A DNP PROJECT

IMPACTS OF MENSTRUAL HYGIENE MANAGEMENT WORKSHOP ON ADOLESCENT FEMALES WITH SPECIAL NEEDS

STUDENT NAME: Q’Ana K. Clement, BSN, RN

DNP PROGRAM CHAIR & DNP TEAM MEMBER(S): Dr. Gerti Heider, PhD, MSN, GNP-BC, ANP & Dr. Kimberly Prado, DNP, APN

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Rutgers, The State University of New Jersey
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Abstract

This paper focuses on how the lack of educational resources for adolescent females with special needs and the misinformed perceptions of their menstrual health requiring a special program. Females with cognitive disabilities or impairments were unable to properly care for themselves while menstruating. The paper supports the interventions to educate girls about managing their menstrual hygiene. Health programs revolving around menstrual hygiene are becoming a global necessity as some parts of the world lack clean water and other resources needed to preserve menstrual health. Adolescent females with developmental disabilities are urgently in need of such programs. This intervention is of integral importance as females with various disabilities need to know about how best to navigate the uncertainties of adolescence and early adulthood. It is designed to promote better menstrual health as a vehicle for helping females experience a smooth transition into adulthood.
Impacts of Menstrual Hygiene Management Workshop on Adolescent Females with Special Needs

Introduction

Adolescents with intellectual disabilities are defined as individuals between 12 and 17 years who are at risk for or diagnosed with a “chronic physical, developmental, behavioral, or emotional condition requiring the increased need for health care and other services” (Mendes, 2016, p. 1145). Data from the National Survey of Children with Special Health Care Needs (NS-CSHCN) show that in the United States, there are about 11.2 million young people with special needs (Mendes, 2016). Of these, about 1.7 million are non-Hispanic African American; all of these individuals have at least one chronic condition, although many have two, three, or more conditions that entail continual health care or other services (Mendes, 2016). The National Healthcare Quality and Disparities report regarding improvements in health disparities, African Americans continue to face disparities, and experience poorer quality care, particularly in terms of care coordination and person-centered care (Agency for Healthcare Research and Quality (AHRQ), 2015).

Female adolescents with intellectual disabilities, young girls “may take longer to learn” the skills associated with menstrual hygiene management (Tracy et al., 2016, p. 54). Menstrual hygiene management primarily refers to self-care including the practical steps that adolescents must undertake to ensure menstrual hygiene, and “appropriate social behaviors” related to menstruation (p. 54). Self-care referred to a person’s performance geared towards the protecting their own life, health, and well-being (Uzuncakmak & Beser, 2017). The population with intellectual disabilities finds it difficult (and in some cases impossible) to engage in self-care on account of their limited or decreased ability to function independently (Tracy et al., 2016).
Typically, a person develops self-care in childhood, with this ability that is maturing in adulthood and declining in old age. Individuals with special needs may be unable to fully establish menstrual hygiene management, so health care providers need to propose ways for teaching and promoting self-care practices of this segment of the population. An adolescent with intellectual disabilities faced issues related to blood on clothing, putting pads in inappropriate places, and disclosing private information during inappropriate times, leading to adverse reactions from their peers (Tracy et al., 2016). Thus, this population was chosen as specific programs and targeted workshops are required to ensure that the adolescents have necessary information, proper support, and opportunity to learn and practice required skills for independent menstrual hygiene management (Tracy et al., 2016).

**Background and Significance**

The National Center for Education Statistic (NCES) report, among individuals aged 3-21, approximately 6.7 million or 13% of all public school students were enrolled in special education services (NCES, 2018). As such, this population of students includes those with autism, developmental delay, intellectual disability, multiple physical disabilities, specific learning disability, speech or language impairment, emotional disturbance, hearing impairment, orthopedic impairment, or other health impairment (NCES, 2018). The demographic characteristics of this population rendered the African American subset as necessary. Under the Disabilities Education Act, the highest percentage of students served include American Indian/Alaska Natives representing 17%, followed by African American students constituting 16% (NCES, 2018). Additionally, the act also covers 14% White, 12% Hispanic and Pacific Islander, 13% belonging to two or more races, and finally seven percent forming the Asian subset (NCES, 2018).
The Healthy Bodies Toolkit was developed as a guide for the parents of children (adolescents) that have cognitive and developmental disabilities. This toolkit was a valuable tool for parents of disabled individuals (AUD, 2013). Even though physical and emotional changes may have been the same for all children and adolescents, disability introduces unique challenges that parents need to cope with and understand. Therefore, Healthy Toolkit was selected as the educational resource for intervention.

African American adolescents with intellectual disabilities were selected as the primary focus of this study due to factors including early menarche compared to other racial groups, increased rates of cognitive impairment and behavioral problems. They faced a higher burden of health disparities (Altundağ & Çalbayram, 2016). The educational institution under this study was covered under a private school in Northern New Jersey, which indicated that the school is geared towards serving a student population with low economic backgrounds. In an interview with the staff social worker, it is discerned that the African American adolescent population constituted the highest percentage of students in the school. Additionally, it was determined that most of the African American adolescents with intellectual disabilities and/or emotional and behavioral problems displayed poor menstrual hygiene. The interviewee attributed this dilemma to factors such as a lack of resources and social teaching made available to the students.

The literature indicated that there had been a decrease in mean age for occurrence of menarche in terms of where African American girls mature six months to 1 year earlier when compared to White girls or girls belonging to other races (Quint, 2014). Another important factor is that African American adolescents are more heavily burdened by intellectual disabilities largely because of social disparities related to health.
Considering the overall adolescent or youth population in America, African American children up to 17 years old have higher levels of externalizing (problem behaviors) and internalizing (emotional and behavioral problems) compared to their peers from other races (Linton, 2015; Milam, Furr-Holden, Whitaker, Smart, Leaf & Cooley-Strickland, 2012). Consequently, African American adolescents disproportionately receive special education services (Milam et al., 2012).

There has been increasing attention to developing ways of promoting health among adolescents, underpinned by the notion of social determinants of health (Shackleton et al., 2016). One such potential intervention is self-care. The concept of self-care referred to a regulatory function that individuals develop to function in their daily lives and live safely and healthily throughout their lives. Prevention plays a key role in preventing health risks or diseases. Effective self-care minimizes the need for healthcare, but it should be mentioned that not all individuals are able to develop self-care due to their disabilities. Adolescents with intellectual disabilities were undermined in their ability to regulate themselves; they were limited in their ability to engage in self-care.

**Needs Assessment**

Menstrual hygiene management is a public health problem that required attention. According to Wilbur, Torondel, Hameed, Mahon, and Kuper (2019), even though 25% of the world’s population is of menstruating age, effective menstrual hygiene management was impeded by inadequate access to water, sanitation, and hygiene services. Specifically, statistics indicate 663 million people did not have access to safe, clean water, and approximately 2.4 billion people did not have access to adequate sanitation services. There was clearly an underserved global need for services that enable women to exercise adequate menstrual hygiene.
In the United States and specifically New Jersey, the problems associated with menstrual hygiene management were predominantly related to poverty, which affected approximately 15% of all women in menstruating age, and lack of access to menstrual health products (Cotropia, 2019). Efforts have been undertaken in school settings to offer menstrual health products to student for free and to educate them on how to use them properly. In New Jersey, approximately 11.8% of the student population partook in special needs programs (NCID, 2017). This initiative underlined the importance of offering adequate education and support to the students and their families. The selected site for intervention was a private school offering special needs curriculums for adolescents. The female students attending this school needed education and support regarding menstrual hygiene management.

The literature on menstrual hygiene indicated a lack of comprehensive knowledge, appropriate practice, and attitudes regarding menstrual health and related issues (Kassa et al., 2016). According to Tracy, Grover, and Maegibbon (2016), adolescents with intellectual disabilities “may take longer to learn” the skills associated with menstruation management (p.54). Menstrual management was the self-care and practical steps that adolescents had to undertake to ensure menstrual management, and “appropriate social behaviors” (p. 54).

The social worker at the proposed school site for the project discussed the challenges facing the students. The social worker identified these adolescent’s problem as a lack of understanding of the menstrual process and how to care for themselves. For instance, the adolescents had frequent accidents of bloodstained clothing accidents due to inappropriate changing of their sanitary napkins and not understanding how often to change their pads or tampons. They did not appreciate the variation in the flow of menstrual blood, with the early part of the cycle having a heavy flow and lighter flow as their cycle starts to taper off. This lack of
understanding resulted in not knowing how often or when to change menstrual pads or tampons. A strong odor of menstrual blood surrounded some of the adolescents due to lack of knowledge and appropriate hygienic practices. Some of the adolescents experience menstrual cramping and are frightened by the sight of blood. They did not know what to do for the cramping and it was not uncommon for them to miss school during this time. (V. Henry, personal communication, August 31, 2018).

The school had not tried any interventions to address the adolescents’ lack of knowledge or provided any program on menstrual education. The school had not successfully helped the adolescents engage in appropriate management during their menstrual cycles (V. Henry, personal communication, August 31, 2018).

**Problem Statement**

Female adolescents with developmental disabilities faced significant problems related to menstrual hygiene management which often resulted in adverse outcomes such as absenteeism from school. There is currently no program implemented at this school to address the need for menstrual hygiene management.

**Clinical Question**

The clinical question is, African American adolescents aged 13-21 with intellectual disabilities benefit from a developmentally appropriate program on menstrual hygiene management through teach-back strategy?

**Aims and Objectives**
This pilot project aimed to improve menstrual self-care for African American adolescents with intellectual disabilities. To accomplish the aim, the following objectives were to:

**Objectives**

1) Design and implement an evidence-based intervention that focuses on menstrual hygiene management in African American adolescents with intellectual disabilities.

2) Provide an interactive educational program using Healthy Bodies Toolkit and menstrual checklist as an educational intervention on menstrual hygiene.

3) Evaluate the educational intervention’s effect on menstrual hygiene by initiating a 30-minute open-ended and return demonstration segment as an informative teach back strategy.

**Review of Literature**

A literature review was performed to explore three important themes: special needs of intellectually disabled adolescents, menstrual hygiene of adolescents, and interventions to teach menstrual hygiene management skills. The literature review utilized a few of the databases including CINHAL, Medline, Google Scholar and PubMed. While the initial search criteria included articles published in English relevant to topic and articles published within the last ten years, further criteria were more specific with identified themes of the literature 40 sources had been identified with the help of keywords such as menstrual hygiene management, adolescents with intellectual disabilities, self-care skills for adolescents, healthy bodies toolkit, teach-back strategy, and teach-back strategy for menstrual hygiene management education. Studies that connected these themes and were directly relevant to the DNP project have been included and evaluated for review.
Self-care skills were essential to ensure appropriate menstrual hygiene in adolescents. Teaching them these skills is vital in the early stages of getting menstruation to carry forward menstrual hygiene management as they grow older (Quint, 2014).

