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HPV Vaccine Uptake among Children in Somalis Communities in Minneapolis

Ogbitse Maureen Atake

University of North Dakota

HPV VACCINE UPTAKE AMONG CHILDREN IN SOMALIS COMMUNITIES IN
MINNEAPOLIS

By

Ogbitse Maureen Atake

Bachelor of Science, Winona State University, 2011

Master of Science, University of North Dakota, 2015

(Doctor of Nursing Practice, University of North Dakota, 2017)

A DNP Project

Submitted to the Graduate Faculty

of the

University of North Dakota

In partial fulfillment of the requirements

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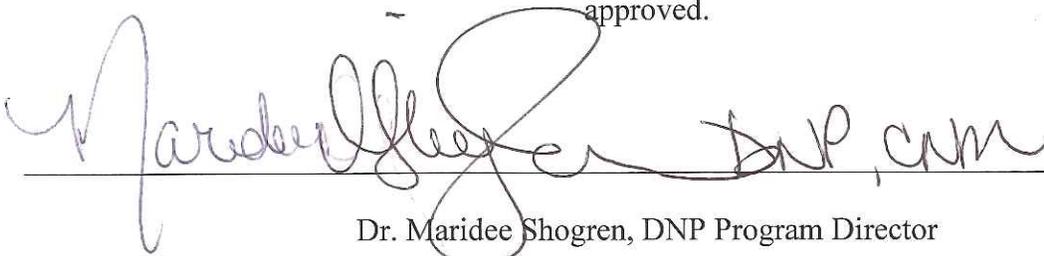
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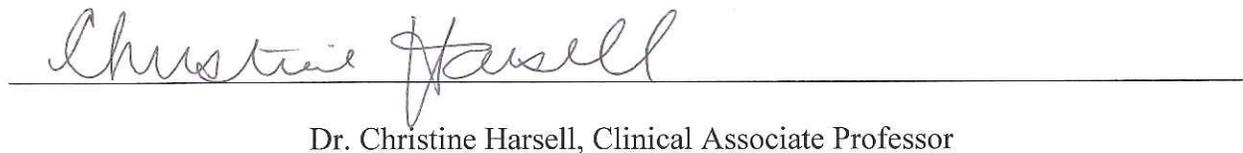
2017

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This DNP Project, submitted by Ogbitse Maureen Atake in partial fulfillment of the requirements for the Degree of Doctor of Nursing Practice from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

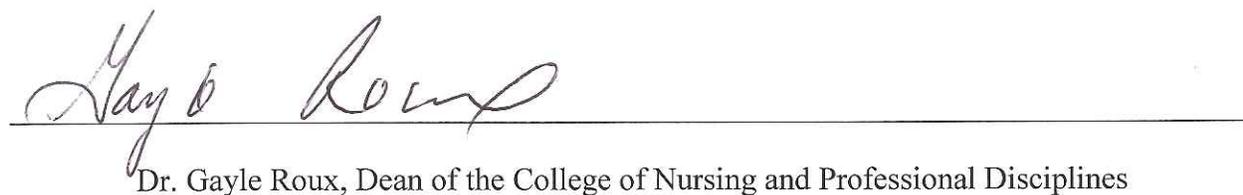


Dr. Maridee Shogren, DNP Program Director



Dr. Christine Harsell, Clinical Associate Professor

This DNP Project is being submitted by the appointed advisory committee as having met all of the requirements of the University of North Dakota and is hereby approved.



Dr. Gayle Roux, Dean of the College of Nursing and Professional Disciplines

PERMISSION

Title HPV Vaccine Uptake among Children in Somalis Communities in
Minneapolis

Department College of Nursing and Professional Disciplines

Degree Doctor of Nursing Practice

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Date 8/04/2017

Abstract

Infection with certain strains of Human Papillomavirus (HPV) is associated with the development of anal, cervical, penile, oropharyngeal, vaginal, and vulvar cancers. An HPV vaccination with proven efficacy in prevention of these cancers has been widely available in the United States since 2006. The vaccine is recommended for all children ages 9-17 years by the Advisory Committee on Immunization Practices (ACIP), it can be given up to the age of 21 and 26 years for females and males respectively. However, low uptake rates persist across the nation. The focus of this project was to understand the barriers preventing HPV vaccine uptake among English speaking Somali-born mothers living in an urban Minnesota City. In addition, the project explored primary health care providers perceptions of the reasons Somali mothers decline the HPV vaccines for their 11-17-year-old children. Eighteen semi-structured interviews were audiotaped, transcribed, and analyzed using the Thematic Networks Data Analysis approach. Key themes identified among Somali mothers were fear, religious beliefs, cultural practice, distrust of the healthcare system, and a lack of understanding of the purpose of the HPV vaccine. Healthcare providers and trusted religious community leaders should collaborate to provide continuous healthcare organization's involvement and education in Somali communities in addition to presenting the vaccine as routine rather than optional.

