evaluate the effectiveness of an education training program on	Active practice nurse-midwives (n = 11)	MA	1. Increased confidence in knowledge about FGC (P= NA) (pre-t mean= 2.36 and post-t mean= 4.18)

care of women with female genital Mutilation/Cutting. *Journal of Midwifery & Women's Health, 58*(4), 451-456. doi:10.1111/j.1542-2011.2012.00262.x			managing women with Type III FGC			2. Ability to discuss the necessary of counseling components (pre-t mean= 2 and post-t mean=4.09) 3. Cultural roundtable discussion (pre-t mean=2.36 and post-t mean=4.09) Practice deinfibulation using simulated pelvic models (pre-t mean=1.54 and post-t mean= 3.54
Johnson-Agbakwu, CE., Helm, T., Killawi, A., & Padela, A. (2014). Perceptions of obstetrical interventions and female genital cutting: insights of men in Somali refugee community. *Ethnicity Health, 19*(4), 440-457, doi: 10.1080/13557858.2013.828829.	Qualitative Community-based participatory research	Semi-structured focus group	To examine the perspectives of Somali men toward FGC and women's childbirth experiences in one refugee community in the USA.	N=8 males Single =2 Married=5 Widowed= 1 College =2 Some college=2 High school/diploma=2 Some High school=2 Muslims=8 Naturalized citizen=6 Permeant resident=2 Age: 27-72	Maricopa County, Arizona	1. Acculturation influenced changes in traditional gender roles 2. Fostering new dynamics in shared decision-making within the household and during childbirth. 3. Aware of FGC complications 4. Not support FGC performance. 5. They perceived health-care providers as being unfamiliar with caring for women with FGC. 6. Fear of cesarean deliveries 7. Miscommunication 8. Distrust of the health-care system.
Lazar, JN., Johnson-Agbakwa, DE., Davis, OI, & Shipp, MP. (2013). Provider's perceptions of challenges in obstetrical	Pilot study-Qualitative approach	Semi-structured interview & Survey	To obtain information about providers' experiences, training, practices	N=14 Race: W=13, NW= 1 Female= 9, Male= 5	Ohio	1. Challenges in Patient-Provider Communication. 2. Providers' Frustration with Perceived Somali Women's Resistance to Obstetric

care for Somali women. Obstetric and Gynecology International, 2013. 1-12			and attitudes of the prenatal care, delivery, and management of women with FGC	Obst=9 FPP/OB=1 NM= 3 WHNP = 1 Age: 30 -70, Exp. with Somali Fe= 3–18 y		Interventions. 3. Providers' Perception of Mistrust by Their Somali Patients. 4. Suboptimal Provider Training in the Care and Management of Women with FGC.

Appendix B: (HSRRO) Institutional Research Board Approval at Binghamton University

Date: March 2, 2017

To: Najla Barnawi, DSON

From: Human Subjects Research Review Office

Subject: Modification Approval
Protocol Number: 3812-16
Protocol title: Female Genital Cutting (FGC) Digital Book and Online Resource: American Nursing-Midwifery Care Context

Your project was reviewed by the HSRRC and has received an exempt approval pursuant to the Department of Health and Human Services (DHHS) regulations, 45 CFR 46.101(b)(2) .
The approved Modifications are as follows:

a. Modified study tool (FGC digital e-book)
b. Modified measures
c. New recruitment site
d. Revised informed consent

An exempt status signifies that you will not be required to submit a Continuing Review application as long as your project involving human subjects remains unchanged. If your project undergoes any other changes, these changes must be reported to our office prior to implementation.

Please notify this office when your project is complete by completing and forwarding to our office the following form:
http://humansubjects.binghamton.edu/Forms/Forms/Protocol%20Closure%20Form.rtf
Upon notification we will close the above referenced file. Any reactivation of the project will require a new application.

This documentation is being provided to you via email. A hard copy will not be mailed unless you request us to do so.

Cc: file
Carolyn Pierce

Appendix C: Participant's Consent Form

IRB APPROVED: 3/2/2017
EXEMPT STUDY

Informed Consent

Project Title: Female Genital Cutting (FGC) Digital Book and Online Resource: American Nursing-Midwifery Care Context

Investigators: Najla A Barnawi Dr. Carolyn Pierce and Dr. Nicole Rouhana

Dear Participants,

Thank you for allowing me to invite you to participate in a pilot study to examine the efficacy of the "Female Genital Cutting in the Eyes of Healthcare Professionals" e-book. This pilot study is a pre-posttest design that aims to assess the level of knowledge, attitude, and self-efficacy regarding female genital cutting among American healthcare providers. This project is being completed as a requirement of Ph.D. studies and is being conducted by Najla A Barnawi, a Ph.D. nursing student who is supervised by Dr. Carolyn Pierce and Dr. Nicole Rouhana at Decker School of Nursing at Binghamton University. HSRRC at Binghamton University Institutional Review Board (IRB) approved this project under Protocol Number: 3812-16.

The recent rapid migration process in the U.S., particularly from countries where Female Genital Cutting (FGC) is common, increases the rate of FGC among the American population. Evidence shows that there is a lack of theoretical and clinical knowledge of how to manage cases with FGC within the Western countries including the U.S. Therefore, caring for immigrant women and girls with FGC is a key challenge within the US healthcare system. Nurses are the frontline healthcare providers who require adequate knowledge and efficient training to provide clinical and culturally competent care for this group of women and girls. Indeed, there is a need to develop an accessible and evidenced-based resource to share best practices and minimize the physical and psychological impact of FGC complications. Therefore, we encourage your participation as an essential mechanism to measure the accessibility and effectiveness of this resource.

Participation in this study is entirely voluntary, and it should take approximately 15 minutes to complete. No personal identifiers will be collected or reported. Findings will be reported as aggregate data. If you choose to participate, you may discontinue completion of the survey at any time without penalty. Your instructor will not know who participated or not and your participation will not affect your grade or your relationship with the instructor.

BENEFITS & RISKS: You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about the knowledge, attitude, and self-efficacy regarding FGC. There are no foreseeable risks involved in participating in this study other than those questions that may be sensitive in nature and may cause emotional discomfort.