Self-care was essential to promote well-being and prevent the target population from acquiring preventable diseases that may threaten their health and life. Women’s health workshop involves providing educational information about the different issues associated with adolescence and practical exercises to empower adolescent girls with disabilities in relation to self-care. This literature review cited and corresponded with existing literature on topics of special needs, menstruation, and Healthy Bodies for Girls.

**Special needs**

Special needs were an umbrella term that encompasses individuals suffering from learning difficulties, physical (or cognitive) disabilities, and other behavioral and emotional difficulties. Due consideration to special needs was particularly important when talking about adolescents; this was a challenging transition period on account of the wide-ranging changes in the person’s body and mind. The reason for such challenges was that the body would start to exhibit changes and, along with them, are hormonal processes that could affect moods. These changes could be confusing to young people and may have even been alarming to some. These were able to handle growing up well, but others found this phase to be awkward.

Aside from the physical changes, the individual also became aware of others, particularly of the opposite sex and this, in itself, raised its own set of issues. This challenge has expanded many times for those with physical or developmental disabilities, especially when dealing with menstruation, sexuality, contraception and other issues (Quint, 2014). This was of a specific concern for parents who had children with an intellectual disability (ID) resulting in limitations
in intellectual functions (Greenwood & Wilkinson, 2013). Having a deficiency in intelligent functions, these individuals may have experienced greater confusion concerning their physical changes and how to respond to them. They may also become vulnerable because they could not fully appreciate the implications of entering the adolescent stage.

This led to the discussion of the reproductive health concerns of teenagers and women with special needs. Special needs could stem from physical disabilities or developmental delays. Although these disabilities and delays could stunt the individual’s growth, they would not stop the person from maturing in the physical sense. Which means the body would go through the maturing phase while the mental capacity, for instance, of the person is unable to keep up. There were many problems that can arise as a result of this. These teenagers would, at the very least, need help in the way they took care of themselves. They needed to be coached and guided so that they could attain independence in terms of self-care. To respond to these needs appropriately, an individualized approach was necessary, where healthcare providers or families could have taken into consideration the factors that influence the person with the disability. For example, physical, environmental, attitudinal, emotional, physical factors came into play. These should be given attention when deciding on the correct workshop for the adolescent with special needs.

The usual barriers to appropriate menstrual hygiene management that adolescents with intellectual disabilities face involved physical or mental limitations. Schools should also be made accessible to those with physical disabilities. Other barriers include the lack of education and resources and the lack of healthcare providers or access to healthcare (Abells, Kirkham & Ornstein, 2016).

**Menstruation**
Despite the pressing fear and expectation for menstrual issues for girls with disabilities, most go through well with menstruation even without intervention. Adolescent women with physical disabilities may have shown concern about dealing with menstruation and the use of hygienic products during menstruation. They may be concerned about a light flow of cycles, regulating irregular periods, suppressing the bleeding or using contraception (Quint, 2014).

Concerning hygiene, menstruation could cause abnormalities in a teenager’s daily life or routine. For example, teenagers who have limited skills may require caregivers’ assistance from caregivers to show how to use a menstrual pad. This is exacerbated when the disability is such that the individual could not function without assistance. Some adolescents with developmental delay may misunderstand the concept of menstruation and may found it difficult to grasp. As a result, they will have undesired hygiene behaviors (Quint, 2014). Some may also fear the cycle, especially when there were cramps that went along with it. Parents could prepare their adolescent girls with disabilities for the onset of menstruation through visuals and practice sessions. Also, healthcare providers can educate adolescent on appropriate care methods and provide any necessary information (Ayoola, Zande & Adams, 2016).

Considering adolescent females with learning physical disabilities, the onset of menarche brings about “significant disruption” to the young girls’ lives (Jeffrey, Kayani, & Garden, 2013, p. 106). Such disruption is caused due to distressing symptoms in terms of dysmenorrhea, increased seizures, menorrhagia, inability in coping with “emotional surges of sex hormones,” and cyclical behavior disturbances (p. 106). Parents and caregivers of daughters with disabilities had several concerns regarding menstrual health, management, and hygiene, sexual abuse and pregnancy, vulnerability, and inappropriate behavior of their wards (Jeffrey et al., 2013). Among
the parents’ major concerns include menstrual suppression, parental burden, hygiene, and menstrual symptoms (Quint & O’Brien, 2016).

Researchers including Veazey et al. (2015) have discussed the importance of educational interventions such as chaining to help menstrual hygiene and self-care in adolescent females with disabilities. Chaining included total task chaining in which the participants were to complete each step in the chain process of changing pad (Veazey et al., 2015). For instance, if the participant was unable to compete a particular step within three seconds of completing the previous step, such as a verbal ‘pull down your underwear,’ verbal and gestural ‘pull down your underwear,’ and verbal and physical ‘pull down your underwear’ while using hand and physical prompts then hierarchy was used to complete the step (Veazey et al., 2015). Upon completion of a step, the participant was provided reinforcement through social praise (Veazey et al., 2015). Similarly, the forward chaining included mastery of one step and introduction of next step and forward chaining (Veazey et al., 2015). By using the chaining method, the researchers were able to teach the study participants that included two adolescent girls with autism spectrum disorder to learn and acquire the skills of feminine hygiene (Veazey et al., 2015).

On the other hand, studies such as by Altundağ and Çalbayram (2016), focused on demonstrating models to teach menstrual skills to intellectually disabled young girls. According to their study, educating the young girls regarding pad replacement using the model was quite effective (Altundağ & Çalbayram, 2016).

**Healthy Bodies Toolkit**

A significant resource that helped with the proposed program was the Healthy Bodies Toolkit. A team belonging to Vanderbilt Kennedy Center created this resource to provide parents with a guide on puberty for girls with disabilities. Although the toolkit discusses puberty, it
offers detailed activities and explanations regarding menstruation and menstrual hygiene and how the young girls can be taught the menstrual hygiene management skills. The publication of this toolkit was done with the help of Grant No. T73MC30767 provided from the Maternal and Child Health Bureau (MCHB), Department of Health and Human Services (HHS), and Health Resources and Service Administration (HRSA) (Vanderbilt Kennedy Center, 2013).

In the Healthy Bodies Toolkit, Chapter VI “Bras, tampons, and pads! Oh my!” on pages 12-14 discusses the tools, activities, and strategies that parents can engage in to prepare the child for menstruation. In the introductory paragraph, the authors state that by using “stories and pictures” presented in the chapter, the child can better understand menstruation and acquire necessary menstrual hygiene management skills (Vanderbilt Kennedy Center, 2013, p. 12). The section titled “Teaching my daughter about self-care” focuses on these specific skills. The authors recommend that the child must first try pads and later change to tampons, as girls who have motor difficulties can find it difficult to use tampons (Vanderbilt Kennedy Center, 2013), the next step is to provide the young girls with choices to find which types of pad work best. In the demonstrate step, it is suggested that the mother or other women in the family could demonstrate steps for wearing and changing pads using easy and simple steps (Vanderbilt Kennedy Center, 2013). For this, a visual schedule, bathroom folder or pocket schedule (Fig.1) can be used, which will help the young girls be more independent and acquire menstrual hygiene skills (Vanderbilt Kennedy Center, 2013). The authors recommend thinking about usual breaks at school, such as snacks break and lunch break, and other times at home to determine how times that the girl must change her pad.
Conceptual Model of Evidence-Based Practice Change

The conceptual model chosen to facilitate this paper’s application was the health promotion model by Nola Pender (2011).

Health promotion model

The health promotion model (HPM) debuted in literature in 1982. The model aims to assist nurses to comprehending the significant determinants of health behavior. These determinants will be utilized a basis for behavioral counseling. According to Pender, “identifies background factors that influence health behavior… using the model and working collaboratively with the patient/client, the provider can assist the client in changing behaviors to achieve a healthy lifestyle” (Pender, 2011, p. 2). The HPM recognized that each person has personal characteristics and experiences that direct how that person acts. It believes that these can be altered through interventions. The goal for this model was the result of “improved health, enhanced functional ability and better quality of life at all stages of development” (Gonzalo, 2011). It is based on three views: the reciprocal interaction view, the expectancy-value theory, and the social cognitive theory. The first view is the perspective that humans interact with their environment and consequently shape it to meet their needs and goals. For the second, it subscribes to the philosophy that people engage in actions to achieve goals that are seen as possible, resulting in valued outcomes. Finally, the last view states that a person’s thoughts, behavior, and environment interact. Thus, in order to change behavior, the way of thinking must in turn be changed as well (Pender, 2011).

The HPM is grounded on seven assumptions: (1) people find ways so that they can able to realize their own potentials concerning health; (2) people are capable of self-reflection to determine their level of competencies; (3) people have the need to grow in a positive direction,
and as such, they are willing to find the balance between adapting to change and maintaining the status quo; (4) people want to have control over their behaviors; (5) people and the environment interact with one another in such a way that they ultimately affect each other; (6) health professionals have important roles to play in influencing people's health behaviors throughout their lifetime; and (7) behavioral change can be promoted by an interaction between the individual and the environment. (Pender, 2011, p. 5).

The HPM has four major concepts: individual characteristics and experiences, prior behavior, and similar behavior frequency in the past. These have both direct and indirect effects on the individual potential of engaging in behaviors that promote health. Personal factors are “predictive of a given behavior and shaped by the nature of the target behavior being considered” (Petipirin, 2016). Personal factors can further be categorized into biological, personal factors, psychological personal factors and socio-cultural personal factors. Perceived benefits of action are the “anticipated positive outcomes that will occur from health behavior” (Petipirin, 2016). On the other hand, the HPM also contemplates perceived barriers to action and perceived self-efficacy. Perceived obstacles to action may be anticipated, imagined, or real-perceived self-efficacy on the other hand, influences the positive outcome. So, a high perception of self-efficacy results in a low perception of barriers to action. Another factor that influences self-efficacy is activity-related effects: “subjective positive or negative feelings that occur based on the stimulus properties of the behavior itself” (Petipirin, 2016). Interpersonal influences are sourced from family, friends, and healthcare providers. These are cognition-concerning behaviors, beliefs or attitudes of others including norms, social support and modeling (Petipirin, 2016). The result of the HPM is to achieve health-promoting behavior, or that which promotes optimal well-being, personal fulfillment, and living productively.
The health promotion model significantly applies to the behavior of adolescent girls with special needs and will be analyzed from the perspective of several propositions, among which are: prior behavior, inherited, and acquired characteristics influence beliefs; persons begin to commit to engaging in behaviors where they anticipate deriving beliefs they value; persons are more likely to commit to health-promoting behaviors when significant others model and expect the behavior to occur and provide assistance to enable the behavior; families, peers and healthcare providers are important sources of interpersonal influence that can increase or decrease a person’s commitment; the more significant the commitment, the more likely it is health-promoting; persons can modify cognitions, affect and interpersonal and physical environments to create incentives for health actions (Pender, 2011).