Key words: *Human Papillomavirus Viruses, Vaccination, Somalia*

Background and Significance

With a prevalence of 79 million existing cases, and 14 million new cases each year, Human Papilloma Virus (HPV) is the most common Sexually transmitted infection (STI) in the United States (U.S.) (Gamble, Klosky, Parra, & Randolph, 2010; Bruno, Wilson, Gany, & Aragonés, 2014; Center for Disease Control and Prevention (CDC), 2016a). An HPV infection may not produce symptoms and has the potential to enter into an undetectable state of dormancy making many people unaware that they have contracted the virus for a long period of time. However, HPV can cause several types of cancers such as cervical, anal, vaginal, vulvar, penile, and oropharyngeal cancers (CDC, 2011, 2015, 2016a). According to the CDC, people-of-color have the highest rates of HPV-related cancers: approximately 19,200 women and about 11,600 men are diagnosed annually with HPV-related cancers (CDC, 2016, 2016a). Currently, U.S health-reporting data do not make a distinction between African-American blacks and Somali immigrants, so these rates likely include Somalis. Even though HPV infection is prevalent in the U.S. and disproportionately affects black communities, HPV-related cancers and their subsequent morbidity and mortality are preventable by using the widely available HPV vaccination to halt the spread of the virus.

In 2006, the U.S Food and Drug Administration (FDA) approved the HPV Quadrivalent vaccine, and in 2008, the HPV Bivalent vaccine (Kester, Zimet, Fortenberry, Kahn, & Shew, 2013; Gamble, Klosky, Parra, & Randolph, 2010; Wilson, Brown, Boothe, & Harris, 2012; Dempsey, Abraham, Dalton, & Ruffin, 2009).

Currently, both the CDC and the Advisory Committee on Immunization Practices (ACIP) recommend two doses of routine vaccination with the bivalent or quadrivalent HPV vaccines for 11 to 12-year-old girls and the quadrivalent vaccine for 11 to 12-year-old boys. In

addition to a regimen of retroactive HPV vaccinations for females aged 13 to 21, and males aged 13 to 26 who were previously unvaccinated (CDC, 2016b; Markowitz, 2007; Wilson, Brown, Boothe, & Harris, 2012). In addition, the American Society of Clinical Oncology (ASCO) published new guidelines on the use of the HPV vaccine as a primary cervical cancer preventive measure. Specifically, the ASCO recommends initiating a two-dose vaccine in girls from age nine to 14 years, and three doses of the vaccine for girls who either did not receive the vaccine prior to age 15 years and for Human immunodeficiency virus (HIV) positive girls (Arrossi et al., 2017). HPV vaccines are efficacious in the prevention of both HPV infection and HPV-related cancers. The vaccine is covered by most health insurance and is available at no cost for eligible children through the Federal Vaccine for Children Program (CDC, 2015, 2016b; Bruno, Wilson, Gany, & Aragonés, 2014; Dempsey, Abraham, Dalton, & Ruffin, 2009).

Despite the recommendations, widespread availability, and the proven efficacy of the vaccine, low rates of HPV vaccine uptake persist nationwide, especially within communities-of-color (Holman et al., 2014). In February 2014, the President's Cancer Panel released a report about the nation-wide low HPV vaccination rates. At that time, the reported rates of HPV vaccination for girls fell below the Healthy People 2020 goal of 80% (PCP, 2014; Bruno, Wilson, Gany, & Aragonés, 2014; Holman et al, 2014). As of 2015, approximately 63% of females and 50% of males had initiated one or more of the three-dose HPV vaccines, however, full-regimen completion rates were much lower (CDC, 2016a). In a related publication, two HPV vaccination uptake and completion rates studies were conducted among Somali and White/non-Hispanic adolescent girls in Rochester, Minnesota. The researchers established that Somali girls generally lagged

behind their White/non-Hispanic counterparts in both the use and completion rates of HPV vaccinations (Pruitt et al., 2013, 2015).

National HPV vaccination studies indicate that several factors affect HPV uptake. These factors include lack of health-care provider recommendation, parental attitude toward immunization, adolescents' stance toward vaccination, decision-making regarding childhood vaccination, knowledge about HPV vaccine, and vaccination guidelines (Wilson, Brown, Boothe, & Harris, 2012; Gamble, Klosky, Parra, & Randolph, 2010).

There are over 80,000 Somalis in the U.S, making them the single largest African refugee group living in the country. Somali immigrants have doubled in size every ten years according to the Pew Research Center analysis of Census data (Anderson, 2015). The largest concentration (90%) of Somalis in the country live in well-established ethnic communities in an urban Minnesota city (Johnson, Ali, & Shipp, 2009). Pediatric providers from one of these ethnically diverse communities have anecdotally noted that Somalis consistently have a reduced rate of the HPV vaccine uptake among their multicultural patient population. Despite recommending the vaccine during well-child visits, those providers noted that Somali parents would ask to “think about it [HPV vaccine]” then fail to bring their children in for the vaccine. Few studies have examined the knowledge, attitude, and practice of Somali immigrants related to the HPV vaccine and even fewer have examined the issue in the Minnesota area.

The purpose of this Doctor of Nursing Practice (DNP) project was to gain an understanding of why Somali-born mothers living in an urban area of Minnesota chose to decline the HPV vaccine for their eligible children. In addition, the project also explored primary health care providers' perceptions; of the reasons, Somalis mothers decline the HPV vaccine for their 11 – 17 years old children.

