ADOLESCENT SEXUAL AND REPRODUCTIVE NEEDS IN RURAL ND: A NEEDS ASSESSMENT

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ABSTRACT

In order to reduce sexual risk behaviors and related health problems, preventative and educational measures must be implemented to help adolescents adopt lifelong attitudes and behaviors that support their health and well-being. Given the period of adolescence is a time of increased risk, positive health practices are vital. The end goal of this quality improvement project is to help form positive health practices during the period of adolescence, this in turn will create a healthy and strong passageway into adulthood. A qualitative approach was used to elicit the perspectives of adolescents, health providers, educators, and parents regarding the sexual and reproductive health needs of adolescents in rural N.D. Individual, semi-structured interviews were conducted with five participants in each target group.

It was evident in the provider interviews that there was a range of approaches to addressing sexual and reproductive health with adolescents. Their approaches ranged from very comprehensive, to more limited in the discussion of sexual and reproductive health with the adolescents they saw in their clinic. The fact that the amount and quality of information adolescents received was entirely dependent upon which individual provider they happened to see means that both consistency and quality of information was compromised. The educators described little to no experience discussing sexually education with adolescents. The only educator participant who actively educated adolescents on sexual and reproductive health was a health educator within a rural school system. The parent participants stated that adolescents need more open and honest education regarding sexual and reproductive health. The adolescent participants gave one-worded responses; they did not expound on any questions they were asked. The interviewer asked for an expansion on their one-worded answers, but the adolescents would repeat what they had said initially. The adolescent participants were asked about sexual and

reproductive health messages given to them by either health care providers, educators, or parents. Their responses consisted of abstinence is best, and the consequences of sexual experimentation. If this is the adolescent participants' truthful answer, it is concerning on many levels.

DEDICATION

It is my genuine gratefulness and warmest regard to dedicate this disquisition project to Kristina Caton, for her kindness and devotion, and for her endless support and encouragement. She has a true passion for academic writing and has a sublime way of transferring that passion onto the students she consults. I will be forever grateful and always remember her fondly.

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CHAPTER ONE. INTRODUCTION

Background and Significance

The World Health Organization (WHO) defines adolescents as young people between the ages of 10 and 19 years (WHO, 2018). These 10 years in young people's lives are full of nonstop growth, with significant changes to their physical, cognitive, social, and emotional developmental characteristics (Brown, Patel, & Darmawan, 2017; Kar, Choudhury, & Singh, 2015; Muthukumar, Thiruchelvam, Rajendran, Anandan, & Robinson, 2016).

During this time of nonstop growth and change, adolescents are at increased risk for health-risk behaviors, prominent factors of morbidity and mortality among adolescents in the United States today (Kann et al., 2018). The Centers for Disease Control and Prevention (CDC) determined six priority health-risk behavior categories that contribute to morbidity and mortality among adolescents; these categories include: behaviors that contribute to unintentional injuries and violence, tobacco use, alcohol and drug use, unhealthy dietary behaviors, physical inactivity, and sexual behaviors related to unintended pregnancy and sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV) infection (Coleman, Wileyto, Lenhart, & Patterson, 2014; Kann et al., 2018). The Youth Risk Behavior Surveillance System (YRBSS) monitors these six categories in adolescents via a Youth Risk Behavior Survey (YRBS), which will be discussed further in the review of literature.

In a survey of U.S. high school students in 2017, the CDC found 40% of the students were sexually active, 10% had four or more sexual partners, 7% had been physically forced to have sexual intercourse when they did not want to, and 30% had sexual intercourse within 3 months of the survey being implemented (CDC, 2018). Astonishingly, 46% of these students did not use a condom the last time they had sex, 14% did not use any method to prevent pregnancy,

and 19% were under the influence of alcohol or used drugs before their last sexual encounter (CDC, 2018). And as stated above, these sexual risk behaviors place youth at risk for unintended pregnancies, sexually transmitted infections (STIs), and more specifically HIV infections. For example, the WHO notes about 1 million girls under the age of 15 give birth every year, and one in five women will have a child by the age of 18.