The advantages of using this model are as followed: easier to understand, focuses on promoting a healthy lifestyle and preventing disease, highly applicable in the community health setting, and encourages practicing the nursing profession independently and being a primary source of interventions and education that promote a healthy lifestyle.

**How this applied to the question of adolescent females with special needs**

This framework can interpret the research question because the framework focuses on determining the reasons for an individual’s behavior, thereby using those determinants as a basis to create a customized plan of action for the adolescent. This is coherent with existing literature, which requires that approaches must be done with the consideration of several external factors (Abells, Kirkham & Ornstein, 2016). Not only that, but the model also pushes for health promotion, or in other words, the overall well-being of the patient. This is pertinent for adolescent girls with special needs considering the daily struggles, both based on gender and
their disability. This focus on health promotion and disease prevention is particularly beneficial for the community health care setting because it aims to prevent instead of cure disease.

According to this model, this is the best platform to promote health and prevent disease. This is consistent with existing literature, such as integrative school-based approaches that rely on multicomponent participations, such as parents and the community (Shackleton et al., 2016). It is essential to highlight that while the proposed intervention will focused on school-settings, the intention is to include members of the community, e.g., parents, so that self-care may develop in school and be reinforced outside school. This is the most logical approach considering that students with special needs will be functioning as members of society every time they leave school. Communities can also be used as the venue for creating smaller and more participative clinic-based programs by utilizing health care professionals in the community, youth development programs by partnering with schools, and parent-youth relationship programs. The aim after is to reduce risks (Chin et al., 2012) and to increase knowledge on sexual health and the use of contraceptives (Salam et al., 2016).
Methodology

The proposed study was an observational study, and a single group pre and post test with no control group, which can either have quantitative and qualitative components. Observational research has had a long and rich history across disciplines, encompassing quantitative and qualitative data collection and analysis (Given, Winkler, Willson, Davidson, Danby & Thorpe, 2016). Observational studies sought to determine the effects of an exposure or intervention on participants (Carlson & Morrison, 2009). This was achieved through direct observation of participants in their natural setting. Observational research was appropriate for this study because it is a method of observing and recording participants’ actions and behaviors (Kawulich, 2005). Ideally, observations were performed in an unobtrusive manner and the participants should not be influenced while the relevant environment should not be altered.

Setting

The study took place via Elite online learning in a school setting for adolescents with special needs due to COVID-19. The setting was remote for each individual adolescent females with special needs. The observational study was distinguished from other methods because it entailed naturalistic observation of participants (Center for Innovation in Research and Teaching [CIRT], 2014). In naturalistic observations, the principal investigator did not manipulate or intervene in settings and preferably, the principal investigator sought to undertake observations without participants’ knowledge (CIRT, 2014). This way, the principal investigator can observe participants in their spontaneous, natural behaviors in their natural surroundings. Considering the context of menstrual management, this study also seeks to investigate, the natural setting even after the workshop was over.
Design

There were three research designs for observational studies: cross-sectional, cohort and case-control designs (Carlson & Morrison, 2009). A cross-sectional study was an observational study in which the researcher determines exposure and outcome simultaneously for each subject (Carlson & Morrison, 2009). The second design was the cohort design, which was appropriate when a researcher did not have a long time-frame in mind and less resources to conduct the research (Carlson & Morrison, 2009). The defining characteristic of a cohort observational study design was that participants were followed over time. The third type of observational design was the case-control study design. The researcher studies participants who have had outcomes or cases and then compares them to others who have not had the outcome or controls according to past history of exposure to a factor (Carlson & Morrison, 2009).

The most appropriate design for this study on menstrual management is the cohort study. This was because of the design’s focus on participants exposed to a variable, in this case, the workshop on women’s health, and then evaluate subsequent developments of an outcome, which would be self-care. This cohort study would be concurrent, which means that the assessment will be on the association between exposure and outcomes over time (Carlson & Morrison, 2009). It is important to note that the cohort design is appropriate if (a) there is good evidence suggesting an association between an exposure and an outcome such as, through previous cross-sectional studies; (b) the interval between exposure and development of outcome is relatively brief in order to lessen loss to follow-ups, and (c) the outcome is not too rare, thereby making the size of the cohort is reasonable (Carlson & Morrison, 2009). The cohort study design’s primary advantage is that since the principal investigator determines new cases of the outcome, it becomes possible to analyze reasons for the adoption or non-adoption of self-care.
Population

The study population was a convenience sample of 15-20 African American female adolescents with special needs, which are defined as individuals between 12 and 17 years at risk for, or had been diagnosed with, “chronic physical, a developmental, behavioral, or emotional condition requiring increased health and other services” (Mendes, 2016, p. 1145). There are about 35 adolescents both male and female, with special needs enrolled in the school. The population were African American adolescents from low socioeconomic status, single family homes that may include a parent that is incarcerated.

The population was further defined by speaking with the social worker and principal at the school about issues they noticed that the girls were having difficulty with. Again, these were, African American females aged 12 to 17 years old, with cognitive impairment and emotional and behavioral problems, and members of the school who would attend a workshop on women’s health. After participants names have been collected, consent forms were first given to their parents or guardians. Once the consent forms were completed for the participants a meeting with the social worker, principal, child psychologist and principal was held to discuss further.

Recruitment

As far as actual recruitment was concerned, the program’s advertisement with the faculty and students at a local educational institution specializing in adolescents with special needs. Flyers was sent via email to the school staff and the students’ parents. See Appendix D

Subject Interventions

For those individuals, such as adolescents with special needs, self-care was developed through educational formats. In particular, adolescents with special need to be given a workshop
so that they are able to independently care for themselves with regard to their reproductive needs. Helping adolescents develop self-care skills will improve their self-perception and confidence, thereby allowing them to be more competent in social relationships and handling their lives when they reach adulthood (Jamison & Schuttler, 2017). In light of these, education and training could help in addressing the special needs of adolescents. A self-care educational program such as through a workshop can (a) help promote independence in the adolescent with special needs; (b) improve necessary skills that will allow them to complete self-care tasks; and (c) recognize and use appropriate supports in building these skills (Jamison & Schuttler, 2017). For example, a self-care workshop will teach participants how to choose appropriate clothing, body care, and general health maintenance strategies (Jamison & Schuttler, 2017). Areas of focus could be tailored according to individual participant values, needs and interests (Jamison & Schuttler, 2017). Also, such workshops provided the added benefit of empowering participants to value their characteristics rather than feel stigmatized.

An educational program about women’s health issues was developed and implemented at the school. This intervention was intended to educate adolescent girls with special needs about self-care, puberty, and menstruation. The program included both visual aids and return demonstration. The workshop was about 30-45 minutes for 2 weeks. During the session, the participants were free to ask questions. In other words, the workshop comprised short lectures with open-ended questions to promote discussion among the participants.

Consent Procedure

Considering that the participants have special needs, as well as, minors, informed consent was accomplished by their parents or guardians as well as the participants, which included,
parental consent, assent, and consent. Including the participants in the informed consent enabled them to withdraw from the study at any point that they wish to do so. Informed consent was sent to the parents/guardians who were asked to complete it with their children. If the parents or guardians had any questions the PI information was provided on the informed consent. See Appendix F, G, H

**Risk/Harm/Ethics**

The proposed study was based on human participants’ responses, most of which were minors and all of whom have special needs. This means to say that the contemplated study was performed according to the highest ethical standards, providing a safe environment. Adolescent with special needs was considered to be a vulnerable population, according to Rutgers IRB. As mentioned earlier, informed consent was requested from both participants and their parents or guardians. None of the participants was intentionally exposed to any form of emotional, physical, or psychological harm resulting from their participation in the study. However, a foreseeable risk was the disclamation of any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal investigator was a licensed registered nurse and was required by law to report any such incident. The safety plan was given to all participants, including names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline.

The purpose of this safety plan was to ensure that each participant had a safety plan in the event of an actual emergency or crisis. See appendix E. There were participant identifiers in the proposed study, but these was limited to participant ID numbers. As pertains to self-care development, the participants were taught health promotion activities for women's health and practice skills with models.
Compensation

Gift bags were given to all participants after completion of the educational session.

Timeline

The proposed timeline for the study were the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prepare proposal.</td>
<td>July 2019</td>
</tr>
<tr>
<td>2. Present project to DNP Chair and Team member</td>
<td>August 2019</td>
</tr>
<tr>
<td>3. Obtain approval to submit to IRB</td>
<td>March 23, 2021</td>
</tr>
<tr>
<td>4. Accomplish informed consent.</td>
<td>March 25, 2021</td>
</tr>
<tr>
<td>5. Meeting with school faculty</td>
<td>March 24, 2021</td>
</tr>
<tr>
<td>6. Begin observational study.</td>
<td>March 26, 2021</td>
</tr>
<tr>
<td>7. End observational study.</td>
<td>March 31, 2021</td>
</tr>
<tr>
<td>8. Data collection and Analysis</td>
<td>April 3, 2021</td>
</tr>
<tr>
<td>9. Project Completion</td>
<td>April 5, 2021</td>
</tr>
<tr>
<td>10. Final Completion</td>
<td>April 5, 2021</td>
</tr>
</tbody>
</table>

Budget & Resources

The following were the proposed budget and resources.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Visual aid</td>
<td>$100</td>
</tr>
<tr>
<td>2. Printed Handouts</td>
<td>$100</td>
</tr>
</tbody>
</table>
**Outcome Measures**

Adolescent female self-care health is important; however, most adolescent females going through puberty do not have the correct information about menstrual health. In this project, a menstruation self-care health survey was conducted on adolescent females with special needs. The girls answer basic menstruation self-care health, they then attend an educational intervention class on menstrual hygiene management. After the intervention, they were given the same questions to answer. Using the score from the preintervention and postintervention score, a determination if the educational intervention classes benefited to the girls or not. In order to fully explain the effects of the self-care workshop on the target population, its contents, methods of deliveries, tools for deliveries, and even the competence of the principal investigator, was analyzed. Doing so provided insight on why the outcomes of improved self-care was achieved or not.

**Data Collection**

To be able to accomplish an observational study successfully, adequate engagement with participants should be achieved to establish trustworthiness (Fasse & Kolodner, 2000). Trustworthiness was established once the principal investigator showed evidence that considerable time was invested in the natural setting and prolonged interaction with participants. These translated into increased opportunities to observe the participants in a range of activities over time. An observational study would not be as credible if the principal investigator did not
implement methods that enhance the accuracy of findings (Fasse & Kolodner, 2000). Therefore, observational study findings would be more accurate if data collection had been in the participants’ natural environment. However, for this proposed study, it would be challenging to fully observe the participants according to the concept of self-care, which would encompass life at their homes; and observational studies should use methods that are unobtrusive so that participants can spontaneously act and behave.