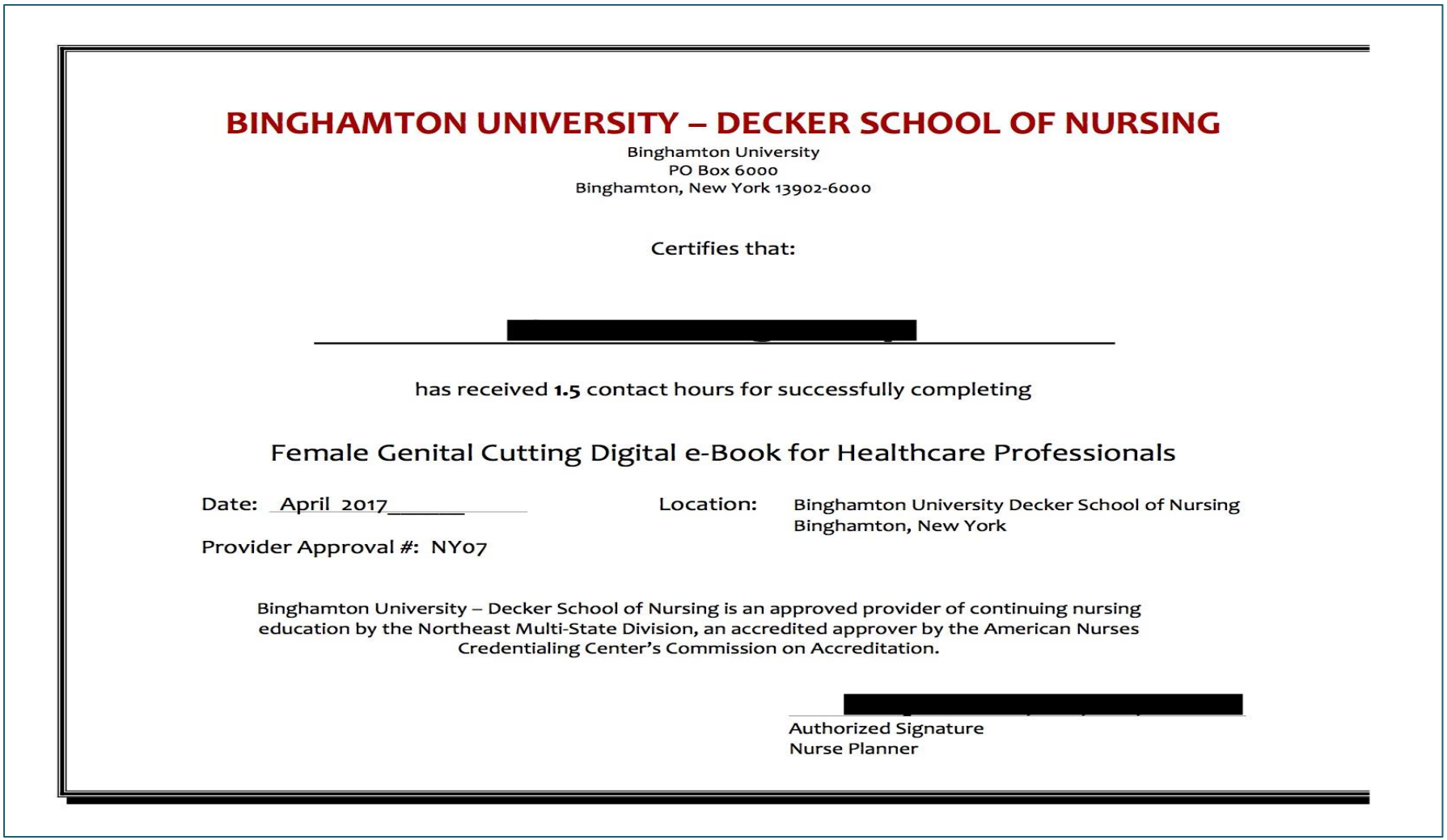
CONFIDENTIALITY & ACCESSIBILITY: This survey does not collect identifying information such as your name, or email address. Therefore, your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. As a part of this study, you will be able to access and download a resource that is still under academic review. Therefore, we ask that you not share any of the study content including the digital e-Book.

IRB APPROVED: 3/2/2017
EXEMPT STUDY

CONTACT: If you have questions at any time about the study, you may contact my research supervisor, Professor [Carolyn Pierce] via phone at [607- 777-6141] or via email at [cpierce@binghamton.edu]. If you have any personal issues regarding female genital cutting, you may contact the principal investigator of this study (Najla Barnawi) for further assistance. If you feel you have not been treated according to the descriptions in this form, or that your rights as a participant in research have not been honored during the course of this project, or you have any questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the Binghamton University Human Subjects Research Review Committee at 607-777-3818 or hsrrc@binghamton.edu

By clicking NEXT, you agree that you have read the above information, you voluntarily agree to participate, and that you are at least 18 years old.

Appendix E: Example of Continuous Education (CE) Certificate for Senior Students



BINGHAMTON UNIVERSITY – DECKER SCHOOL OF NURSING

Binghamton University
PO Box 6000
Binghamton, New York 13902-6000

Certifies that:

[redacted]