Furthermore, living in a rural area can contribute to adolescent health and health disparities, distinctly in environmental and social contexts (Thompson et al., 2017). This research shows that rural adolescents face an increased risk compared with urban adolescents because of the rural adolescent tendency to engage in high-risk behaviors, including sexual risk behaviors that can lead to unplanned pregnancies and STIs. This research has also indicated that teens living in a rural community may be more sexually risky than adolescents living in an urban setting (Thompson et al., 2017).

In spite of the fact that U.S. teen birth rates are currently decreasing—in 2016 the teen birth rate fell 9% over the course of a year and 51% over the past decade (Sitrin, 2017)—cohorts in rural environments remain at a higher risk for adolescent pregnancy (Kozhimannil et al., 2015). The same behaviors that place rural adolescents at risk for pregnancy also elevate their chances of acquiring sexually transmitted infections. Adolescents ages 15-19 represent only 25% of the sexually experienced population, yet they acquire nearly 50% of all new STI's (Kozhimannil et al., 2015). Furthermore, the prevalence of adolescent pregnancy and STI's reflect on multiple health disparities to the access of quality prevention services. These disparities amongst adolescents in rural counties are associated with reduced access to health services, lack of health insurance, poverty, longer travel distances to services, more limited services and facilities in rural settings, and the high proportion of female-headed households

(Thompson et al., 2017). Kozhimannil et al. (2015) states, “Efforts to promote adolescent sexual health take on particular urgency in rural counties and communities” (p. 6). Due to these unique challenge’s rural adolescents face, there is a need to focus more attention on sexual health amongst adolescents living in rural areas (Kozhimannil et al., 2015).

In order to reduce sexual risk behaviors and related health problems, preventative and educational measures must be implemented to help adolescents adopt lifelong attitudes and behaviors that support their health and well-being. Given the period of adolescence is a time of increased risk, positive health practices are vital. The end goal of this quality improvement project is to help form positive health practices during the period of adolescence. This in turn will create a healthy and strong passageway into adulthood (Secor-Turner, Randall, Brennan, Anderson, & Gross, 2014).

Purpose

The purpose of this quality-improvement project was to determine the sexual and reproductive needs of adolescents in rural North Dakota (ND). This project equipped health care providers with information about current barriers adolescents face when accessing sexual and reproductive health care services in rural ND. This in turn will allow health care providers to evaluate current strategies and develop new strategies for adolescents reproductive and sexual health needs.

Objectives

1. Describe sexual and reproductive health needs of adolescents in rural ND from the perspectives of health care providers, educators, parents, and adolescents.
2. Identify barriers to addressing the sexual and reproductive needs from the perspectives of health care providers, educators, parents, and adolescents in rural ND.

3. Make recommendations to health care providers to meet the sexual and reproductive health needs of adolescents in rural ND.

CHAPTER 2. LITERATURE REVIEW

Adolescence

The World Health Organization (WHO) defines adolescence as young people between the ages of 10 and 19 years. Humans develop very rapidly from ages 10 through 19 (World Health Organization [WHO], 2018). This is a time in which there is nonstop growth and change to the adolescents physical, cognitive, social, and emotional developmental characteristics (Brown, Patel, & Darmawan, 2017; Kar, Choudhury, & Singh, 2015; Muthukumar, Thiruchelvam, Rajendran, Anandan, & Robinson, 2016).

Physical Development

Physical development includes changes in height and weight, body proportion, voice, motor skills, and the development of primary and secondary sexual characteristics. Besides the drastic change in height, body proportion, voice, and motor skills the development of primary and secondary sexual characteristics is what transitions the adolescent from childhood to adulthood (Kar et al., 2015; Morelli & Zupanick, 2018; Muthukumar et al., 2016).