As far as the instruments that was used, they were different checklists that was used to assess for self-care. Specifically, checklists used for evaluating self-care (and overall health literacy) on personal hygiene and menstrual hygiene. Additionally, they were offered changing pads to determine whether they were able to use these pads, and if they learned what they are and how they are used. Visual aids were used in the workshops to discuss puberty and the changes (and risks) involved. Finally, the research included a pretest and a posttest of the specific checklist. The pretest was helpful to establish a benchmark on how much the participants know about self-care and actual practices and behaviors that are conducive to improving the quality of health. Once the workshop was finalized, a posttest was conducted with the students performing the different elements included in the checklist and determining if the workshop was successful in enhancing the degree of self-care.

Data Analysis

As mentioned earlier, observational studies may have qualitative and quantitative components. This proposed study used a qualitative component. To facilitate the qualitative component of the study, a meeting was held in order to discuss notes that the faculty and principal investigator would have taken on the observe behavior. The agenda for the meeting will be comprised of possible reasons pertaining to the adoption of self-care as a result of the
workshop. The data collected from the menstruation self-care health survey has six variables. The variables of interest are gender, age, preintervention score, postintervention score, and change in the two scores. Data analysis focused on the preintervention and post-intervention scores. Moreover, the analysis evaluated the differences in scores depending on age and gender. The analysis’s main aim is to investigate if there is a significant difference between the preintervention and postintervention score, and thus, determine if the menstrual hygiene management classes were effective.

**Descriptive Statistics**

All the participants of the study were females aged between 16 and 19 years. Analysis shows that there was a mean change in preintervention and postintervention scores. Descriptive data analysis is essential because it evaluates the observable changes in data.

*Table 1: Gender of the participants*

<table>
<thead>
<tr>
<th>Gender of the students</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid F</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 2: Age distribution among participants

<table>
<thead>
<tr>
<th>Age of the students</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid 16</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>18.2</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>45.5</td>
</tr>
<tr>
<td>18</td>
<td>4</td>
<td>36.4</td>
<td>36.4</td>
<td>81.8</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
**Table 3: Distribution of pre and post-test scores change**

<table>
<thead>
<tr>
<th>Change in score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid No change</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>18.2</td>
</tr>
<tr>
<td>Plus 1</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>45.5</td>
</tr>
<tr>
<td>Plus 2</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>72.7</td>
</tr>
<tr>
<td>Plus 3</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Correlation Analysis**

Correlation analysis will help us find the relationship between the preintervention and post-intervention data. The analysis shows weak positive analysis between the pretest and posttest scores, meaning that the two scores have a weak relationship. Additionally, it shows a strong negative correlation between pretest and score change. It means that that low pretest score leads to a higher score change. Posttest and score change variables have a weak positive correlation. Understanding the relationship between these variables is vital because they help us
anticipate some changes between them. The table below shows the correlation between the variables.

**Table 4: Correlation analysis**

<table>
<thead>
<tr>
<th></th>
<th>Pretest score</th>
<th>Posttest score</th>
<th>Change in score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.594</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Post-test score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.594</td>
<td>.416</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Change in score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
<td>.416</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

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

**T-Test**

To compare the mean difference between pretest and posttest scores, a t-test statistic test was used. Our null hypothesis is there is a difference between preintervention and post-intervention scores. The alternative hypothesis is that there is no difference between preintervention and postintervention.

\[
H_0: \mu = 0 \\
H_1: \mu \neq 0
\]

**Table 5: Mean score comparison**

<table>
<thead>
<tr>
<th>Pair 1</th>
<th>Posttest score</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest score</td>
<td>8.00</td>
<td>11</td>
<td>.105</td>
<td>.330</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pair 1</th>
<th>Posttest score</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest score</td>
<td>9.64</td>
<td>11</td>
<td>.505</td>
<td>.152</td>
<td></td>
</tr>
</tbody>
</table>
Table 6: correlation test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>11</td>
<td>.181</td>
<td>.594</td>
</tr>
</tbody>
</table>

Table 7: t-test score

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Lower</th>
<th>Upper</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>1.636</td>
<td>1.120</td>
<td>.336</td>
<td>.884</td>
<td>2.389</td>
<td>4.845</td>
<td>10</td>
<td>.001</td>
</tr>
</tbody>
</table>

According to the analysis, there is an observable difference in the mean pretest and posttest scores. The correlation between the two variables is 0.181. t-test statistic shows a significant difference between preintervention and postintervention scores. The t-test statistic is $t_{11}=4.845$ $p<0.05$ and the mean difference between the two variables (95% CI [0.884, 2.389]). We accept the null hypothesis and conclude a significant difference between the preintervention and post-intervention scores.

**Discussion**

The analysis shows a significant difference between pretest and posttest scores. Therefore, the adolescent females’ intervention class undertaken by the adolescent females had a significant impact on their menstruation self-care health knowledge. According to the analysis, there was an increase from pretest to post-test, thus, the classes increase the girls’ understanding of menstruation self-care health. Hence, the girls should take the classes in their adolescent years to improve their self-care health and keep them healthy.

This study provided evidence on the positive impact of implementing a menstrual hygiene management workshop on adolescent females with special needs. This study’s finding
revealed that adolescent female with special needs have deficient knowledge on menstruation, which can be improved through a developmentally appropriate education intervention. This finding is aligned with previous literature on this topic. For instance, Cooper and Koch (2007) conducted a qualitative study to assess knowledge of African American women regarding menstrual health. Their findings revealed that there is insufficient knowledge in this population, and cultural beliefs accompany such knowledge about menstruation. According to Cooper and Koch (2007), menstruation in believed to be a key transitional event from childhood to adulthood among women. Also, Cooper and Koch (2007) asserted that insufficient knowledge among African American women about menstruation is also associated with negative attitudes towards menstrual events.

Another theme generated from this study is improved knowledge and skills after implementing a menstrual hygiene management workshop. This finding aligns with the results of Altundag and Calbaryan (2019), who conducted a study on the efficacy of an educational intervention among intellectually disabled female students. The results of this study showed improvements in menstrual pad replacement after the educational intervention. As such, the delivery of a targeted developmentally appropriate education intervention among an adolescent population with special needs improves their skills and knowledge on menstruation and menstrual hygiene (Altundag & Calbaryan, 2019).

This study also revealed the important role of mothers in educating their children regarding menstrual health. According to Edelman and Kudzma (2018), family life is central to the African American population’s culture, thereby emphasizing parental influences on their children. Adolescents with disabilities experience poor body image and lower sexual self-esteem, thereby necessitating tailored education approaches on menstrual and sexual health (Holland-
Hall & Quint, 2017). Holland-Hall and Quint (2017) further assert that mothers of teens with intellectual disabilities know their important role in addressing their child's sexual health yet. However, hesitancy in initiating conversations about menstrual health and sexuality is common (Holland-Hall & Quint, 2017). As such, Holland-Hall and Quint (2017) assert that healthcare professionals play an important role in educating the mothers and caregivers of adolescents with special needs. Besides implementing an educational intervention for adolescents with special needs on menstrual hygiene management, it is also important for providers to provide anticipatory guidance to mothers and caregivers in educating their children. Some examples of anticipatory guidance measures for mothers and caregivers of adolescents with special needs include initiation of a discussion in menstrual health early and often, provide calm responses to questions about sexual health, and to prepare their children for the onset of menstruation (Holland-Hall & Quint, 2017).

The objectives of this study include to design and implement an evidence-based that focuses on menstrual hygiene management in African American adolescents with intellectual disabilities. This was achieved through implementing an evidence-based menstrual management workshop in a school with adolescent students with special needs. Another objective of this study is to provide an interactive educational program using Healthy Bodies Toolkit as an educational intervention on menstrual hygiene. This objective was met, and the utilization of a structured evidence-based tool kit was instrumental in improving the knowledge and skills of the participants in menstruation and menstrual hygiene. As such, this study's objective to evaluate the effect of an educational intervention on menstrual hygiene using a teach-back strategy was also met.
Key Facilitators and Barriers, Unintended Consequences

The key facilitator that was instrumental in meeting the study's objectives is the use of an evidence-based educational tool, which is developmentally appropriate for adolescents. Individuals with intellectual disabilities require complex care needs, which includes promotion of menstrual health and hygiene (Fouquier & Camune, 2015). It is important for educators to utilize specific methods of instruction to ensure that the educational intervention is multidimensional in meeting the health promotion needs of adolescents with intellectual disabilities (Curtis, 2018). Furthermore, the utilization of a structured workshop which incorporates the teach back strategy, allows the investigator to immediately evaluate the effectiveness of the health promotion intervention.

This study also affirmed that there are cultural barriers to the knowledge of African American adolescents regarding menstrual health and hygiene. Studies have shown the important role of mothers in educating their children regarding menstruation and sexual health ((Holland-Hall & Quint, 2017). As such, the unintended consequence of this study is that it highlighted the importance of providing anticipatory guidance and educational interventions among mothers of adolescents with developmental disabilities to improve menstrual hygiene and menstrual health knowledge and skills in this population.

The limitation of the project was a pilot study and a small sample size; so therefore, cannot generalize to the overall population.

Data Maintenance & Data Security

Raw data collected and the signed consent forms from the participants were maintained in a locked file cabinet with Gerti Heider at 65 Bergen Street, SSB, Newark, NJ. All materials
related to the study’s participants, including their signed consent forms, will be destroyed six years after the closing of the DNP project.

**Implications**

**Clinical Practice**

Doctor of Nursing Practice (DNP’s) play an important role in addressing the healthcare needs in various healthcare environments (Malloch, 2017). In this regard, adolescents with special needs represent a vulnerable population, which necessitates tailored strategies to optimize their health. This study has important implications relevant to the care of this vulnerable population. For instance, this study provided evidence on the effectiveness implementing an educational intervention using the Healthy Bodies toolkit to promote menstrual hygiene knowledge among adolescents with special needs. The results from this study can be applied in other healthcare environments to meet the special needs of adolescents with intellectual disabilities.

Furthermore, this study can be utilized by other nursing professionals to improve the quality of care that is being provided for their patients with special needs. Holland-Hall and Quint (2017) emphasized the role healthcare professionals in educating adolescent patients regarding menstruation and sexual health. As such, healthcare professionals can utilize this study’s structured educational intervention to provide individualized health promotion for their patients with intellectual disabilities. In addition, nursing professionals also play an important role in advocating for patient health by empowering caregivers and parents to take an active role in educating their children (Holland-Hall & Quint, 2017). This study can also be used to develop
an appropriate education intervention to educate caregivers and parents on how to teach their children with special needs regarding menstrual health hygiene.