Literature Review

A literature review was conducted in order to explore HPV utilization among Somalis and the best practice for discussing vaccination practices and beliefs with Somali participants. The electronic search was completed in PubMed using the key terms “immigrants AND HPV vaccination” and “Somali children AND HPV vaccination.” The search was later limited to human subjects and articles published within the past five years. CINAHL, ERIC and Google Scholar were also searched using the search terms, “qualitative research in healthcare”, “qualitative research AND Somalis”, “qualitative research AND nursing, interview methods”, and “face-face interviews.” This search was limited to articles published within 10 years, English language; peer reviewed, full text, human subjects, and published in the US. In addition, one relevant publication was located from the reference list of a selected article.

Publications selected for this review included studies conducted on HPV and cervical cancer screening among Somalis and or diverse immigrant/minority population, studies that employed qualitative methods, mixed methods, studies about immunizations or HPV vaccine, interviews, and face-to-face interview design. Excluded were studies conducted among immigrant groups but did not include Somalis and studies that used quantitative design exclusively because this researcher sought an understanding of a phenomenon that does not lend itself to that research method.

HPV Uptake Decision-Making Pattern

In a bid to understand the influencers of HPV uptake decision-making patterns among Somali immigrants living in Ohio, Daily and Krieger (2015) explored the goals of Somali parents’ in discussing HPV vaccine with their children and their health care providers. The study found that Somali parents associating the HPV vaccine to early initiation of sexual

activities, confusing the HPV and HIV, belief that the HPV vaccine is not necessary. In addition, concerns about the vaccines safety and effectiveness, a disinterest in discussing the vaccine with their children and, the parents an inclination to present the vaccine as a health promotion behavior played key roles in the HPV vaccine decision-making practice in the population.

In Michigan, another group of researchers interested in understanding reasons mothers either accepted or declined the HPV vaccine for their eligible daughters conducted a study. The researchers determined that: fear of a future health related consequences and a wish to give the vaccine at an older age when the child was most likely to be sexually active influenced the mothers' decision to refuse or accept the vaccine for their daughters (Dempsey, Abraham, Dalton, & Ruffin, 2009).

Knowledge and Attitudes

In another study that sought to understand attitudes and variables that influenced HPV vaccination practices of African American parents in Missouri, the researchers identified these as the factors that determined the use of the vaccine among the group. The cost of HPV vaccine, physicians' recommendation, role of religion, a need for more information on the vaccine safety, and effects of the vaccine on adolescent sexuality (Thompson, Arnold & Notaro, 2012).

Hull et al. in Tennessee, examined strategies for promoting HPV vaccine to African American parents and their adolescent children who were undecided about accepting or declining the HPV vaccine. The researchers found that presenting the vaccine as regular like other vaccines that help prevent cancer was paramount. In addition, factors such as healthcare provider recommendation, giving parents detailed education about the vaccine safety, child age guidance, as well as a mistrust of pharmaceutical companies played key roles in the decision about whether or not to use the HPV vaccine (Hull et al., 2014).

Similarly, Perkins, Pierre-Joseph, Marquez, Iloka, and Clark (2010) explored low-income; minority parents' attitudes, intentions and action toward HPV vaccination for their daughters in Massachusetts. The study, which conducted interviews in both English and Spanish, elicited information on parents' knowledge of HPV vaccines and vaccination. The researchers' conclusion was that most of the study participants accepted the vaccine for their daughter because they viewed it as a way of protecting their children from cancer.

In addition, Hughes, Jones, Feemster, and Fiks (2011) examined mothers, adolescents and their providers to determine how parents made the decision for HPV vaccination in pediatric primary clinics in Pennsylvania. Three identified themes were 1. The parents delayed vaccination instead of refusing it, and providers were reluctant to argue with parents that expressed hesitation. 2. Providers presented the vaccine as either routine without detailed information or as optional but stressed its benefits and risks. 3. Although, both parents and provider participants verbalized including adolescents in HPV decision-making, the teens did not feel they were part of the process.

Another study to ascertain parents and teens knowledge of and attitudes regarding all recommended immunizations including HPV as well as barriers to its uptake among Somalis, Hispanic, and Ethiopians/Eritreans communities living in Ohio was conducted by Greenfield et al., The researchers identified, the lack of vaccine information in their native language, lack of provider recommendation, wrong perception about vaccinations/vaccine preventable diseases, and limited knowledge of parents and teens regarding vaccines as affecting their use of recommended vaccines including HPV (Greenfield et al., 2015)

Furthermore, one study in Minnesota explored Somali women knowledge, attitude, and barriers to cervical cancer and breast screening. The Somali women identified these factors as

barriers to preventive health screening. 1. Obstacles Pap test or mammogram. 2. Limited enablers within their communities to seek cancer screening. 3. Traditional and cultural understanding of cancer and disease in general. 4 The dissimilarities between ingrained Somali health care seeking behavior and the US influence screening practices among the group (Raymond et al., 2014).