Kar et al. (2015) states that puberty is an important landmark of primary sexual characteristics in the period of adolescence. Primary sexual characteristics are brought on by hormonal changes in the adolescent. The gonadal hormones, and cortisol are key players in the development of sexual characteristics, specifically initiating the onset of puberty (Morelli & Zupanick, 2018). Puberty begins with the gonadal and cortisol hormones initiating the development and maturation of the primary sexual characteristics which cause change to the reproductive organs; e.g., the ovaries and testes (Kar et al., 2015; Morelli & Zupanick, 2018). In females the most significant primary sexual characteristic is their first menstrual cycle. This indicates the female has begun to ovulate. The average age for the first menstrual cycle is 12

years of age. But adolescent girls can have their first menstrual cycle between the ages of 10 and 15 which is still considered "normal" (Morelli & Zupanick, 2018). For males, primary sexual characteristics are the enlargement of the testes and penis, and the capability of ejaculation of mature sperm (e.g., "spermarche") having the capability to fertilize female eggs through intercourse. The average age of an adolescent males first spermarche is 13 years of age. But it can also occur between the ages of 12 and 16 years. Adolescent male testes and penis will begin to enlarge around age 12, but this growth can begin as early as 10 and as late as 14. The adolescent male penis will reach its adult size at about age 14, but this can also occur anytime between the ages 12 and 16 (Morelli & Zupanick, 2018). Kar et al. (2015) states on average females experience primary sexual characteristics 12-18 months earlier than males.

Secondary sexual characteristics are also developed via hormonal changes which is associated with the maturing reproductive systems and changes in body hair and voice quality. Male and female adolescents will notice hair growing in new places on their body's, such as underarms, and groins. Adolescent males will notice their voices deepen between the ages of 12 and 15. This is due to vocal cords growing longer, and larynxes growing larger. During this time the adolescent male will notice a pronounced, "Adam's apple" which is due to the enlarged larynx pushing on a piece of cartilage in front of the larynx. In females this is not a noticeable change because they have remarkably smaller larynxes (Morelli & Zupanick, 2018).

Puberty encompasses a myriad of changes as a child transitions to adolescence and adulthood (De Silva & Tschirhart, 2016). Pubertal changes in height and weight, body proportion, voice, motor skills, and the development of primary and secondary sexual characteristics all happen at different times in the period of adolescence. There isn't a specific timeline of development for male and female adolescents. They can develop these characteristics

in either early or late adolescence, it is all dependent on the adolescent's biological makeup. (De Silva & Tschirhart, 2016; Morelli & Zupanick, 2018).

Cognitive Development

According to Piaget, the adolescent years are significant due to adolescents moving away from the limitations of concrete thinking and developing the ability to think in a more abstract way. Piaget's theory of abstract thinking describes a series of cognitive changes. These changes include the adolescent's abilities of sensation, perception, imagination, memory, reasoning, understanding, generalization, interpretation, problem solving, and decision making (Piaget, 1972).

Adolescent Cognitive Development

Researchers have used Piaget's theories of cognitive development to focus on specific developmental phases, including that of adolescence. For example, Sanders (2013), states there are 3 main areas of cognitive development in the period of adolescence. The first area adolescents develop is a more advanced level of reasoning, including the capability to search for a full spectrum of possibilities essential in any situation, thinking hypothetically, and using a logical thought process (Sanders, 2013).

Secondly, similar to Piaget's theory of concrete to abstract thinking of an adolescent, Sanders (2013) also states adolescents develop the ability to think abstractly and move away from their accustomed concrete thinking in the period of adolescence (Morelli & Zupanick, 2018; Sanders, 2013). Sanders (2013) describes adolescents moving from being concrete thinkers, who only think of the things they have direct contact with or are knowledgeable about, to abstract thinkers, who can imagine things that they haven't yet seen or experienced. This in turn, allows adolescents to have the capacity to love, think about spirituality, and engage in more

progressive and challenging mathematics (Sanders, 2013). Adolescents who stay on the level of concrete thinking tend to focus solely on real objects when it comes to problem solving and, as a result, may present with adversities and frustrations with schoolwork as they progress throughout high school (Sanders, 2013).