has received **1.5** contact hours for successfully completing

Female Genital Cutting Digital e-Book for Healthcare Professionals

Date: April 2017

Location: Binghamton University Decker School of Nursing
Binghamton, New York

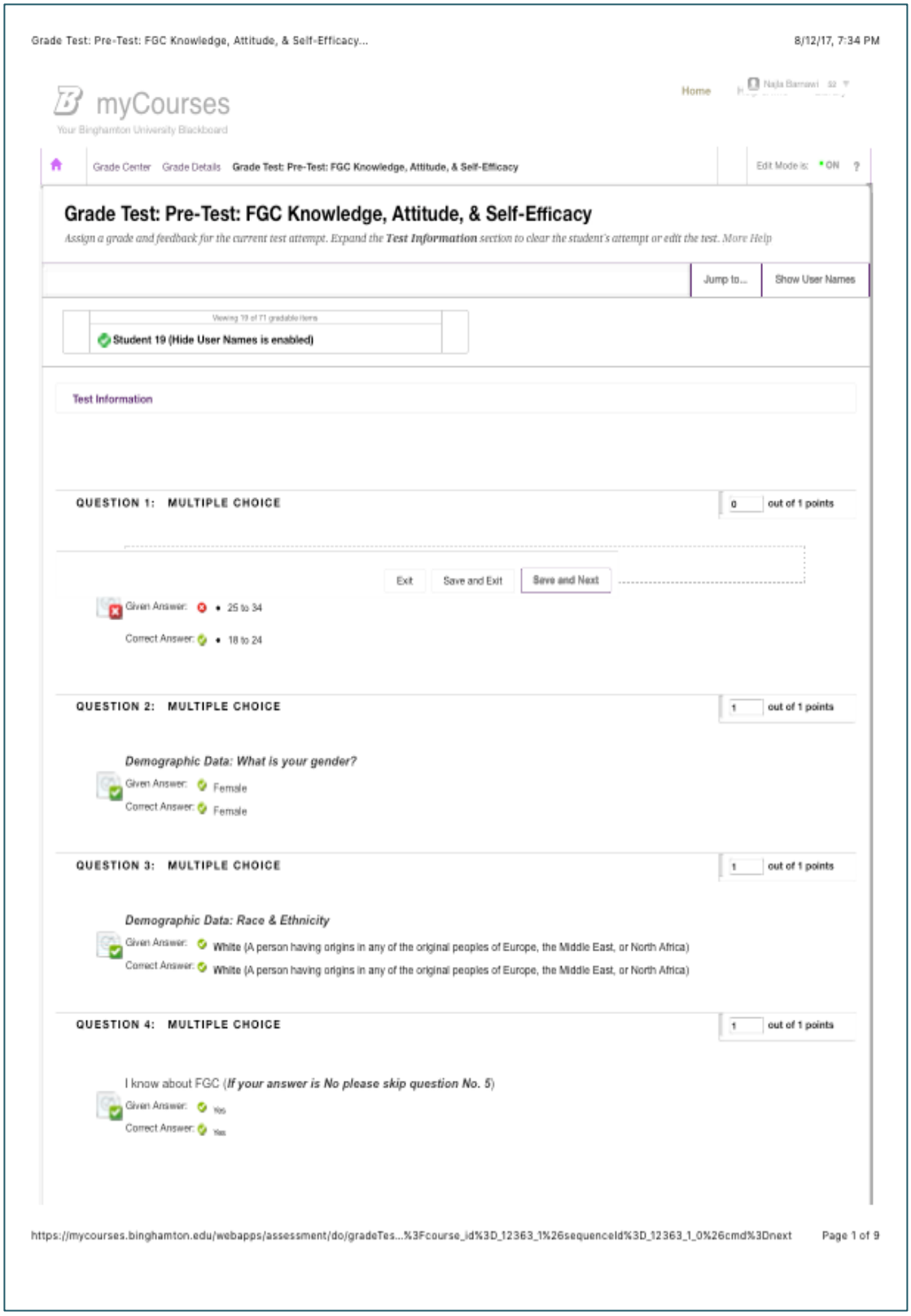
Provider Approval #: NY07

Binghamton University – Decker School of Nursing is an approved provider of continuing nursing education by the Northeast Multi-State Division, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

[redacted]

Authorized Signature
Nurse Planner

Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

myCourses
Your Binghamton University Blackboard

Home

Grade Center Grade Details Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy

Edit Mode is: ON

Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy

Assign a grade and feedback for the current test attempt. Expand the ***Test Information*** *section to clear the student's attempt or edit the test. More Help*

Jump to... Show User Names

Student 19 (Hide User Names is enabled)

Test Information

QUESTION 1: MULTIPLE CHOICE 0 out of 1 points

Exit Save and Exit Save and Next

Given Answer: • 25 to 34

Correct Answer: • 18 to 24

QUESTION 2: MULTIPLE CHOICE 1 out of 1 points

Demographic Data: What is your gender?

Given Answer: Female

Correct Answer: Female

QUESTION 3: MULTIPLE CHOICE 1 out of 1 points

Demographic Data: Race & Ethnicity

Given Answer: White (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa)

Correct Answer: White (A person having origins in any of the original peoples of Europe, the Middle East, or North Africa)

QUESTION 4: MULTIPLE CHOICE 1 out of 1 points

I know about FGC (***If your answer is No please skip question No. 5***)

Given Answer: Yes

Correct Answer: Yes

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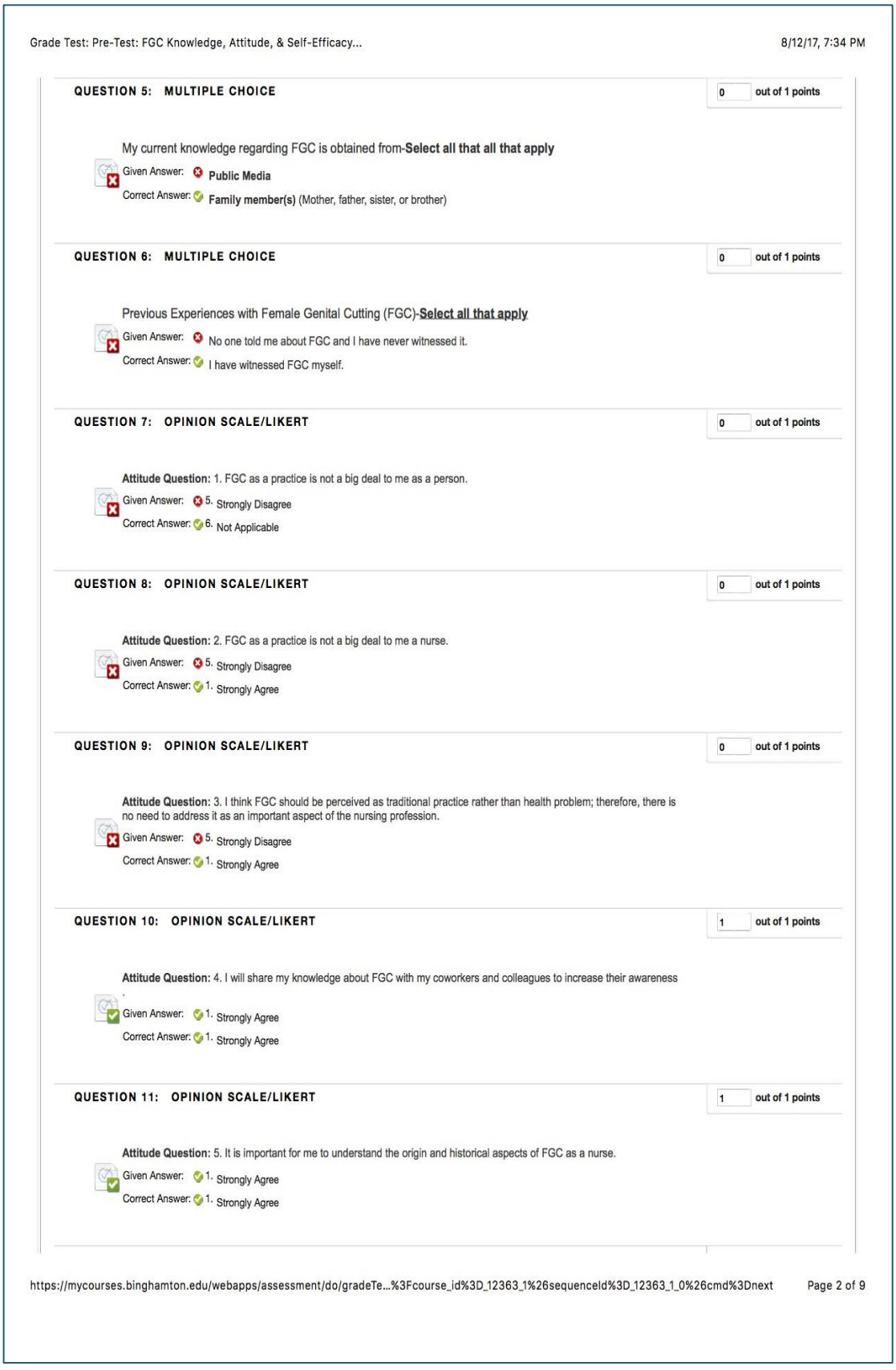
Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