The articles reviewed explored HPV vaccine, vaccine in general or cervical cancer screening decision-making patterns among Somalis and other minority groups. The major findings were that parental concerns about HPV vaccine safety, parental beliefs, and parent/teens knowledge gap about HPV vaccine were the foremost hindrances to the vaccine acceptance. In addition, healthcare providers' recommendation of the vaccine, religious beliefs and cultural practices were other factors that influenced the uptake of the HPV vaccines. This literature review does underscore the powerful role personal or group health beliefs, as well as culture and religion play in the healthcare decision-making pattern of some minority and immigrant population. All but one of the eight articles included in this study used the Qualitative Research Method and Formative Interview Designs. After analyzing each study to determine which research methodology and data gathering design were used to illicit an in-depth response from subject, it was concluded that qualitative research method and the face-to-face interview design was most appropriate for conducting research, which seek answers to "why" humans choose for or against taking a recommended health care action.

Since the purpose of this DNP project was to identify and understand why Somalis-born mothers declined the HPV vaccination for their children, the project lent itself to the use of qualitative design methodology and the semi-structured individual interview approach. The choice of this research method not only aligns with the problem statement, but also contributes to

the evidence-based nursing knowledge through an enhancement of our understanding of the true reasons underlying this problem amongst the target population. In addition, the qualitative method promotes an understanding of the comprehensive magnitudes of the issue, which will provide stakeholders a more holistic perspective in developing interventions to address the problem.

In the attempt to gain insights into the Somali-born mothers' perceptions about HPV vaccination, semi-structured interviews appeared an effective form of the available inquiry design. Interviews are a formative research component conducted in groups, or with individuals. In addition, interviews can be conducted over-the-phone, by email, or in person. The formative interview technique allows an investigator to explore deep and complicated thoughts, as well as behavior patterns and beliefs that may not otherwise surface (Cohen & Crabtree, 2006). Interview formats can be structured, semi-structured, unstructured or informal. With the semi-structured format, the researcher can develop some pre-interview questions designed to capture information on participants' knowledge on the topic of interest. In addition, this format provides the researcher the opportunity to ask probing and follow-up questions when appropriate.

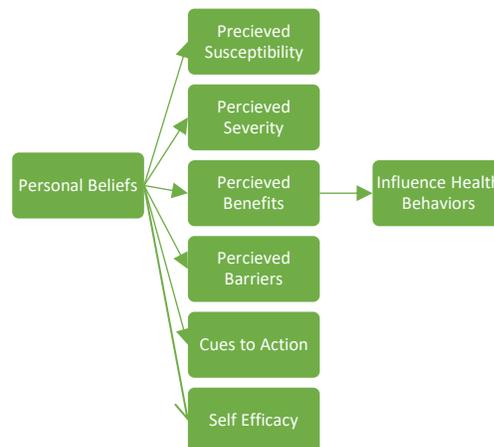
Theoretical Framework

The framework of the Health Belief Model (HBM) guided this DNP project. A detailed discussion of the interview questions, which used core tenets of the HBM in its construction, will occur later. The HBM is a psychological model that was developed by social psychologists Hochbaum, Rosenstock, and Kegels during the 1950s (Rosenstock, 1966). The model proposes that individuals will participate in preventive health actions if that action benefits them by

preventing an occurrence of negative consequences from not taking the action (Rosenstock, 1966).

The HBM focuses on six constructs, the first of which is construct-perceived susceptibility. Persons must believe that they are at-risk for developing a condition. The second construct is perceived severity where persons must believe that the condition would produce adverse effects. The third construct is the perceived benefits where persons must believe that taking recommended health action would yield positive results. The fourth construct is perceived barriers that states that persons must believe negative consequences will result if they do not “take action”. The fifth construct, cues-to-action, means that persons must receive exposure to triggers of health actions. The sixth and last construct, self-efficacy, indicates that persons must feel confident in their ability to implement the necessary action (Hochbaum, Rosenstock and Kegels, 1952; Rosenstock, 1966).

The Health Belief Model (HBM)



Hochbaum, Rosenstock and Kegels, (1952) proposed that these factors influence the occurrence of a health care action include: perceived susceptibility to a disease. Perceived

serious consequences from not taking a recommended action to prevent a condition. Perceived lack of benefit to taking action against the disease; cues to taking the action that surrounds the individual, in addition to a perceived belief that the person is incapable of performing the recommended health action. The HBM underlying concepts is that personal perceptions influence positive health behaviors. That is, personal beliefs determine whether an individual will take recommended health care actions to promote health or prevent the development of a negative outcome from a medical condition.

Design and Methods

To generate information that sought to promote an understanding of why Somali mothers decline HPV vaccines, this DNP project used the formative, semi-structured, face-to-face interview design to elicit common themes related to why Somali mothers refuse the HPV vaccine for their children. Participants for this study were English speaking, Somali-born mothers who declined the HPV vaccine for their 11 to 17-year-old children. The second group of participants included health-care providers who provide primary care services for Somali children at the local clinic. The Somali participant groups reside in the same ethnically diverse community in urban Minnesota City where the providers practice at the collaborating primary care clinic. Recruitment occurred through purposive self-sampling and the snowballing method.