When adolescents transition into more abstract thinking it is said they experience a form of personal fable. Sanders states, "The personal fable is built on the fact that if the imaginary audience (peers) is watching and thinking about the adolescent, then the adolescent must be special or different. For decades, this adolescent egocentrism was thought to contribute to the personal fable of invincibility (e.g. other adolescents will get pregnant or get sexually transmitted infections) and risk-taking behaviors." (Sanders, 2013, p. 354). The personal fable of invincibility leads to risk-taking behaviors of the adolescent. Several studies have found that adolescents identify more risk in certain situations than adults but that being said it fails to stop them from participating in risk-taking behaviors (Sanders, 2013). Adolescents have a tendency to participate in risk-taking behaviors because they a strong sense to act in the spur of the moment and make rash decisions disregarding the ramifications (Leshem, 2016). Neuroimaging studies have demonstrated that adolescents may experience emotional fulfillment with risk-taking behaviors. This sense of fulfillment predisposes adolescents to engage in acts even though they might be aware of the risks involved. In addition, concrete-thinking adolescents are thought to be unable to comprehend consequences of actions unlike the abstract thinking adolescents. Concrete thinkers also differ from abstract thinkers by being unable to link cause and effect in regard to health behaviors, such as, smoking, overeating, alcohol, drugs, reckless driving, and engaging in unprotected sex (Leshem, 2016; Sanders, 2013).

Thirdly, Sanders (2013) discusses formal operational thinking in the period of adolescence. Formal operational thinking allows an adolescent to think about what they are feeling and how others perceive them. The thought process of formal operational thinking combined with rapid emotional and physical changes cause adolescents to think and assume everyone (imaginary audience) is thinking about them. According to Piaget, during this period of physical and emotional change adolescents spend less time in fantasy play, valuing more information, like science or logical processes, that roots them in an adult world. At the same time, they become less egocentric, going from mimicking adults in play to attempting to understand others' motives, emotions, and desires through the close observation and interpretation of their behaviors, expression, comments and appearance (Piaget, 1972). Unfortunately, these advanced cognitive capabilities appear at the same time when adolescents are struggling with insecurities about their new appearances, developing identity, and growing life experiences. This then brings adolescents to wonder about what other people may be thinking about them, and they can mistakenly believe that everyone around them is watching and judging their every move. This is what Piaget formulated as the adolescents, "imaginary audience" (Morelli & Zupanick, 2018).

Emotional Development

Cognitive and emotional development are closely connected. The development of emotional and cognitive competence allows the adolescent to manage their emotions. This rate of emotional and cognitive development does not compare to the timing of physical development and maturation. Dr. Deborah Yurgelun-Todd, director of Neuropsychology and Cognitive Neuroimaging at McLean Hospital in Belmont, Massachusetts, correlated magnetic resonance images of adult and adolescent brain development, showing how cognitive brain development

does not occur at the same time as emotional brain development in adolescents. In the adult brain the limbic area (emotion center) and the prefrontal cortex (judgment and reasoning center) were intensified when viewing images that expressed fear. In the adolescent brain, after seeing the same fearful images, the limbic area was also intensified like the adult response, but there was no activity noted in the prefrontal cortex of the adolescent brain. This asynchrony can consequently result in adolescents falsely reading other's feeling and emotions. (Arain, Haque, Johal, Mathur, Nel, Rais, Sandhu & Sharma, 2013; Sanders, 2013). Given the lack in judgment and reasoning from the adolescent's prefrontal cortex causes a flood of rapidly fluctuating emotions. This debunks the myth that varying emotions are the direct result of the adolescent's overreaction to stress (Morelli & Zupanick, 2018).

Morelli & Zupanick (2018), state in earlier theories about adolescent development that "storm and stress" was expected to be a norm in the period of adolescence. This theory of "storm and stress" states adolescents tend to overreact towards everyday situations. However, in more recent research disqualifies the latter assumption. Developmental experts state the period of "storm and stress" is a natural outcome of adolescence learning to deal with a multitude of foreign situations (Morelli & Zupanick, 2018).

Written and oral communication is how adolescents express their thoughts and ideas. During the period of adolescence, they learn how to identify, understand, and express their emotions in a healthy way. This includes the adolescent's capability of understanding the impact of their thoughts, behaviors, and emotions on others, and the skill to stop impulsive actions based on the feelings of intense emotion. Once these skills are learned, adolescents gain confidence in themselves. They know what it takes to handle difficult situations without becoming consumed by their emotions or acting out from damaging impulses. Together, these emotional skills are

known as emotional self-efficacy. Adolescents that lack emotional self-efficacy have hard time forming and maintaining positive interpersonal relationships (Gharetepeh, Safari, Pashaei, Razaei & Kajbaf, 2015; Morelli & Zupanick, 2018).