**Healthcare Policy**

Considering the special care needs of adolescents with intellectual disability, this study also has important implications for policy creation. For instance, this study highlights the impact of a menstrual health hygiene workshop for a disadvantaged population. To further improve adolescents’ knowledge and skills with intellectual disabilities, this study can be utilized by policymakers to justify the delivery of a menstrual health hygiene workshop in schools and other learning environments.

The American Academy of Pediatrics (AAP) asserts the important role of school nurses in providing school health services (AAP, 2016). In this regard, this study’s findings can also be used to guide the school nurse-led implementation of health literacy screenings for adolescents with intellectual disabilities in school environments. For instance, the Healthy Bodies Toolkit checklist can be utilized by health nurses in assessing the health promotion needs of adolescents with intellectual disabilities. Accordingly, school nurses can also use the structured and developmentally appropriate strategies in this study to deliver individualized health promotion interventions for children with special care needs.

**Quality and Safety**

DNPs play a vital role in the delivery of quality and safe care in various practice environments. This study’s findings can be used by clinical outpatient departments that provide specialized care services for adolescents with special care needs. For example, the Healthy
Bodies Toolkit can be incorporated in routine health assessment and treatment of adolescents with special care needs who consult for well-child visits. The Healthy Bodies toolkit can also be utilized in conjunction with other health promotion methods in improving the knowledge of adolescents with special care needs regarding sexual health. The findings of Cooper et al. (2008) assert that African American women have insufficient knowledge and understanding of menstruation and menstrual health hygiene. This has important implications because African American women also suffer from a disproportionately increased menstrual health problems compared to other populations from a different ethnical background (Cooper et al., 2008). As such, the findings from this study can be used by healthcare professionals to lead the implementation of appropriate strategies to provide safe and quality care for a disadvantaged population. Improving adolescents’ knowledge and skills of adolescents with intellectual disability will empower them to create independent self-care strategies to optimize their menstrual health and hygiene practices.

**Education**

Individuals with intellectual disabilities disproportionately suffer from preventable diseases, which can be optimized using appropriate health promotion strategies. In this regard, this paper’s findings can be used to justify the incorporation of the Healthy Bodies toolkit in teaching nursing students on the use of developmentally appropriate health promotion strategies for adolescents with special care needs.

The teach back strategy method is an evidence-based method in improving patients’ health literacy (Yen & Leasure, 2019). Since this study utilizes the teach back strategy method, findings from this study can also be used to guide nurse educators in educating novice nurse students on how to utilize the teach back strategy to improve their patients’ health literacy. The
Healthy Bodies toolkit can be used as an exemplar by nurse educators to highlight the significance of teach-back strategy as a nursing intervention in improving the knowledge and skills of patient populations with special care needs.

**Economic**

Disability and impairment require significant healthcare resource allocation (Trollor et al., 2016). For instance, the economic burden of having an autism spectrum disorder is estimated to be 268 billion US dollars last 2015 and will continue to rise to 461 billion US dollars by 2025 (Leigh & Du, 2015). Costs related to the care of individuals with disabilities related to direct healthcare costs and indirect healthcare costs (Leigh & Du, 2015). This study offers an opportunity for adolescents with special care needs to optimize their independence and self-efficacy strategies, which may curb the economic burden related to preventable menstrual care problems. Some examples of these preventable menstrual care problems.

**Stakeholders**

This study highlights the importance of educating adolescents with intellectual disabilities regarding menstrual health hygiene practices. This may help academic institutions, primary care providers, and mothers to adopt a structured and developmentally appropriate to educate adolescents with special needs. Improving the health literacy of this population will optimize their self-efficacy strategy and independence, which may assist their transition to adulthood. Return with a presentation on menstrual hygiene management and a development menstrual curriculum.

**Sustainability**

This evidence-based practice project provides evidence on the efficacy of a menstrual health hygiene workshop, which is specifically targeted to meet the health literacy needs of
adolescents with intellectual disabilities. Following this project, evidence can be disseminated among academic institutions involved in the learning of this population. Specifically, information will be disseminated to school nurses, teachers and academic leaders to highlight the importance of this initiative in optimizing knowledge and skills among adolescents with special care needs.

Furthermore, advocating for the health of this population by engaging in policymaking. An example of a strategy to make this evidence-based project sustainable is to advocate for schools to provide this workshop as a mandatory requirement to resolve existing gaps in knowledge and skills training regarding menstrual hygiene practices among adolescents with intellectual disabilities. Teachers, school nurses, and primary care providers may also be trained in conducting to workshop as a collaborative strategy to optimize the care of this population. Lastly, this study may also help in designing future evidence-based projects relevant to this topic. For instance, this study can be used to guide the design and implementation of an educational strategy for parents and caregivers, who play an important role in empowering their children to perform self-efficacy strategies during their menstrual periods.

**Plan for Future Scholarship**

Following completion of this project, plans to perform a panel presentation of the key results of this evidence-based project and a menstrual hygiene curriculum to be given to the school for further program implementation. Also, following this project’s presentation, plans to publish the results of this study to inform a broader audience who many benefits from the results of this study. As such, a peer-reviewed journal will be selected for the potential publication of this evidence-based project. In addition to the final presentation of the DNP project, a poster
presentation will be present at Rutgers’s Poster Day 2021. The results of the study will also be compared to other evidence-based literature to further emphasize the impact of this project.

**Summary**

This evidence-based project has important implications relevant to clinical practice, healthcare policy and delivery of quality and safe care for adolescents with special care needs. This project’s results can be utilized by organizations and healthcare settings, which are involved in the care of this population. The results of this evidence-based project may also be utilized in advocating for a policy, which may be used to advocate for improving the health literacy of adolescents with special care needs pertinent to menstrual health hygiene. The structured framework and developmentally appropriate approach utilized in this evidence-based project, may also be utilized in health promotion strategies for individual patients who may benefit from this education format. This will help healthcare professionals and educators in the delivery of safe and quality care for this population. This study’s results may also be utilized by nurse educators in educating undergraduate students regarding the use of appropriate strategy to optimize adolescents’ independence with special care needs. Improving the self-efficacy strategies of this population provides the opportunity to reduce the current economic and healthcare burden related to the care of this population. Other stakeholders such as educational institutions, healthcare professionals, and caregivers may also be better informed on how to optimize the independence of adolescents with special care needs relevant to menstrual hygiene practice. To ensure sustainability, the results of this evidence-based project may be disseminated through oral presentations, roundtable discussions, poster presentations, and publication.
References


Center for Innovation in Research and Teaching (CIRT). Observational Method. https://cirt.gcu.edu/research/developmentresources/research_ready/descriptive/observational

Chin, H., Sipe, T., Elder, R., Mercer, S., Chattopadhyay, S., Jacob, V. et al. (2012). The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: Two systematic reviews for the guide to community preventive services. *American Journal of Preventive Medicine,


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telem one telemedicine participants: 5 year results from the IDEATel project. *Ethnicity & Health, 18*(1), 83-96.


Appendix A

Table of Evidence

EBP Question: Would African American adolescents ages 13-21 with intellectual disabilities benefit from a developmentally appropriate program on menstrual hygiene management through teach-back strategy?

Date: 2/17/17

Table 1

<table>
<thead>
<tr>
<th>Article #</th>
<th>Author &amp; Date</th>
<th>Evidence Type</th>
<th>Sample, Sample Size &amp; Setting</th>
<th>Study findings that help answer the EBP question</th>
<th>Limitations</th>
<th>Evidence Level &amp; Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jahonda, A. &amp; Pownall, J. (2014)</td>
<td>Empirical study</td>
<td>60 Adolescents from West of Scotland, ages 16-21 years. 30 (16M &amp; 14F) adolescents with ID (intellectual disability) 30 adolescents (15M &amp; 15F) with ND (no disability) colleges offering specialist courses for people with ID, and the ND young people recruited from mainstream</td>
<td>Adolescents with ND had a better understanding of sexual matters than those with ID. Also, ND adolescents reported having more sources of sexual information than those with ID.</td>
<td>The sample size was relatively small. Also, using a variety of interview formats made the data coding, analysis, and presentation of the results more complicated than was desirable.</td>
<td>Research Quality: Good Level 3</td>
</tr>
<tr>
<td>2</td>
<td>Kassa, T. A., Luck, T., Bekele, A., &amp; Riedel-Heller, S. G. (2016)</td>
<td>Cross-sectional study</td>
<td>426 Ethiopian young person with disabilities ages 10-24 residing in Addis Ababa who were enrolled in different support organizations during the study period.</td>
<td>The study finding showed that young person with disabilities had a lack of comprehensive knowledge, appropriate practice and favorable attitude regarding different sexual reproductive health related issues.</td>
<td>The study only considered young person with disabilities in the capital city of Ethiopia and not the entire population, including people living in rural areas of the country. Also, the participants were selected by systematic random sampling.</td>
<td>Research Quality: Good Level 3</td>
</tr>
<tr>
<td>3</td>
<td>Salam, R. A., Faqqah, A., Sajjad, N., Lassi,</td>
<td>Systematic Review</td>
<td>n/a</td>
<td>The study finding suggest that sexual and reproductive</td>
<td>Inconclusive evidence for the effectiveness</td>
<td>Research Quality: High</td>
</tr>
</tbody>
</table>
Z. S., Das, J. K., Kaufman, M., & Bhutta, Z. A. (2016). Health education, counseling, and contraceptive availability are effective in increasing adolescent knowledge related to sexual health, contraceptive use, and decreasing adolescent pregnancy. Also, comprehensive interventions targeting sexual health education, counseling, consistent birth control methods promotion, and provision have the potential to prevent and control the adverse outcomes related to risky sexual behavior in adolescents.
<table>
<thead>
<tr>
<th></th>
<th>Author(s)</th>
<th>Study Type</th>
<th>Data</th>
<th>Summary</th>
<th>Evidence</th>
<th>Methodological Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Greenwood, N. W., &amp; Wilkinson, J. (2013).</td>
<td>Limited literature review</td>
<td>n/a</td>
<td>Individuals with ID are a known disparity population and sexual health care is often times neglected and therefore PCP play an important role in addressing these disparities through sensitive and appropriate sexual health care. In this article the author identify several practice recommendations that practitioner can use to help address some of the barriers women with ID face.</td>
<td>The lack of evidence and clinical guidelines for best practice for barriers to sexual health care in primary care settings, sex education, sexual abuse and consensual sexuality, contraception, screening tests: STI and cervical cancer screenings, and pregnancy and parenting.</td>
<td>Non research Quality: Good Level 3</td>
</tr>
<tr>
<td>5</td>
<td>Abells, D., Kirkham, Y. A., &amp; Ornstein, M. P. (2016).</td>
<td>Expert opinion</td>
<td>n/a</td>
<td>This study finding suggested that more education is needed on topic such as menstruation, pregnancy, contraception, sexual abuse, STIs, and sexuality in women with developmental disabilities.</td>
<td>n/a</td>
<td>Non research Quality: High Level 3</td>
</tr>
<tr>
<td>6</td>
<td>Manlove, J., Fish, H., &amp; Moore, K. A. (2015).</td>
<td>Review Article</td>
<td>85 programs</td>
<td>The authors found that programs were effective with consistent impact</td>
<td>Programs were not rated based on quality of the evaluation.</td>
<td>Research Quality: Good</td>
</tr>
<tr>
<td>7</td>
<td>Mason-Jones, A. J., Sinclair, D., Mathews, C., Kagee, A., Hillman, A., &amp; Lombard, C. (2016).</td>
<td>Meta-Analysis</td>
<td>55,157 participants. Five trials were conducted in sub-Saharan Africa (Malawi, South Africa, Tanzania, Zimbabwe, and Kenya), one in Latin America (Chile), and two in Europe (England and Scotland).</td>
<td>The authors found that there is a need to provide a widely accepted health program to adolescents to reduce high risky sexual behaviors.</td>
<td>Future research should consider characteristics of evaluation quality.</td>
<td>Level 3</td>
</tr>
<tr>
<td>8</td>
<td>Denno, D. M., Hoopes, A. J., &amp; Chandra-Mouli, V. (2015).</td>
<td>Review article</td>
<td>n/a</td>
<td>This study is a descriptive review of the effectiveness of initiatives to improve adolescent access to and utilization of sexual and reproductive health services in low- and middle-income countries.</td>
<td>Randomized trials were infrequent, control groups were often not included in longitudinal studies impeding the ability to attribute outcome to intervention, significance testing was sometimes not provided,</td>
<td>Level 1</td>
</tr>
</tbody>
</table>
and adjustment for confounding factors or baseline differences between intervention and control groups was often not included.