Upon obtaining Institutional Review Board (IRB) approval, recruitment posters were displayed at a local Somali beauty shop, the Somali Community Center, and the participating primary care clinic. The posters requested that interested participants meet at the salon or the community center at certain dates and times for interviews. The recruitment poster also included

a phone number for interested participants to call with questions or to set up a specific interview time. The DNP student approached each of the five pediatric providers at the partnering primary care clinic, explained the project, and then asked if they were willing to participate. Three providers consented to be interviewed but two declined stating that they only work there part-time.

Interviews took place between February 6, 2017 and April 8, 2017. Fifteen Somali-born mothers interviewed in the first group and three providers participated in the second interview group. All the Somali-born mothers who participated in the study came from self-recruitment, several eligible mothers called and scheduled interviews at the community center, although, one of them changed her mind when she realized the discussion would be tape-recorded.

To understand healthcare providers' perception of why mothers of Somali children decline the HPV vaccine for their children, the DNP student interviewed three of the five providers at the participating primary care clinic who met the inclusion criteria, and agreed to participation in the project between the months of March and April 2017.

After explaining the project and obtaining consent from each participant, the DNP student asked a set of semi-structured interview questions (Appendix A) designed to elicit responses that promote a better understanding of why the HPV vaccine was declined. Each interview was audio recorded.

During the data collecting process, the PI modified the interview questions based on new insights and inputs from interviewees. In addition, the PI maintained the interview focus by asking participants to clarify and expand on statements or leading comments made in order to obtain in-depth information and stay on track.

The DNP student conducted interviews with Somali mothers until reaching a point of saturation; the point when the interviews began to elicit the same ideas, thoughts, and categories and it was determined that no new information was elicited. After completing the final interview, the DNP student manually transcribed the recorded discussions verbatim, analyzed and organized them according to emergent themes using the open coding Method. Seven participants agreed to follow-up contact and received a telephone call to discuss the DNP student transcribed notes to verify that the identified themes accurately represented their answers to the interview questions.

Data Analysis and Interpretation

For the purposes of this project, the DNP student selected the Open Coding Method, a type of coding method contained within the Thematic Networks Data analysis approach described by Corbin and Strauss (2008). The Open Coding process involves organizing raw data into categories of identified meanings, of phrases, ideas or thought groups; then, each idea receives a conceptual label, which represents the idea enclosed within a response (Corbin & Strauss, 2008, p. 614-617). Using open-coding method, the DNP student grouped identified categories into units and concepts contained within each participant's interview. Before transcription, the DNP listened to each recorded interview twice from beginning-to-end, and then started the manual verbatim transcription. To modify subsequent interviews and update questions as needed, the DNP student transcribed and coded the first practice interview immediately. This same process occurred for every interview until transcription ended. Subsequently, the DNP student re-read every transcribed interview's data, then organized the data into connected pieces (open codes), and conceptual groups (labels). The DNP student again analyzed and re-grouped or labeled data to different categories whenever appropriate. Next, the DNP student compared all

interview data that had open codes and conceptual labels, then extracted collective thoughts and ideas and documented them in a narrative of emergent themes.

Results

Somali Mothers

Demographic data. A total of 15 Somali-born mothers interviewed for this project. Sixty-seven percent (N=10) of the Somali-born mothers have lived in the U.S. between 19 and 23 years; 20% (N=3) have lived in the U.S. between 15 and 18 years, and 13% (N=2) have lived in the U.S. between 11 and 14 years.

Thirty-three percent (N=5) of mothers had 6 to 9 children, 47% (N=7) of mothers had 3 to 5 children, and 20% (N=3) of mothers had 1 or 2 children. The ages of the children ranged from one to thirty years old.

Themes. Six themes emerged from the interview data: a). f, b). cancer is the will of Allah, c). “Muslim girls do not have sex before marriage”, d). too many vaccines, e). the vaccine needs more testing, and f). we only take medication when sick.

Fear: “I will tell you the truth; we have a fear of vaccination in our community”. A major theme that emerged was fear about potential consequences of the vaccine, most notably autism. The majority of participants (12) linked both the HPV and the MMR vaccines to autism. Others simply noted that the vaccine might not be safe. “Some vaccines are good, not MMR and HPV”. Another stated, “Am afraid of what ‘it’ will do to my child”, “HPV is good but not for my child”, “I read a negative report about HPV”. Mothers who expressed concerns about negative consequences tended to cite this concern as their primary reason for declining the vaccine. “I am influenced by the negative things I hear about the vaccine in our community”, “they need to tell us the truth”. Many of the mothers disclosed that due to a fear of autism, they

delayed giving the MMR to their children until school age when they felt certain the kids could talk and it was safer. Mothers in this group consistently held strong convictions that they know what is best for their child/children and made decisions to protect their best interest based on the evidence present within the Somali community. This attitude may be responsible for the issues with posters missing from the display board; each time the PI got to the beauty shop, community center and clinic, new posters had to go up, as the old ones would have disappeared. In addition, the expressed fear may be the reason mothers at the mall refused to talk with the PI about a topic considered highly sensitive in the community. This theme relates to the second HBM construct: the Somali mothers perceived negative effects of the vaccine are influencing their decision not to accept HPV for their children.