QUESTION 5: MULTIPLE CHOICE 0 out of 1 points

My current knowledge regarding FGC is obtained from-**Select all that all that apply**

Given Answer: **Public Media**

Correct Answer: **Family member(s)** (Mother, father, sister, or brother)

QUESTION 6: MULTIPLE CHOICE 0 out of 1 points

Previous Experiences with Female Genital Cutting (FGC)-**Select all that apply**

Given Answer: No one told me about FGC and I have never witnessed it.

Correct Answer: I have witnessed FGC myself.

QUESTION 7: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 1. FGC as a practice is not a big deal to me as a person.

Given Answer: 5. Strongly Disagree

Correct Answer: 6. Not Applicable

QUESTION 8: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 2. FGC as a practice is not a big deal to me a nurse.

Given Answer: 5. Strongly Disagree

Correct Answer: 1. Strongly Agree

QUESTION 9: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 3. I think FGC should be perceived as traditional practice rather than health problem; therefore, there is no need to address it as an important aspect of the nursing profession.

Given Answer: 5. Strongly Disagree

Correct Answer: 1. Strongly Agree

QUESTION 10: OPINION SCALE/LIKERT 1 out of 1 points

Attitude Question: 4. I will share my knowledge about FGC with my coworkers and colleagues to increase their awareness .

Given Answer: 1. Strongly Agree

Correct Answer: 1. Strongly Agree

QUESTION 11: OPINION SCALE/LIKERT 1 out of 1 points

Attitude Question: 5. It is important for me to understand the origin and historical aspects of FGC as a nurse.

Given Answer: 1. Strongly Agree

Correct Answer: 1. Strongly Agree

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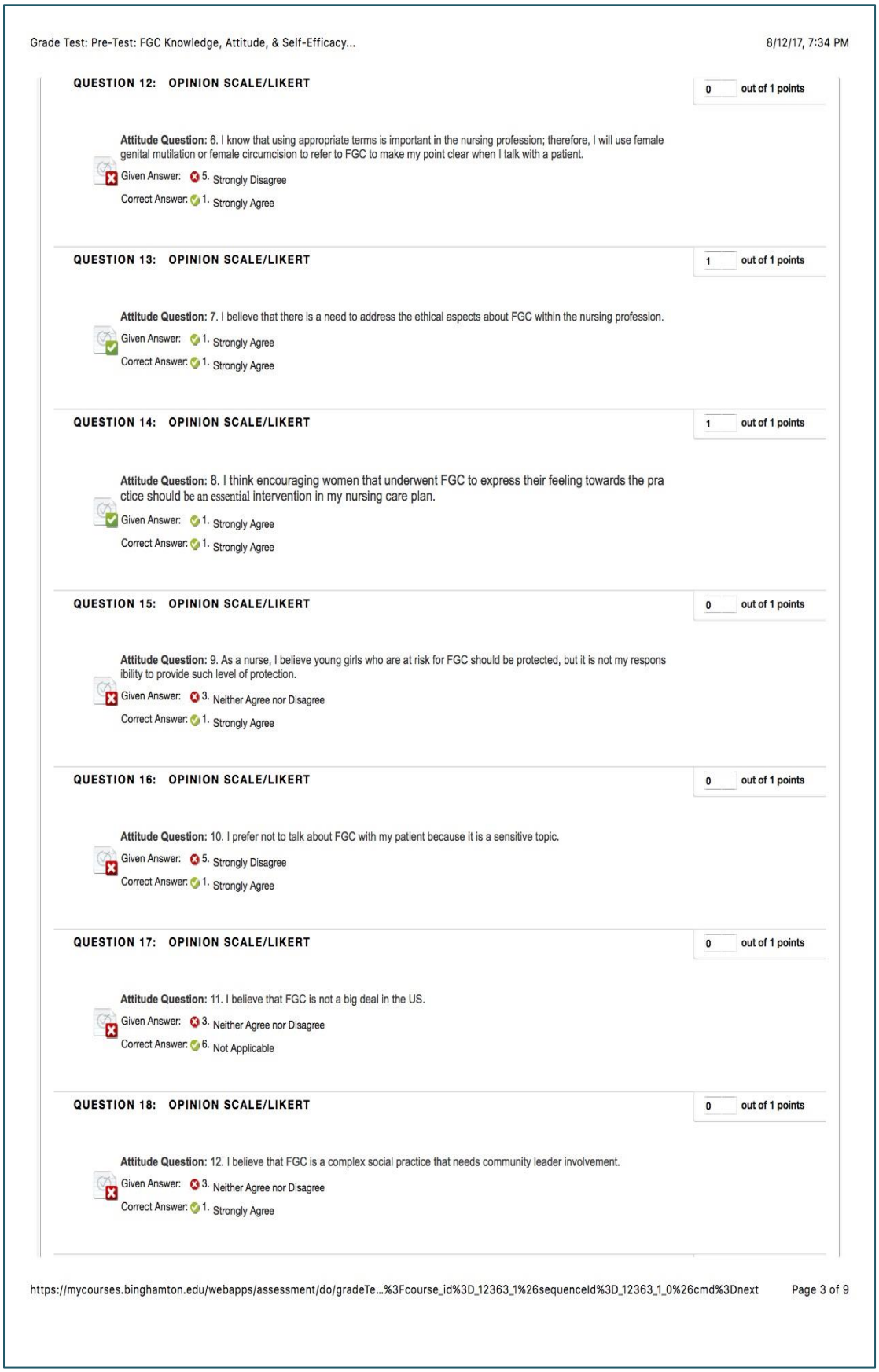
Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