Emotional intelligence and self-efficacy are two important frameworks to consider when looking at the adolescent's overall success or failure. Research has shown that stress management failure and high anxiety and stress levels are directly related to low self-efficacy. When adolescents don't believe in their own abilities it shows in their emotional performance leading to the feelings of inadequacy. If the adolescent experiences severe anxiety that can also lead to decreased self-efficacy and performance. Acquiring emotional intelligence and self-efficacy are important developmental characteristics in the period of adolescence. It leads to them taking ownership of their own feelings and understanding that their emotions do not mirror objective facts (Gharetepeh et al., 2015; Morelli & Zupanick, 2018).

Social Development

Social and emotional development are closely related in the developmental period of adolescence. Effectively communicating emotions and remaining in control of one's emotions are both important characteristics for growing healthy social relationships (Morelli & Zupanick, 2018). When an adolescent has advanced cognitive development, this increases the quality of their interpersonal relationships. This advanced cognitive development allows for the adolescent to better understand the wants, needs, feelings, and motivations of the people that surround them. Seemingly, the adolescent's identities, thoughts, and emotions are becoming more complex, so are their social relationships. This development of social relationships with peers are linked with improved mental health of adolescents and a better adjustment to their surroundings (Morelli & Zupanick, 2018; Rageliene, 2016).

During the adolescent's younger years their social circle consisted of family, a couple friends, a few teachers, and possible an adult mentor or coach. However, in the course of adolescence, the adolescent begins to form multiple types of relationships, and many of these new developing relationships the adolescent will become more intensely involved and more emotionally intertwined. Their widening social network involves a dramatic transformation in the quantity and quality of their developing relationships (Morelli & Zupanick, 2018). This also leads to the adolescent moving away from their strong childhood connection to their parents to a stronger connection with their peers (Rageline, 2016).

According to Rageline (2016), research has shown that a healthy peer group is undoubtedly linked to an improved adolescent adjustment to their surroundings. These positive peer group interactions lead to protective factors against social anxiety and depression (Rageline, 2016). When the individual reaches late adolescence, peer groups simulate a close-knit, second family, which provides adolescents with a substantial chunk of their emotional support. This is notably accurate if the adolescent lives away from their families. Finally, during the period of adolescence, their number of close friends will decline, but as stated earlier, the quality and quantity of those relationships become more trusting, intimate, and vulnerable. In the meantime, the adolescent develops a multitude of casual friends due to the rise in social networks, technology, sporting activities, social events, and employment (Morelli & Zupanick, 2018).

Morbidity & Mortality

Health-risk behaviors are the prominent elements of morbidity and mortality among adolescents in the United States today (Kann et al., 2018). The Centers for Disease and Control and Prevention (CDC) determined six priority health-risk behavior categories that contribute to morbidity and mortality among adolescents: behaviors that contribute to unintentional injuries

and violence, tobacco use, alcohol and drug use, unhealthy dietary behaviors, physical inactivity, and sexual behaviors related to unintended pregnancy and sexually transmitted injections (STIs), including the human immunodeficiency virus (HIV) infection (Coleman, Wileyto, Lenhart & Patterson, 2014; Kann et al., 2018). The Youth Risk Behavior Surveillance System (YRBSS) monitors these six categories in adolescents via a Youth Risk Behavior Survey (YRBS), which is conducted by state and local health and education agencies. The sampling body, which consisted of 14,765 usable questionnaires, for the 2017 national YRBS included all public, Catholic, and non-public schools with students in at least one of grades 9-12 in all 50 states including the District of Columbia. In this section of the literature review, the results of the YRBS of adolescent health-risk behaviors will be discussed.

Behaviors Contributing to Unintentional Injuries & Violence

There are twenty-two categories in the YRBS linking to behaviors contributing to unintentional injuries & violence. In this portion of the literature review five of the 22 categories will be discussed; seatbelt use, riding with a driver who has been drinking alcohol, driving when drinking alcohol, and carrying a weapon.