Cancer is the will of Allah. The second theme that emerged from the interviews was related to the belief that cancer is not preventable. Over half of the mothers (10) made statements that reflect this belief. One mother stated plainly, “I leave it up to God”. Another said, “we don’t have it (cancer) in Somalia” and another “I see no benefit to my daughter”. The belief that cancer is a person’s “fate” and no one has the power to stop “fate” was an underlying point for many. “I don’t believe vaccine can stop cancer”, said one participant. This theme directly connects to the third HBM construct, which is the perceived benefits of taking the HPV vaccine. This group appeared to believe that they are powerless to prevent cancer so fail to see how the vaccine would help a person destined to have the disease.

“Muslim girls do not have sex before marriage”. The third theme identified was related to religious and cultural beliefs that their children do not have premarital sex. Twelve of the Somali mothers only recognized the vaccine as the “sex vaccine” not by its real name. All the mothers strongly expressed that Muslim women would not have sex outside of marriage so

would not need the vaccine. One of the women admitted, “HPV is a big taboo in our community; we do not talk about sex with our kids”. Yet another said, “we do not accept the HPV vaccines”. Still another mother said, “my kids are not sexually active”. Another stated, “I have confidence that my child will not have sex early”. “My child will make her own decision at an older age.” One mother noted, “my child is still too young for that,” indicating that starting the vaccine might be encouraging sexual activity.

“I gave my son but declined for my daughter”. Among this group of mothers, two opted to give the HPV vaccine to their sons but declined it for the girls because as one mom put it “you know boys will be boys, one cannot predict the actions of a son 100% but it was unthinkable for girls to engage in sex outside of marriage”. Another mother shared that she took her 14-year-old son for the HPV vaccine but the boy declined himself based on religious grounds. The boy a devout practicing Muslim stated that he would not have sex early so did not need the vaccine. “My son refused to take it; he said am not making sex with anybody”. This group does not believe their children are susceptible to infection from HPV, therefore, see no need for the vaccine - this is related to perceived susceptibility, the first HBM construct.

There are too many vaccines. The fourth theme was concern that children are getting too many vaccines overall. Half of the participants (8) expressed alarm at the number of immunizations that are given to their children. One put it this way, “the vaccines are too many”, “if I don’t need it, don’t give it to me, I won’t take it” and another mother asked, “why do we have to take a shot at every well child visit?” The participant wondered why vaccines are not once and done. It may appear that their child was being over-medicated when receiving multiple doses of the same vaccine. In this group, the fourth and fifth HBM construct apply in the reverse. They do not believe the cost of not taking the HPV vaccine outweighs its benefit for their

children, and they have negative cues in their community that prompts them to decline the vaccine.

Vaccine is too new. The fifth theme noted was that the HPV vaccine is still too new. Mothers' made statements like "too new to give my child" or "I will think about it". One mother explained: "We will wait; what if I give my child now and then a few years down the road they say Oh! We made a mistake, then it's too late and I can't take it back, she already got it". Another said, "I believe more research is needed before I can give my child". The issue of the vaccine newness in comparison to other vaccines that those mothers viewed as safe to give their children influenced the decision not to accept it. The fourth and fifth HBM construct are applicable to this group as well.

"Africans only take medication when sick". The sixth theme has to do with the cultural practice of only using medication when you are ill. Mothers stated, "back home in Africa, we only go to the hospital when we sick", "doctor only give you medicine when you're not well". Another mother recalled, "I remember my mom told me that one time when she took me to the doctor to get a vaccination, after the first injection I ran away so did not get the second one". All of the Somali-born mothers mentioned this in some way. This theme relates to self-efficacy, an inability/unwillingness of the mothers to take their children to the clinic at different times for all required doses of the HPV vaccine in the absence of physical symptoms or illness. However, it is noteworthy that all the Somali mothers agreed that vaccines are good and that all their children are up-to-date.

Provider Perceptions

Three of the five pediatric providers at the local primary care office took part in this project and four themes emerged after interviewing them. Themes included: a. Somalis have

misconceptions about consequences of HPV vaccine, b. fear and lack of trust in the American healthcare system, c. religious beliefs and cultural practices as barriers and d. the vaccine [HPV] leads to sexual promiscuity.

Fear about consequences of the HPV vaccine. After interviewing the providers, the emergent themes bore some similarities with concerns voiced by the Somali mothers. The number one theme identified by all three providers was that Somalis have a misconception, and fear that there is a link between the HPV vaccine and autism. The providers used words and phrases like “Hesitancy”, “Misconception”, “(Fear) it might be linked to autism”, and (questions about) effects on health”, to describe their experiences with their patients and mothers.

Lack of trust in the American healthcare system. The second theme speaks to a deep-lack of trust in the American healthcare system. One provider disclosed that a patient shared a suspicion that the HPV vaccine was “a way to sterilize women” by putting it this way, “some em feel that it is a way of probably sterilizing the women”. Providers also noted that statements from parents like “need more research”, and “they will wait” were signs of an un-verbalized distrust. These statements by another provider captures the issue of the healthcare system distrust “a lack of understanding of the purpose of vaccinations and specifically HPV”, “it may be issues of concerns of what effect that has on health”, and “some parents think the children need to get older before receiving the vaccine, they want to wait”.