QUESTION 12: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 6. I know that using appropriate terms is important in the nursing profession; therefore, I will use female genital mutilation or female circumcision to refer to FGC to make my point clear when I talk with a patient.

Given Answer: 5. Strongly Disagree

Correct Answer: 1. Strongly Agree

QUESTION 13: OPINION SCALE/LIKERT 1 out of 1 points

Attitude Question: 7. I believe that there is a need to address the ethical aspects about FGC within the nursing profession.

Given Answer: 1. Strongly Agree

Correct Answer: 1. Strongly Agree

QUESTION 14: OPINION SCALE/LIKERT 1 out of 1 points

Attitude Question: 8. I think encouraging women that underwent FGC to express their feeling towards the pra ctice should be an essential intervention in my nursing care plan.

Given Answer: 1. Strongly Agree

Correct Answer: 1. Strongly Agree

QUESTION 15: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 9. As a nurse, I believe young girls who are at risk for FGC should be protected, but it is not my respons ibility to provide such level of protection.

Given Answer: 3. Neither Agree nor Disagree

Correct Answer: 1. Strongly Agree

QUESTION 16: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 10. I prefer not to talk about FGC with my patient because it is a sensitive topic.

Given Answer: 5. Strongly Disagree

Correct Answer: 1. Strongly Agree

QUESTION 17: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 11. I believe that FGC is not a big deal in the US.

Given Answer: 3. Neither Agree nor Disagree

Correct Answer: 6. Not Applicable

QUESTION 18: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 12. I believe that FGC is a complex social practice that needs community leader involvement.

Given Answer: 3. Neither Agree nor Disagree

Correct Answer: 1. Strongly Agree

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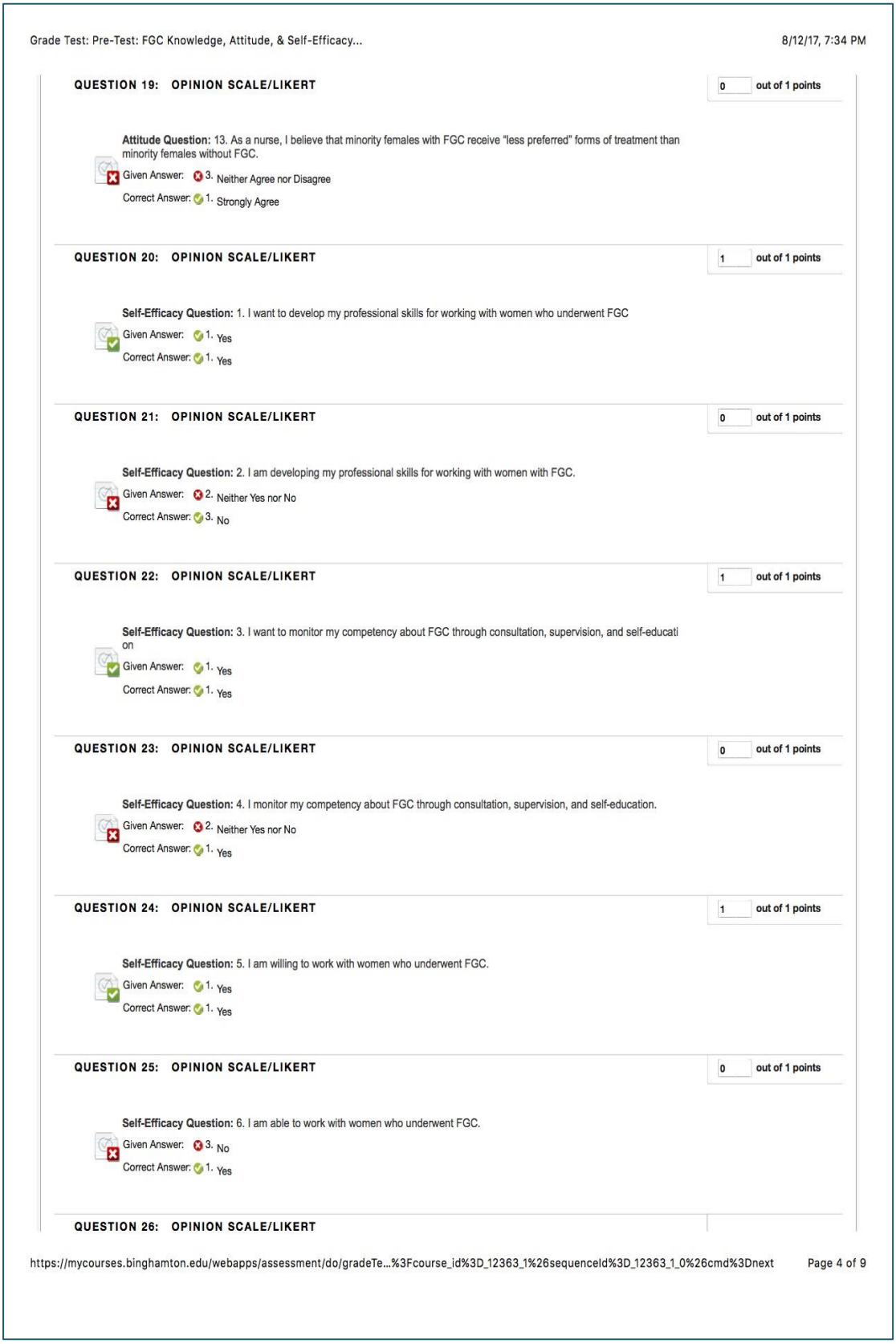
Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

QUESTION 19: OPINION SCALE/LIKERT 0 out of 1 points

Attitude Question: 13. As a nurse, I believe that minority females with FGC receive "less preferred" forms of treatment than minority females without FGC.