| 9 | Campa, M. I., Leff, S. Z., & Tufts, M. (2018). | Cross-sectional study | 747 participants | The authors suggested that if an organization’s goal is to serve high-need adolescents and would be more efficient to have targeted prevention settings. | Research Quality: Good Level 3 | Some of the limitations that the authors were faced with was, the federal entry and exit surveys were not designed to be matched and thus they were unable to determine the effect of program retention on the associations reported here. Also, the lack of baseline differences among matched and unmatched participants reassures us that the results |
|   | Shackleton, N., Jamal, F., Viner, R. M., Dickson, K., Patton, G., & Bonell, C. (2016) | Systematic review | n/a | Significant evidence was found that whole-school health interventions are effective in preventing teenage pregnancy, smoking and bullying. | In this study there was a lack of evidence that reflect interventions for topics such as sexual health clinics and peer mediation. Also, lack of evidence for evaluation and the limitation of existing evaluations and syntheses. | Research Quality: High Level 1 |
References


Appendix B

Nola Pender Health Promotion Model

Appendix C

Letter of Cooperation

Date: 12/3/2020

Re: Letter of Cooperation For [Redacted]

Dear Dr. Gerti Heider, Phd, MSN, GNP-BC, ANP,

This letter confirms that I, as an authorized representative of [Redacted], allow the Principal Investigator and Qana Clement access to conduct study related activities at the listed site(s), as discussed with the Principal Investigator and briefly outlined below, and which may commence when the Principal Investigator provides evidence of IRB approval for the proposed project.

- **Research Site(s):** [Redacted]
- **Study Purpose:** The purpose of this research project is to improve menstrual self-care for African American female adolescents aged 15-20 with intellectual disabilities.
- **Study Activities:** Visual aids (dolls), materials such as underwear and sanitary napkins, handouts, and a menstrual hygiene checklist will be used. The group session will take place via remote learning due to Covid-19 safety precautions.
- **Subject Enrollment:** African American female adolescents aged 15-20 with intellectual disabilities enrolled in [Redacted] with a sample size of 15 females.
- **Site(s) Support:** [Redacted] supports the study by allowing the primary investigator use of the space in which the activities will take place. The students will be notified of the workshop by the faculty staff via flier sent out via email and online classroom school announcement.
- **Data Management:** Data collected will be confidential and will not include any subject identifiers. It will be stored in a locked cabinet.
- **Anticipated End Date:** November 2021

We understand that this site’s participation will only take place during the study’s active IRB approval period. All study related activities must cease if IRB approval expires or is suspended. I
understand that any activities involving Personal Private Information or Protected Health Information may require compliance with HIPAA Laws and Rutgers Policy.

Our organization agrees to the terms and conditions stated above. If we have any concerns related to this project, we will contact the Principal Investigator. For concerns regarding IRB policy or human subject welfare, we may also contact the Rutgers IRB (see orra.rutgers.edu/hspp).

Regards,

______________________________  __________________________
Signature                     Date Signed

______________________________  __________________________
Full Name                     Job Title
Appendix D

Recruitment Flyer

Calling all Adolescent Females

Menstrual Hygiene Management Workshop

"This research study will help improve menstrual hygiene for adolescent females"

WHAT WILL BE DONE:
- Consent Required
- 30 Minute Open Forum
- Live Interactive Demonstration

LOCATION: Via Zoom/Remote Learning
4 sessions available during March 8 - 27, 2021 11 AM
Bi-weekly Monday/Wednesday
Benefits: Self-care promotion
Fanny packs will be given with self-care hygiene products at the end of the workshop

For more information:
Co-Investigator: Q’ana K. Clement, BSN, RN
65 Bergen Street, SSB Newark, NJ 07101
Appendix E

Safety Plan

People I can call in the event of an emergency:

1. Name ____________________________ Phone: ____________________________

2. Name ____________________________ Phone: ____________________________

<table>
<thead>
<tr>
<th>Organization I can contact during an emergency or crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Worker: [Redacted] Phone Number: [Redacted]</td>
</tr>
<tr>
<td>Social Worker: [Redacted] Phone Number: [Redacted]</td>
</tr>
<tr>
<td>School Nurse:  [Redacted] Phone Number: [Redacted]</td>
</tr>
<tr>
<td>Child Psychologist: [Redacted] Phone Number: [Redacted]</td>
</tr>
<tr>
<td>Child Abuse Hotline: [Redacted]</td>
</tr>
</tbody>
</table>
ASSENT TO TAKE PART IN A RESEARCH STUDY

TITLE OF STUDY: Impacts of Menstrual Hygiene Management Workshop on Adolescent Females with Special Needs

Principal Investigator: Dr. Gerti Heider, Phd, MSN, GNP-BC, ANP
Co-investigator: Q’ana Kiesha Clement, BSN RN

Who are you and why are you meeting with me?
I am Dr. Gerti Heider and I work at Rutgers, The State University of New Jersey, School of Nursing in the Department of Advanced Nursing Practice. I would like to tell you about a research study that involves people like yourself and see if you would like to take part in it. Please ask me, other study staff, your parent or teacher to explain any words you don’t understand about the study.

What is the Research study about?
To help you with menstrual hygiene for African American adolescents with intellectual disabilities. If you take part in the research, you will be asked to participate in an educational session using a menstrual checklist and Healthy Bodies for Girl Toolkit.

What will happen to me if I take part in the study?
The workshop will be about 30-45 minutes twice a week for 2 weeks. During the session, you will be free to ask questions. In other words, the workshop will comprise short lectures with open-ended questions to promote discussion among the participants.

Their time in the study will take The workshop will be about 30-45 minutes twice a week for 2 weeks via online learning.

Who may take part in this study and who may not?
All adolescent females with special needs enrolled in the school.

Can something bad happen to me if I take part in the study?
none of the participants will purposefully exposed to any form of emotional, physical, or mental harm as a result of your participation in the study. Things that might happen such as any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal co-
investigator is a licensed registered nurse and is required by law to report any such incident. If you report actual or the research team suspects abuse, neglect, or mistreatment of a child, members of the study staff will report the information to Child Protective Services, Adult Protectives, and/or law enforcement agency. The safety plan will be given to you, which will include names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline. The purpose of this safety plan is to ensure that you have a safety plan in the event of a true emergency or crisis.

Can something good happen to me if I take part in the study?
After the educational session you will benefit from understanding the importance of menstrual hygiene management and increase benefit of self-care.

Will others know what I say and do in the study?
Raw data collected and the signed consent forms from the participants will be maintained in a locked file cabinet with Dr. Gerti Heider at 65 Bergen Street, SSB-Room 1135 Newark, NJ 07101. All materials related to the study’s participants, included their signed consent forms, will be destroyed six years after the closing of the DNP project.

Will I be given anything to take part in the study?
You will not be paid to take part in the study.

What if I do not want to take part in the study?
You do not have to take part in this study if you do not want to. Just tell the researcher No one will get angry or upset if you do not take part. If you do want to take part now, you can always change your mind later and decide to stop taking part in the study.

Your child’s information collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

What if I have questions?
If you have any questions or problems about the study, you can contact the Principal Investigator: Dr. Gerti Heider

65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement
You can also contact my faculty advisor Dr. Tracy Vitale. If you have questions about your rights as a research subject, you can contact the IRB Director at: Newark Health Science IRB (973) 3608 or the Rutgers Human Subjects Protection Program at (973) 972-1149 or email us at humansubjects@ored.rutgers.edu.

AGREEMENT TO PARTICIPATE

If you want to take part in this study, please sign your name below. If you say yes, your parent or guardian will also be asked if it is ok with them that you take part in this study. You will be given a copy of this form to keep.

**Subject’s Signature:**

Please sign below if you assent (that means you agree) to take part in this study.

Name of Child (Print) ________________________________

Child’s Signature ________________ Date _______________

**Signature of Investigator/Person Obtaining Consent:**

To the best of my ability, I have explained and discussed the important details about the study including all information contained in this assent form.

Investigator/Person Obtaining Consent Name (Print): ______________________________

Signature _______________________________________________ Date ________________
Title of Study: Impacts of Menstrual Hygiene Management Workshop on Adolescent Females with Special Needs
Principal Investigator: Dr. Gerti Heider, Phd, MSN, GNP-BC, ANP
Co-investigator: Q’ana Kiesha Clement, BSN RN

STUDY SUMMARY: This consent form is part of an informed consent process for a research study and it will provide information that will help you decide whether you want to take part in this study. It is your choice to take part or not.

The purpose of the research is to: To improve menstrual self-care for African American adolescents with intellectual disabilities. If your daughter takes part in the research, your daughter will be asked to participate in an educational session using a menstrual checklist and Healthy Bodies for Girl Toolkit. The program will be online which will include both visual aids and return demonstration using sanitary napkins, underwear, and dolls via google classroom/webex/ zoom. The workshop will be about 30-45 minutes twice a week for 2 weeks. During the session, the participants will be free to ask questions. In other words, the workshop will comprise short lectures with open-ended questions to promote discussion among the participants.