Religious beliefs and cultural practices as barriers. The third theme from provider interviews relates to religious beliefs and cultural practices and was echoed in the Somali mothers’ interview. Two of the providers talked about often having to answer questions from Somali mothers about the components of the HPV vaccine; being asked, “what is it made from? In relation to this issue, one provider statement was “... concerns about what it is made from,

does it contain pork”? The providers believed these questions to be referring to possible use of pork product in the vaccine because Muslims do not eat or use pork products. Another thought, which emerged that mirrored the mothers, was the notion that “cancer is not preventable”. One provider put it this way “They don’t believe that things like cancer can actually be prevented”.

The vaccine leads to sexual promiscuity. Lastly, the fourth theme pertained to the idea that the vaccine leads to sexual promiscuity in the young. The providers made statements like “em receiving HPV vaccine is like encouraging their sons and daughters to start having sex after the vaccination. Another said, “there may be a thought of being a little bit more lenient regarding sexual activity of younger female and males”. The third provider said, “it is a very oral community news goes around a lot and they say, this my friend, her daughter got that shot and then she became wayward, she was doing this, all kinds of things” and “Some people think it might increase sexual promiscuity among the young women”.

All three providers stated that the key to improving the uptake of the vaccine in this population is continuous education and outreach in the Somali community. Providers mentioned collaboration with trusted Somali leaders at their community centers, mosques, Somali malls to offer additional HPV vaccination education outside the clinics. One provider recommended conducting HPV and MMR vaccine research among Somalis to generate data that demonstrates the effectiveness of the vaccine in that specific population; such data would become a tool to buttress other facts that supports the vaccine use in the prevention of cancer. The idea behind researching the MMR vaccine, which, is inextricably, connected to HPV in the minds of this group, will help determine whether indeed this population suffers unintended negative outcome from its use. A clear distinction between the two vaccines should be established and documented

among Somalis to address the fear they hold of both vaccines; this will also give the group a reason to trust the vaccines and the healthcare system in general.

The themes that emerged from this study suggest that the Somali-born mothers and the healthcare providers that care for Somali children were able to identify facilitator of low HPV use among Somalis.

Discussion and Recommendations

Discussion

To provide optimum protection against infection with the HPV virus, the latest ACIP recommendation states that all adolescents and young adults from ages 9 to 26 should receive a two-dose HPV vaccine, and needs to be completed prior to initiating sexual activity (CDC, 2016b; Markowitz et al., 2007). Despite widespread recommendation for all adolescents starting from age 11 to 12 to receive a two-dose HPV vaccine prior to initiating sexual activity, Somali mothers are resistant to accept the vaccine for their children.

Somali-born mothers identify strongly with their religious and cultural background, regardless of how long they have lived away from Somalia. This attachment shapes their attitudes, health beliefs, and healthcare practices. This is consistent with concepts of the HBM, which posit that (1) people are motivated to partake in precautionary activities if they perceive they are at risk, (2) if the person can prevent the health problem, and (3) that the actions would benefit them in the long-run (Hochbaum, Rosenstock and Kegels, 1952; Rosenstock, 1966). This study delineates Somali cultural and religious values that inform HPV vaccine decision-making practices in their communities. Somali religious and cultural beliefs continue to promote firm adherence to the confinement of sexual activity to solely within marriage, which informs Somali-

born mothers to fail to see the need for so, decline the vaccine for their children. The themes identified after interviewing Somali mothers highlight the influences that may inform HPV vaccine decision-making practices in Somali communities.

Fear of consequences, such as autism, is a learned behavior that is discussed and reinforced within their tight knit communities and limits the motivation to partake in an activity where the risk seems greater than the benefit. The notion that this vaccine is one of too many and not well tested or too new also reinforces that same idea of risk greater than benefit. This is especially true when one considers the Somali religious and cultural beliefs that firmly promotes adherence to confining sexual activity solely within marriage. Those values inform why Somali mothers may not see an urgent risk to their children and are more apt to decline the HPV vaccine for them. In addition, those same beliefs limit Somalis motivation to get the HPV vaccine because it promotes the idea that something such as cancer is the will of God, therefore, out of their realm of control and prevention. Finally, the cultural norm that one only seeks care when ill, again limits motivation to make a separate trip to a health care setting for “just” a vaccine. Interestingly, all the interviewed Somali mothers generally expressed satisfactory views about vaccines and gave their children other recommended immunizations. This opinion did not extend to the HPV vaccine. Community-wide failure to understand the purpose of HPV vaccine, fear, and suspicion about the future effect of the vaccine and the health care system, along with the belief that one needs not borrow trouble by treating a condition that may never materialize stands as barriers to the uptake of the vaccine in this group. In addition, a religious acceptance as one’s “destiny” if one develops cancer was another factor identified as an influencer of HPV vaccine uptake. The barriers to the vaccine use expressed during all the interviews in this study were not exclusive, as other studies have described similar views. Various systematic reviews have

identified parental concerns about vaccine safety (Rambout et al., 2014), as well as parental beliefs and knowledge gap about HPV vaccine (Holman et al., 2014) among the foremost hindrances to the vaccine acceptance.