Given Answer: 3. Neither Agree nor Disagree

Correct Answer: 1. Strongly Agree

QUESTION 20: OPINION SCALE/LIKERT 1 out of 1 points

Self-Efficacy Question: 1. I want to develop my professional skills for working with women who underwent FGC

Given Answer: 1. Yes

Correct Answer: 1. Yes

QUESTION 21: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 2. I am developing my professional skills for working with women with FGC.

Given Answer: 2. Neither Yes nor No

Correct Answer: 3. No

QUESTION 22: OPINION SCALE/LIKERT 1 out of 1 points

Self-Efficacy Question: 3. I want to monitor my competency about FGC through consultation, supervision, and self-educati on

Given Answer: 1. Yes

Correct Answer: 1. Yes

QUESTION 23: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 4. I monitor my competency about FGC through consultation, supervision, and self-education.

Given Answer: 2. Neither Yes nor No

Correct Answer: 1. Yes

QUESTION 24: OPINION SCALE/LIKERT 1 out of 1 points

Self-Efficacy Question: 5. I am willing to work with women who underwent FGC.

Given Answer: 1. Yes

Correct Answer: 1. Yes

QUESTION 25: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 6. I am able to work with women who underwent FGC.

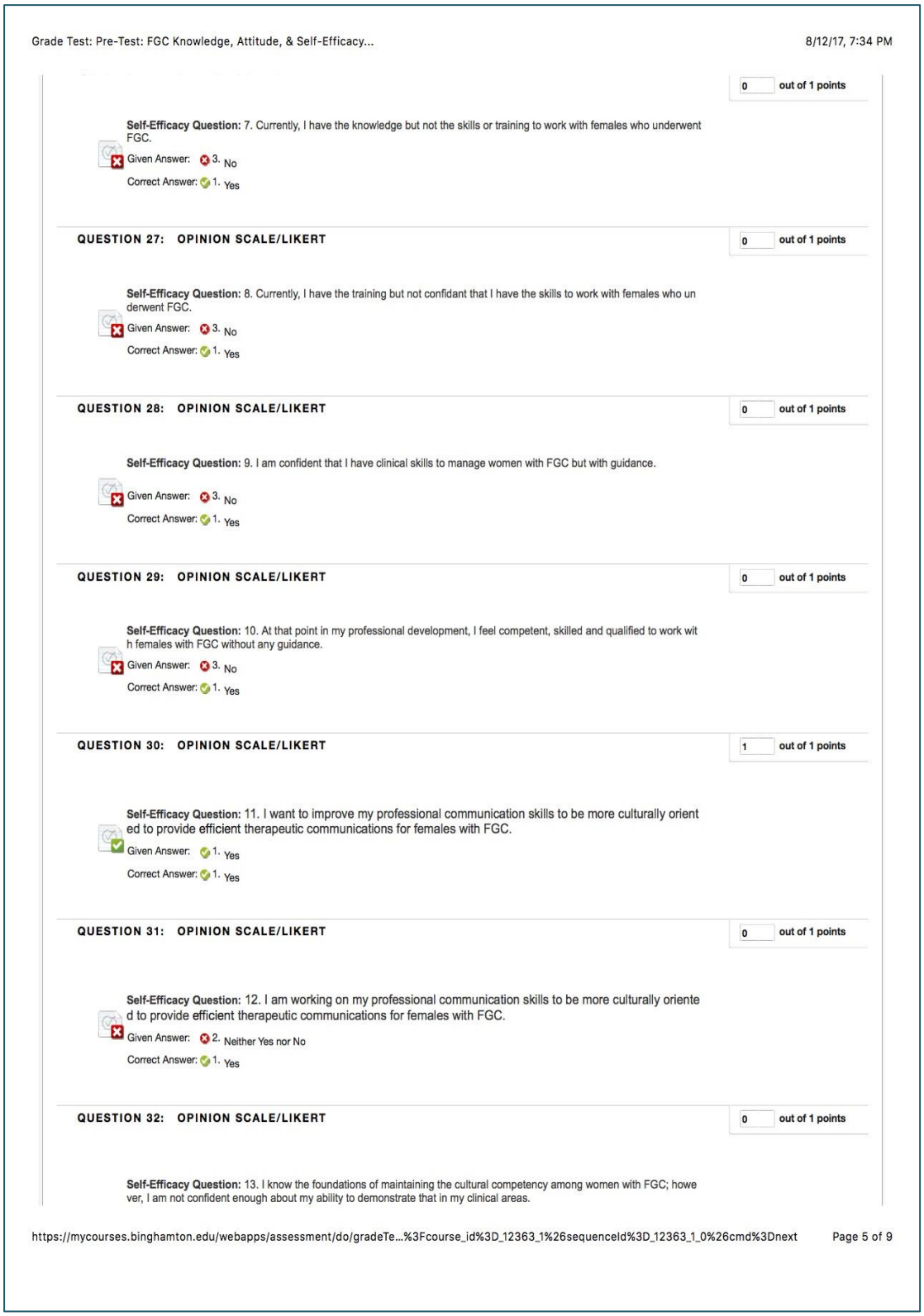
Given Answer: 3. No

Correct Answer: 1. Yes

QUESTION 26: OPINION SCALE/LIKERT

https://mycourses.binghamton.edu/webapps/assessment/do/gradeTe...%3Fcourse_id%3D_12363_1%26sequenceId%3D_12363_1_0%26cmd%3Dnext Page 4 of 9

Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

0 out of 1 points

Self-Efficacy Question: 7. Currently, I have the knowledge but not the skills or training to work with females who underwent FGC.

Given Answer: 3. No

Correct Answer: 1. Yes

QUESTION 27: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 8. Currently, I have the training but not confidant that I have the skills to work with females who un derwent FGC.