Possible harms or burdens of taking part in the study may be none of the participants will intentionally be exposed to any form of emotional, physical, or psychological harm as a result of their participation in the study. However, a foreseeable risk is the disclamation of any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal co-investigator is a licensed registered nurse and is required by law to report any such incident. If your daughter disclose actual or the research team suspects abuse, neglect, or exploitation of a child, members of the study staff will report the information to Child Protective Services, Adult Protectives, and/or law enforcement agency. The safety plan will be given to all participants, which will include names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline. The purpose of this safety plan is to ensure that each participant have a safety plan in the event of a true emergency or crisis and possible benefits of taking part may be the participants in the education session will benefit from understanding the importance of menstrual hygiene management and increase benefit of self-care.

An alternative to taking part in the research study: Your alternative to taking part in the research study is not to take part in it.
The information in this consent form will provide more details about the research study and what will be asked of you if you choose to take part in it. If you have any questions now or during the study, if you choose to take part, you should feel free to ask them and should expect to be given answers you completely understand. After your questions have been answered and you wish to take part in the research study, you will be asked to sign this consent form. You are not giving up any of your legal rights by agreeing to take part in this research or by signing this consent form.

**Who is conducting this study?**
Dr. Gerti Heider is the Principal Investigator of this research study. A Principal Investigator has the overall responsibility for the conduct of the research. However, there are often other individuals who are part of the research team such as Co-investigator- Q'ana K.Clement. Dr. Heider may be reached at or Stanley Bergen Building, Room 1135 65 Bergen Street Newark, NJ 07107.

The Principal investigator or another member of the study team will also be asked to sign this informed consent. You will be given a copy of the signed consent form to keep.

**Why is this study being done?**
The purpose of this project is to improve menstrual hygiene management in adolescent females with special needs by using Healthy Bodies Toolkit as an educational intervention on menstrual hygiene.

**Who may take part in this study and who may not?**
The inclusion criteria will be adolescent females with special needs enrolled in the school.

**Why have I been asked to take part in this study?**
It was noted that the adolescent females with special needs at the school faced significant problems related to menstrual hygiene management, and there is currently no program implemented at the school to address the need for menstrual hygiene management. Therefore, there is a need for a quality improvement project.

**How long will the study take and how many subjects will take part?**
All 20 female students of the school will be invited to participate. The duration of the participation and the total length of the study will for two weeks.

**What will I be asked to do if I take part in this study?**
The female participants in the study will be asked to consent to participating in a return demonstration and visual aids to address and promote independence in using appropriate clothing, body care and general health maintenance strategies.

What are the risks of harm or discomforts I might experience if I take part in this study?
None of the participants will intentionally be exposed to any form of emotional, physical, or psychological harm as a result of their participation in the study. However, a foreseeable risk is the disclamation of any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal investigator is a licensed registered nurse and is required by law to report any such incident. The safety plan will be given to all participants, which will include names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline.

Are There Any Benefits To Me If I Choose To Take Part In This Study?
The benefits of taking part in this study may be that the participants in the education session will benefit from understanding the importance of menstrual hygiene management and increase benefit of self-care. However, it is possible that your child may not receive any direct benefit from taking part in this study.

What Are My Alternatives If I Do Not Want To Take Part In This Study?
Your alternative is not to take part in this study.

How Will I Know If New Information Is Learned That May Affect Whether I Am Willing To Stay In The Study?
During the study, you will be updated about any new information that may affect whether you are willing to continue taking part in the study. If new information is learned that may affect you after the study or your follow-up is completed, you will be contacted.

Will I Receive The Results Of The Research?
The results will be shared with the participants to make them aware of the knowledge about menstrual hygiene management to improve their quality of life.

Will There Be Any Cost To Me To Take Part In This Study?
There is no cost associated with this study.

Will I Be Paid To Take Part In This Study?
Your child will not be paid to take part in this study.

How Will Information About Me Be Kept Private Or Confidential?
All efforts will be made to keep your personal information in your research record confidential, but total confidentiality cannot be guaranteed. Raw data collected and the signed consent forms from the participants will be maintained in a locked file cabinet with Dr. Gerti Heider at 65 Bergen Street, SSB-Room 1135 Newark, NJ 07101. All materials related to the study’s participants, included their signed consent forms, will be destroyed six years after the closing of the DNP project.

What Will Happen If I Do Not Wish To Take Part In The Study Or If I Later Decide Not To Stay In The Study?
It is your choice whether to take part in the research. You may choose to take part, not to take part or you may change your mind and withdraw from the study at any time.

If you do not want to enter the study or decide to stop taking part, your relationship with the study staff will not change, and you may do so without penalty and without loss of benefits to which you are otherwise entitled.

You may also withdraw your consent for the use of data already collected about you, but you must do this in writing to Dr. Gerti Heider

65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)
Co-investigator
Q’ana K. Clement

If you decide to withdraw from the study for any reason, you may be asked to return for at least one additional visit for safety reasons.

Who Can I Contact If I Have Questions?
If you have questions about taking part in this study or if you feel you may have suffered a research related injury, you can contact the Principal Investigator: Dr. Gerti Heider

65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement

If you have questions about your rights as a research subject, you can contact the Rutgers IRB Director at: Newark Health Science IRB, 65 Bergen Street, SSB 511, Newark, NJ 07107, (973)
Who May Use, Share or Receive My Information?
The research team may use or share your information collected or created for this study with the following people and institutions:

- Rutgers University Investigators Involved In The Study
- The Rutgers University Institutional Review Board and Compliance Boards
- The Office for Human Research Protections in the U.S. Dept. of Health and Human Services

The information collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

Will I Be Able To Review My Research Record While The Research Is Ongoing?
No. We are not able to share information in the research records with you until the study is over. To ask for this information, please contact the Principal Investigator, the person in charge of this research study.

Do I Have To Give My Permission?
No. You do not have to permit use of your information. But, if you do not give permission, you cannot take part in this study. (Saying no does not stop you from getting medical care or other benefits you are eligible for outside of this study.)

If I Say Yes Now, Can I Change My Mind And Take Away My Permission Later?
Yes. You may change your mind and not allow the continued use of your information (and to stop taking part in the study) at any time. If you take away permission, your information will no longer be used or shared in the study, but we will not be able to take back information that has already been used or shared with others. If you say yes now but change your mind later for use of your information in the research, you must write to the researcher and tell him or her of your decision:

Dr. Gerti Heider
65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement

How Long Will My Permission Last?
Your permission for the use and sharing of your health information will last until June 28, 2021.
AGREEMENT TO PARTICIPATE

Subject Consent:

I have read this entire consent form, or it has been read to me, and I believe that I understand what has been discussed. All of my questions about this form and this study have been answered. I agree to take part in this study.

Subject Name (Print):__________________________________________

Subject Signature:__________________________________________ Date:___________

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed all the important details about the study including all of the information contained in this consent form.

Investigator/Person Obtaining Consent Name (Print):______________________________

________________________

Signature:______________________________ Date:_________________


Appendix H

PARENTAL PERMISSION TO PERMIT CHILD TO TAKE PART IN RESEARCH

TITLE OF STUDY: Impacts of Menstrual Hygiene Management Workshop on Adolescent Females with Special Needs
Principal Investigator: Dr. Gerti Heider, Phd, MSN, GNP-BC, ANP
Co-investigator: Q’ana Kiesha Clement, BSN RN

STUDY SUMMARY: This consent form is part of an informed consent process for a research study and it will provide information that will help you decide whether you want your daughter to take part in this study. It is your choice for her to take part or not.

The purpose of the research is to: To improve menstrual self-care for African American adolescents with intellectual disabilities. If your daughter takes part in the research, she will be asked to participate in an educational session using a menstrual checklist and Healthy Bodies for Girl Toolkit. The program will be online which will include both visual aids and return demonstration using sanitary napkins, underwear, and dolls via google classroom/webex/zoom. The workshop will be about 30-45 minutes twice a week for 2 weeks. During the session, the participants will be free to ask questions. In other words, the workshop will comprise short lectures with open-ended questions to promote discussion among the participants.

Their time in the study will take The workshop will be about 30-45 minutes twice a week for 2 weeks via online learning.

Possible harms or burdens of taking part in the study may be, none of the participants will intentionally be exposed to any form of emotional, physical, or psychological harm as a result of their participation in the study. However, a foreseeable risk is the disclamation of any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal co-investigator is a licensed registered nurse and is required by law to report any such incident. If your child disclose actual or the research team suspects abuse, neglect, or exploitation of a child, members of the study staff will report the information to Child Protective Services, Adult Protectives, and/or law enforcement agency. The safety plan will be given to all participants, which will include names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline. The purpose of this safety plan is to ensure that each participant have a safety plan in the event of a true emergency or crisis and possible benefits of taking part may be The participants in the education session will benefit from understanding the importance of menstrual hygiene management and increase benefit of self-care.
An alternative to taking part in the research study: Your daughter’s alternative to taking part in the research study is not to take part in it.

The information in this consent form will provide more details about the research study and what will be asked of your daughter if you permit her to take part in it. If you have any questions now or during the study, you should feel free to ask them and should expect to be given answers you completely understand. After all of your questions have been answered and you wish your daughter to take part in the research study, you will be asked to sign this permission form. You are not giving up any of your daughter’s legal rights by permitting him/her to take part in this research or by signing this parental permission form.

Who is conducting this study?
Dr. Gerti Heider is the Principal Investigator of this research study. A Principal Investigator has the overall responsibility for the conduct of the research. However, there are often other individuals who are part of the research team such as Co-investigator- Q’ana K. Clement. Dr. Heider may be reached at (973) 972-9603 or Stanley Bergen Building, Room 1135 65 Bergen Street Newark, NJ 07107.

The Principal investigator or another member of the study team will also be asked to sign this informed consent. You will be given a copy of the signed consent form to keep.

Why is this study being done?
The purpose of this project is to improve menstrual hygiene management in adolescent females with special needs by using Healthy Bodies Toolkit as an educational intervention on menstrual hygiene.

Who may take part in this study and who may not?
The inclusion criteria will be adolescent females with special needs enrolled in the school.

Why has my daughter been asked to take part in this study?
It was noted that the adolescent females with special needs at the school faced significant problems related to menstrual hygiene management, and there is currently no program implemented at the school to address the need for menstrual hygiene management. Therefore, there is a need for a quality improvement project.

How long will the study take and how many subjects will take part?
All 20 female students from the school will be invited to participate. The duration of the participation and the total length of the study will be for two weeks.