Recommendations

It is possible to conclude from the findings that more community education related to HPV vaccine and its purpose is needed among Somali mothers. Collaborating with trusted members in the community such as religious leaders could potentially address some of the religious and cultural barriers to accepting the vaccine. Education should be preferably in the Somali language and within Somali community settings when possible.

One unexpected finding from this study was the strong correlation that Somalis place between the MMR vaccine and the HPV. In the discussions with the Somali mothers, the researcher noted that over 90% indicated that they accept every vaccine but the MMR and the HPV because it causes “problem, autism” in children, the mothers recognized both vaccines by what they say the vaccine does, and not necessarily by name. Furthermore, the mothers were quick to inform the researcher about the vaccines that they do not accept are “the one that cause autism and the one for sex or cancer”. In addition, the providers group verbalized similar experience in clinical practice. The Somali population needs education that is both culturally and religiously sensitive and that is tailored to make a clear distinction between MMR and HPV vaccines so that the community understands the difference and function of each. Based on the palpable fear, concern, and proffered evidence of the unprecedented and never-experienced-in-Africa number of autistic children within American-based Somali communities, research of the MMR and its outcome among the group could be performed. For example, the possibility that

something exists in the genetic makeup of Somalian children that causes them to react differently to the vaccine is a concern worthy of future research.

Strengths and Limitation

The strengths of this project are its ability to generate future research questions that can contribute to the paucity of research in this area. The findings of this project may lead to further exploration of understanding HPV vaccination barriers among Somali people, as well as providing tools for designing care that is culturally based and relevant to the target population. In addition, themes gathered from this study may lead to a policy change at healthcare organization on how to promote the HPV vaccine usage in Somali immigrant populations.

The limitations include study bias related to the exclusion of non-English speaking Somali-born mothers and fathers. It is impossible to rule out the fact that other themes may have emerged if male Somali fathers and non-English speaking mothers participated in the study. Furthermore, there may be a lack of generalization of the emergent themes to all Somalis due to the small number of study participants. Although, the qualitative paradigm does not necessarily seek to produce findings that are generalizable, the aim of qualitative research is to understand the social world from a respondent's' perspective.

Implication and Future Directions

Considering the limited research articles on Somali population that met the inclusion criteria in the review of literature of this project, the findings of this project may begin to fill a significant knowledge gap in the scholarly literature related to improving HPV vaccination amongst Somalis. It will also provide a guide for improving HPV vaccination amongst Somalis. Health care providers should follow the most recent ACIP recommendations to HPV-vaccinate eligible males with two-dose of the quadrivalent vaccine, and females with the same two-dose of

either the bivalent or the quadrivalent vaccine. Studies continue to support the efficacy of HPV vaccine as a primary cancer preventive measure. Providers should use culturally based HPV educational and promotional strategies to push and boost the use of the vaccine in the target population and in all eligible children. Health-care providers and trusted religious community leaders should provide continuous outreach and education in Somali communities, in addition to presenting the vaccine as routine instead of associating it with sexual activity and cancer.

In addition, it is vital for providers to emphasize to both teens and their parents the importance of initiating and completing both dose of the HPV vaccine before the start of sexual activities in order to achieve maximum protection. There is an ongoing campaign called “The Preteen and Teen Vaccine Communication Campaign” which primarily focus on providing health care providers who care for teens, adolescents (ages 9-18), and parents of adolescents with education on immunization. The objective of the campaign is to increase vaccination rates for Tdap, meningococcal (MCV4), HPV, and influenza vaccines in 9-18 years old. Also, included in the campaign focus is encouragement of teens to get their vaccination per recommended schedule as well as make up any missed vaccines. The CDC website for the campaign provides free printable flyers, posters, and fact sheets for patient immunization and HPV education; also, information on the Healthy People 2020 objectives for immunizations is included (CDC, 2011b). <http://www.cominit.com/global/content/pre-teen-vaccine-campaign>. Other, future implications involve the use of this study methodology to (1) examine reasons other cultures, racial-ethnic groups decline the HPV vaccinations and (2) replication of this study in other geographical regions to initiate the building of a broader context of understanding the similarities and differences.

Conclusion

This DNP project promotes understanding of why many immigrant Somalis choose not to accept the HPV vaccines for their children. The project highlights facilitators and challenges inherent in improving the uptake of the vaccine in the population. All Somali-born mothers who participated in this project admitted that they, not the fathers, were mostly responsible for making health care decisions for their children. This highlights the importance of targeting mothers for interventions aimed at HPV decision-making in the group. As the emergent themes, revealed, major barriers to HPV vaccination among Somali-born mothers are firmly held religious beliefs about cancer, cultural practices about health promotion and prevention from their home country that stop them from accepting vaccine that they feel are not relevant to their children. In addition, Somalis like most African communities are oral, i.e. word-of-mouth plays an important role in information dissemination, which explains why stories about issues with the vaccine and reports of real or imagined side effects have the power to create a fear of the HPV vaccine and affect its uptake in the population. This study does underscore the powerful role health beliefs, culture and religion play in the healthcare decision-making pattern of some minority and immigrant population.

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