According to the YRBS, only 5.9% of adolescents admitted to either rarely or never wearing a seat belt in a vehicle while someone else was driving. The report for rarely or never wearing a seat belt was higher for male (6.6%) than female (5.1%) adolescents. The highest incidence of rarely or never wearing a seatbelt while riding with someone in a car was for black male adolescents at 11.3% (Kann et al., 2018).

Interestingly, in conjunction to the YRBS, the CDC reported in 2016 that 2,433 adolescents ages 16-19 in the United States were killed in motor vehicle accidents and 292,742 adolescents ages 16-19 were treated in hospital emergency departments for injuries they suffered

in motor vehicle accidents. This means six adolescents ages 16-19 died every day due to motor vehicles accidents and hundreds more were injured. The most common reason for these adolescent casualties was their failure to use their seatbelts (CDC, 2018b).

In the United States, within 30 days before the 2017 YRBS was implemented, 16.5% of surveyed adolescents traveled more than one time in a car with someone who was under the influence of alcohol. Of that 16.5%, the highest reported prevalence was among Hispanic female adolescents at 21.9% (Kann et al., 2018). Amid the 62.6% of students across the United States who drove a vehicle during the 30 days before the survey, 5.5% reported driving a vehicle one or more times when they had been under the influence of alcohol. This percentage of students was highest among Hispanic males at 8.5% (Kann et al., 2018).

In this YRBS study, 15.7% of adolescent students carried a weapon on at least 1 day during the 30 days before the YRBS was implemented. The highest prevalence of adolescent students carrying a weapon was among white adolescent males at 24.2%. According to the YRBS, 3.8% of adolescent students also carried a weapon on school property at least 1 day during the 30-day time period before the survey was implemented. This was most common among white male adolescents at 5.9% (Kann et al., 2018).

In addition to the YRBS survey, Child Trends, an organization that partners with academic, governmental, and civic organizations to promote child health, reported in 2016 that adolescents commit the majority of violent crimes against those ages 8-15. In addition, these violent crimes are often perpetrated by adolescents carrying weapons (e.g. guns, knives, or clubs) (Child Trends, 2016; Wallace, 2017). In fact, Wallace (2017) states adolescents carrying weapons are at higher risk for violent crimes than adolescents who don't carry weapons. Overall, gun carrying is associated with highly aggressive delinquency and knife carrying is associated

with aggressive behavior, but not delinquency (Wallace, 2017). These injuries and deaths associated with poor adolescent decision making have real life consequences for them, their families, and their communities.

Tobacco & Electronic Vapor Product Use

There are twenty-one categories in the YRBS related to the use of tobacco. In this portion of the literature review three of the 21 categories will be discussed: ever tried cigarette smoking, current frequent cigarette use, and current electronic vapor product use.

According to the YRBS, 28.9% of students nationwide tried a cigarette (at least one or two puffs). The likelihood of ever trying a cigarette was highest among white adolescent males at 31%. There were 2.6% of students who admitted to smoking cigarettes on 20 or more days during the 30 days before the YRBS was implement. This was most prevalent among white adolescent males at 3.6% (Kann et al., 2018).

In fact, this YRBS report is emphasized by the U.S. Department of Health & Human Services who report that there are more deaths accounted for by tobacco use than by the human immunodeficiency virus (HIV), alcohol, illegal drug use, suicides, and motor vehicle injuries combined (U.S. Department of Health & Human Services, 2016). Nonetheless, over the past 40 years tobacco use by adolescents has dropped considerably. This decrease in tobacco use is in response to the progressive government policies, such as the Tobacco Control Act implemented in the United States in 2009, which sanctioned restraints on minors' access to cigarettes. This led to an exceptional decrease in 2017, when there was only one in 25 high school seniors classified as regular smokers (Arane & Goldmana, 2016; U.S. Department of Health & Human Services, 2016).