What will my daughter be asked to do if she takes part in this study?
The female participants in the study will be asked to assent to participating in a return demonstration and visual aids to address and promote independence in using appropriate clothing, body care and general health maintenance strategies.
What are the risks of harm or discomforts my daughter might experience by taking part in this study?
None of the participants will intentionally be exposed to any form of emotional, physical, or psychological harm as a result of their participation in the study. However, a foreseeable risk is the disclamation of any sexual, emotional or verbal abuse; therefore, a safety plan will be in place. The principal investigator is a licensed registered nurse and is required by law to report any such incident. If your child disclose actual or the research team suspects abuse, neglect, or exploitation of a child, members of the study staff will report the information to Child Protective Services, Adult Protecitives, and/or law enforcement agency. The safety plan will be given to all participants, which will include names and phone numbers of individuals that the participants can call in case of emergency, child psychologist, social worker, and child abuse hotline.

Are there any benefits to my daughter if she takes part in this study?
benefits of taking part in this study may that the participants in the education session will benefit from understanding the importance of menstrual hygiene management and increase benefit of self-care. However, it is possible that your daughter may not receive any direct benefit from taking part in this study.

What are my alternatives if I do not want to take part in this study?
Your alternative is not to allow your daughter to take part in this study.

How will I know if new information is learned that may affect whether I am willing to allow my daughter to stay in the study?
During the study, you will be updated about any new information that may affect whether you are willing to allow your daughter to continue taking part in the study. If new information is learned that may affect your daughter after the study or their follow-up is completed, you will be contacted.

Will I receive the results of the research?
The results will be shared with the participants to make them aware of the knowledge about menstrual hygiene management to improve their quality of life.

Will there be any cost for my daughter to take part in this study?
There is no cost associated with this study.

Will my child be paid to take part in this study?
Your daughter will not be paid to take part in this study.

How will information about my daughter be kept private or confidential?
All efforts will be made to keep your daughter’s personal information in the research record confidential, but total confidentiality cannot be guaranteed. Raw data collected and the signed consent forms from the participants will be maintained in a locked file cabinet with Dr. Gerti Heider at 65 Bergen Street, SSB-Room 1135 Newark, NJ 07101. All materials related to the
study’s participants, included their signed consent forms, will be destroyed six years after the closing of the DNP project.

What will happen if I do not wish my child to take part in the study or if I later decide that I do not wish my daughter to stay in the study?

It is your choice whether your daughter takes part in the research. You may choose to have your daughter take part, not to take part or you may change your mind and withdraw your daughter from the study at any time.

If you do not want your daughter to enter the study or decide to stop taking part, their relationship with the study staff will not change, and your child may do so without penalty and without loss of benefits to which your child is otherwise entitled.

You may also withdraw your permission for the use of data already collected about your daughter, but you must do this in writing to Dr. Gerti Heider

65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement

If you decide to withdraw your child from the study for any reason, your daughter may be asked to return for at least one additional visit for safety reasons.

Who can I call if I have questions?

If you have questions about taking part in this study or if you feel your child may have suffered a research related injury], you can contact the Principal Investigator: Dr. Gerti Heider

65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement

If you have questions about your rights as a research subject, you can contact the Rutgers IRB Director at: Newark Health Science IRB, 65 Bergen Street, SSB 511, Newark, NJ 07107, (973)
Who may use, share or receive my child’s information?
The research team may use or share your child’s information collected or created for this study with the following people and institutions:
- Rutgers University Investigators involved in the Study
- The Rutgers University Institutional Review Board and Compliance Boards
- The Office for Human Research Protections in the U.S. Dept. of Health and Human Service

Your child’s information collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

Do I have to give my permission?
No. You do not have to permit use of your daughter’s information. But, if you do not give permission, your daughter cannot take part in this study. (Saying no does not stop your daughter from getting medical care or other benefits s/he is eligible for outside of this study.)

If I say yes now, can I change my mind and take away my permission later?
Yes. You may change your mind and not allow the continued use of your daughter’s information (and to stop taking part in the study) at any time. If you take away permission, your child’s information will no longer be used or shared in the study, but we will not be able to take back information that has already been used or shared with others. If you say yes now but change your mind later for use of your child’s information in the research, you must write to the researcher and tell him or her of your decision:

Dr. Gerti Heider
65 Bergen Street, SSB-Room 1135, Newark, NJ 07101
973 972-9603 (office)

Co-investigator
Q’ana K. Clement

How long will my permission last?
Your permission for the use and sharing of your daughter’s health information will last until June 30, 2021
PARENTAL PERMISSION FOR CHILD

I have read this entire form, or it has been read to me, and I believe that I understand what has been discussed. All of my questions about this form or this study have been answered.

I am the [ ] parent or [ ] legal guardian of ______________ (name of child) and I agree for my child to take part in this research study.

Subject/Child’s Name (Print):

Parent or Legal Guardian Name (Print):

Parent or Legal Guardian Signature: ___________________________ Date: _____________

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the full contents of the study including all of the information contained in this consent form. All questions of the research subject and those of his/her parent or legal guardian have been accurately answered.

Investigator/Person Obtaining Consent Name (Print):

Signature: ___________________________ Date: _____________
Appendix I

Checklists and Educational Materials

- Visual Aids and Instructions on Promoting Health Care –
  https://vkc.mc.vanderbilt.edu/HealthyBodies/files/HealthyBodiesAppendix-Girls.pdf

Directions:
Please read the statement carefully. If the statement is true, place a check mark in the YES column. If the statement is false, place a check mark in the NO column.

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A girl should wash her hands before and after changing her menstrual pad or tampon.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A used menstrual pad should be flushed down the toilet.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a girl is menstruating, she should change her menstrual pad every two days.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A girl who is old enough to menstruate should always have a pad or tampon with her.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If a girl starts her menstrual period at school, and does not have a menstrual pad or tampon, she can ask the secretary for one.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All teenage girls get menstrual periods every four weeks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is normal to have a foul smelling discharge from the vagina.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If a menstrual pad has wings, it is able to fly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When a girl is menstruating, she cannot play sports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is a good idea to put a menstrual pad in a first aid kit because it can be used to stop deep cuts from bleeding.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix J

Table 8: Gender of the participants

Gender of the students

<table>
<thead>
<tr>
<th>Gender of the student</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid F</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 9: Age distribution among participants

Age of the students

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>18.2</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>45.5</td>
</tr>
<tr>
<td>18</td>
<td>4</td>
<td>36.4</td>
<td>36.4</td>
<td>81.8</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Age of the student

Frequency

16 17 18 19

Age of the student
### Table 10: Distribution of pre and post-test scores change

<table>
<thead>
<tr>
<th>Change in score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid No change</td>
<td>2</td>
<td>18.2</td>
<td>18.2</td>
<td>18.2</td>
</tr>
<tr>
<td>Plus 1</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>45.5</td>
</tr>
<tr>
<td>Plus 2</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>72.7</td>
</tr>
<tr>
<td>Plus 3</td>
<td>3</td>
<td>27.3</td>
<td>27.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

![Bar chart showing pretest and posttest scores with mean values]
### Table 11: Correlation analysis

<table>
<thead>
<tr>
<th></th>
<th>Pretest score</th>
<th>Posttest score</th>
<th>Change in score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.181</td>
<td>-.897**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.594</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Post-test score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.181</td>
<td>1</td>
<td>.273</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.594</td>
<td></td>
<td>.416</td>
</tr>
<tr>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Change in score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.897**</td>
<td>.273</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td>.416</td>
</tr>
<tr>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

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

### Table 12: Mean score comparison

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Posttest score</td>
<td>9.64</td>
<td>11</td>
<td>.505</td>
<td>.152</td>
</tr>
<tr>
<td>Pretest score</td>
<td>8.00</td>
<td>11</td>
<td>1.095</td>
<td>.330</td>
</tr>
</tbody>
</table>

### Table 13: Correlation test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Correlation</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Posttest score &amp; Pretest score</td>
<td>11</td>
<td>.181</td>
<td>.594</td>
</tr>
</tbody>
</table>
Table 14: t-test score

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 Posttest score - Pretest score</td>
<td>1.638</td>
<td>1.120</td>
<td>1.38</td>
<td>0.964 - 2.399</td>
<td>4.845</td>
<td>10</td>
<td>0.001</td>
</tr>
</tbody>
</table>
Appendix K

Menstrual Hygiene Management Curriculum for Female Adolescents

**Learning Outcome(s):** To improve menstrual self-care for African Americans adolescents with intellectual disabilities through an interactive learning style.

**Student Development:** To understand the importance of the necessary skills needed to complete self-care tasks and value their personal characteristics rather than feel stigmatized

**Student Outcome:** To independently care for themselves with regards to their reproductive needs.

**Organizational Outcome:** To design and implement an evidence-based intervention that focuses on menstrual hygiene management in African American adolescents with intellectual disabilities.

<table>
<thead>
<tr>
<th>Topical Content Outline</th>
<th>Timeframe</th>
<th>References</th>
<th>Teaching method/learner engagement and evaluation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the stages of puberty:</td>
<td>10 minutes</td>
<td>John Hopkins Medicine (2020). The stages of puberty for girls. Retrieved from <a href="https://www.hopkinsallchildrens.org/ACH-News/General-News/The-Stages-of-Puberty-for-Girls">https://www.hopkinsallchildrens.org/ACH-News/General-News/The-Stages-of-Puberty-for-Girls</a></td>
<td>Slides and other visual props and cues (e.g. puberty posters) to support and show the stages of puberty from the lecture. To evaluate learning, ask each student to provide orally one concept/word/term that they remember from the lecture.</td>
</tr>
<tr>
<td>b. Discuss when puberty starts and ends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Describe the major aspects of puberty (e.g. bodily changes)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
when to change pads) and why it is necessary

b. Hygiene practices during and after menstruation (e.g. hand washing, taking a shower, cleaning stains)

c. Proper disposal of used menstrual items


there are different sizes to choose from and it is highly advised not to use the scented ones; show how a tampon is used by immersing it in water and allowing them to watch, while explaining, how it absorbs fluid; allow the students to touch and explore the menstrual items.

Show the correct way of disposing used pads and other menstrual items by demonstrating how to roll a used pad in an old paper, newspaper, or toilet paper. To evaluate learning, ask one student to summarize what she had learned from the lesson.

<table>
<thead>
<tr>
<th>Menstruation:</th>
<th>15 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture-demonstration. To evaluate learning, ask the students to answer to ‘yes or no’ menstruation checklist, which will include questions like ‘is it normal for a girl to have</td>
</tr>
<tr>
<td>beginning of a menstrual period (e.g. menstrual cramps)</td>
<td></td>
</tr>
<tr>
<td>c. Discuss how menstruation happens</td>
<td></td>
</tr>
<tr>
<td>Discussion/Questions &amp; Answers</td>
<td>15 minutes</td>
</tr>
</tbody>
</table>
References


MedicineNet (2020). What should I know about menstruation (monthly period)? What is the medical definition of it? https://www.medicinenet.com/menstruation/article.htm