Given Answer: 3. No

Correct Answer: 1. Yes

QUESTION 28: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 9. I am confident that I have clinical skills to manage women with FGC but with guidance.

Given Answer: 3. No

Correct Answer: 1. Yes

QUESTION 29: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 10. At that point in my professional development, I feel competent, skilled and qualified to work wit h females with FGC without any guidance.

Given Answer: 3. No

Correct Answer: 1. Yes

QUESTION 30: OPINION SCALE/LIKERT 1 out of 1 points

Self-Efficacy Question: 11. I want to improve my professional communication skills to be more culturally orient ed to provide efficient therapeutic communications for females with FGC.

Given Answer: 1. Yes

Correct Answer: 1. Yes

QUESTION 31: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 12. I am working on my professional communication skills to be more culturally oriente d to provide efficient therapeutic communications for females with FGC.

Given Answer: 2. Neither Yes nor No

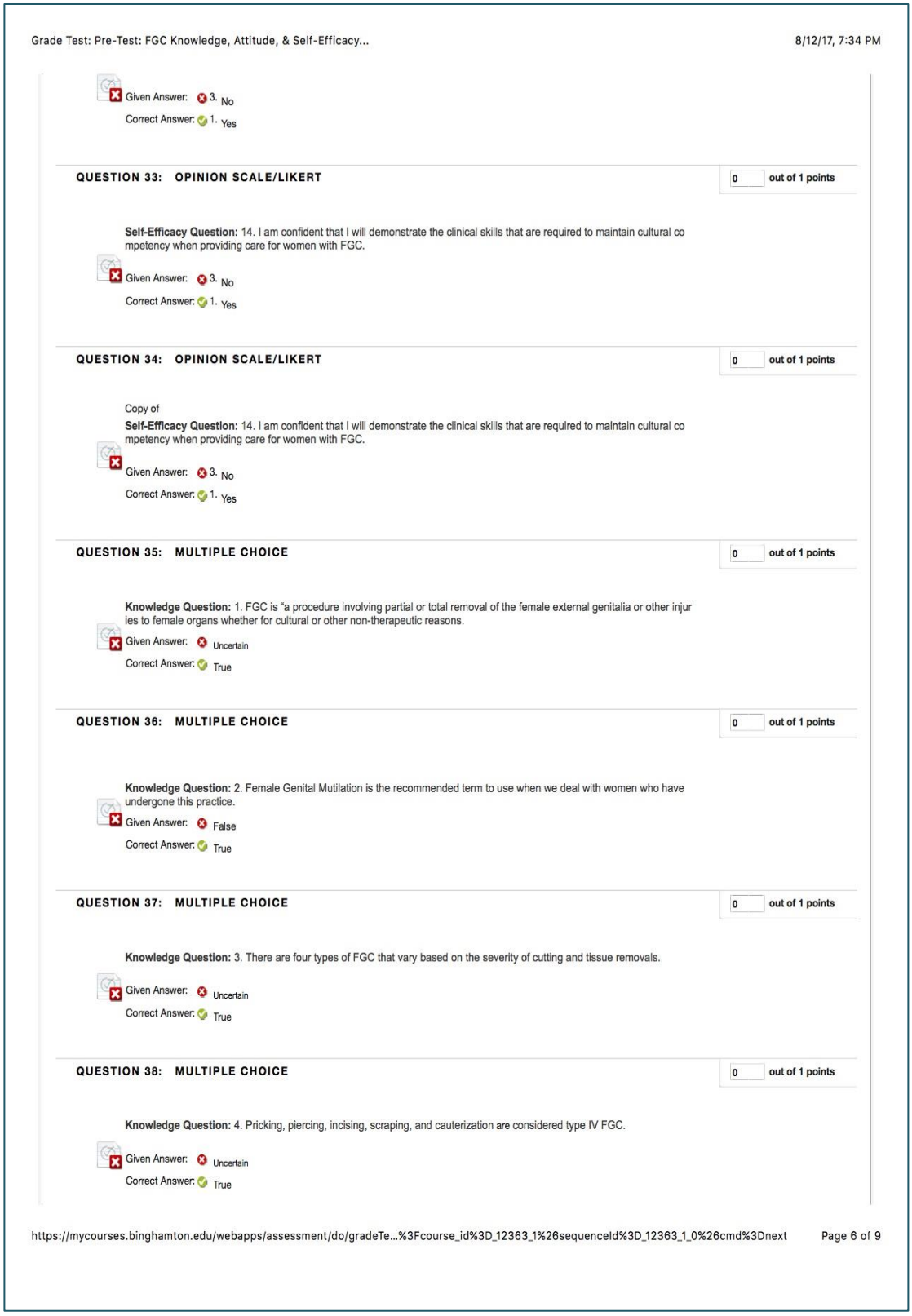
Correct Answer: 1. Yes

QUESTION 32: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 13. I know the foundations of maintaining the cultural competency among women with FGC; howe ver, I am not confident enough about my ability to demonstrate that in my clinical areas.

https://mycourses.binghamton.edu/webapps/assessment/do/gradeTe...%3Fcourse_id%3D_12363_1%26sequenceId%3D_12363_1_0%26cmd%3Dnext Page 5 of 9

Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

Given Answer: 3. No
Correct Answer: 1. Yes

QUESTION 33: OPINION SCALE/LIKERT 0 out of 1 points

Self-Efficacy Question: 14. I am confident that I will demonstrate the clinical skills that are required to maintain cultural co mpetency when providing care for women with FGC.

Given Answer: 3. No
Correct Answer: 1. Yes

QUESTION 34: OPINION SCALE/LIKERT 0 out of 1 points

Copy of
Self-Efficacy Question: 14. I am confident that I will demonstrate the clinical skills that are required to maintain cultural co mpetency when providing care for women with FGC.

Given Answer: 3. No
Correct Answer: 1. Yes

QUESTION 35: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 1. FGC is "a procedure involving partial or total removal of the female external genitalia or other injur ies to female organs whether for cultural or other non-therapeutic reasons.

Given Answer: Uncertain
Correct Answer: True

QUESTION 36: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 2. Female Genital Mutilation is the recommended term to use when we deal with women who have undergone this practice.

Given Answer: False
Correct Answer: True

QUESTION 37: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 3. There are four types of FGC that vary based on the severity of cutting and tissue removals.

Given Answer: Uncertain
Correct Answer: True

QUESTION 38: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 4. Pricking, piercing, incising, scraping, and cauterization are considered type IV FGC.

Given Answer: Uncertain
Correct Answer: True

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Appendix D: Instrumentation (FGC Questionnaire)

QUESTION 39: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 5. During the Ancient history, infibulation was performed among female slaves.
Given Answer: Uncertain
Correct Answer: True

QUESTION 40: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 6. During the 19th century, FGC was practiced and recommended by US physicians.
Given Answer: Uncertain
Correct Answer: True

QUESTION 41: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 7. No American women have experienced FGC.
Given Answer: Uncertain
Correct Answer: True

QUESTION 42: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 8. FGC is or has been practiced only among some Muslim, but not Christians or Jewish.
Given Answer: Uncertain
Correct Answer: True

QUESTION 43: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 9. Girls who have not been excised may be socially stigmatized, rejected by their communities, and unable to marry locally.
Given Answer: Uncertain
Correct Answer: True

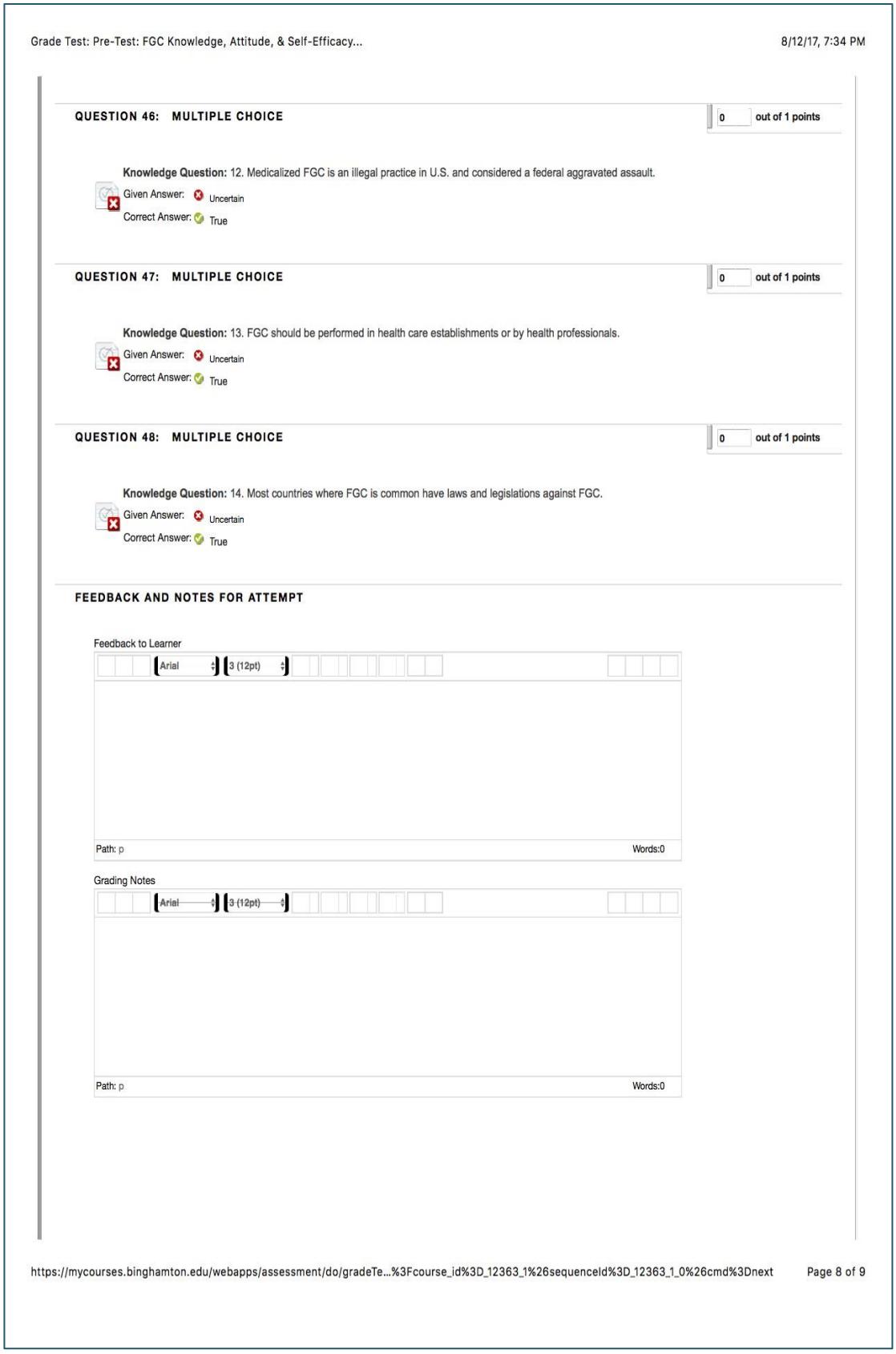
QUESTION 44: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 10. FGC is a direct cause of sexually transmitted infections.
Given Answer: Uncertain
Correct Answer: True

QUESTION 45: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 11. Performing FGC is a violation of the ethical principles "do no harm" and "do not kill.
Given Answer: Uncertain
Correct Answer: True

Appendix D: Instrumentation (FGC Questionnaire)



Grade Test: Pre-Test: FGC Knowledge, Attitude, & Self-Efficacy... 8/12/17, 7:34 PM

QUESTION 46: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 12. Medicalized FGC is an illegal practice in U.S. and considered a federal aggravated assault.

Given Answer: Uncertain

Correct Answer: True

QUESTION 47: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 13. FGC should be performed in health care establishments or by health professionals.

Given Answer: Uncertain

Correct Answer: True

QUESTION 48: MULTIPLE CHOICE 0 out of 1 points

Knowledge Question: 14. Most countries where FGC is common have laws and legislations against FGC.

Given Answer: Uncertain

Correct Answer: True

FEEDBACK AND NOTES FOR ATTEMPT

Feedback to Learner

Arial 3 (12pt)

Path: p Words:0

Grading Notes

Arial 3 (12pt)

Path: p Words:0

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