Furthermore, according to the YRBS, there were 13.2% of students that used an electronic cigarette at least 1 day within the 30 days before the survey was implemented. This was highest among white adolescent males at 15.6%. Nationwide, there were 3.3% of adolescents that used an electronic cigarette on 20 or more days during the 30 days before the YRBS was implemented. Again, this rate was highest for white male adolescents at 6.6% (Kann et al., 2018).

In addition to the YRBS, Arane & Goldman (2016) state there has been an evolution of smoking products available for adolescent use. This includes products such as electronic cigarettes, battery-powered devices that give a nicotine-containing aerosol to the individual by vaporizing a solution to resemble smoking a traditional cigarette. The vaporizing solution consists of propylene glycol or glycerol, nicotine, and different flavoring agents. In 2014, there were more adolescents using electronic cigarettes than those using tobacco cigarettes. These devices pose a multitude of new threats because they are known to be damaging, but their impact on health is not yet fully understood (Arane & Goldman, 2016).

Alcohol and Drug Use

There are nineteen categories in the YRBS related to alcohol and drug use. In this portion of the literature review eight of the 21 categories will be discussed: ever drank alcohol, current alcohol use, current binge drinking, ever used marijuana, ever used cocaine, ever used heroin, ever used methamphetamines, and ever taken prescription pain medicine without a doctor's prescription or differently than how a doctor told them to use it.

According to the YRBS, nationwide, 60.4% of adolescents had at least 1 drink of alcohol on at least 1 day during their life. This was most common amongst Hispanic female adolescents at 67.1%. Nationwide, 29.8% of adolescents had at least 1 drink of alcohol on at least 1 day

during the 30 days before the survey was implemented. The prevalence of current alcohol use was highest among female adolescents at 31.8%, and highest among Hispanic female students at 35.9%. When considering binge drinking, 13.5% of adolescents within two hours had 4 or more drinks of alcohol in a row if they were female, and 5 or more drinks in a row if they were male. This occurred on at least one day during the 30 days before the YRBS was implemented. This was highest among Hispanic female adolescents at 16% (Kann et al., 2018).

The following five categories are related to ever using an illegal drug or misusing a legal drug. When looking at the YRBS, there were 35.6% of surveyed students that used marijuana one or more times in their life. This was highest among black female adolescents at 44.9%. When looking at the use of cocaine, there were 4.8% of surveyed adolescents that used cocaine one or more times during their life according to the YRBS. The use of cocaine was highest amongst Hispanic male adolescents at 8.1%. Considering the use of heroin amongst surveyed adolescents there were only 1.7%, this was highest among black male adolescents. The use of methamphetamines was slightly higher than cocaine amongst surveyed adolescents. There were 2.5% of surveyed adolescents that used methamphetamines one or more times in their life. The highest amongst Hispanic adolescent males at 4%. Lastly, 14% of surveyed adolescents had taken prescription pain medication without a provider's prescription or taken it differently than stated by the provider one or more times in their life. This was highest among Hispanic female adolescents at 16.1% (Kann et al., 2018).

Unhealthy Dietary Behaviors and Physical Inactivity

There are 35 categories in the YRBS related to unhealthy dietary behaviors and physical inactivity. In this portion of the literature review four of the 25 categories related to unhealthy dietary behaviors will be discussed: did not eat vegetables, drank soda or pop three or more times

per day, did not drink plain water, and did not eat breakfast. Also, in this portion of the literature review four of the 10 categories related to physical inactivity will be discussed: were not physically active for a total of at least 60 minutes on at least one day during the 7 days before the survey, were physically active for a total of at least 60 minutes per day on five or more days during the 7 days before the survey, played video or computer games or used a computer 3 or more hours per day and watched television 3 or more hours per day (Kann et al., 2018).

Nationwide, 7.2% of adolescents had not consumed vegetables, such as green salad, potatoes (not including French fries, fried potatoes, or potato chips), carrots, or other vegetables during the 7 days before the YRBS was implemented. This was highest among black male adolescents at 14.9%. There were 7.1% of adolescents that drank one can, bottle, or glass of soda three or more times per day during the 7 days prior to the YRBS being implemented. Again, this was highest among black male adolescents at 11.1%. In addition, there were 3.8% of students that did not drink plain water during the 7 days before the YRBS was implemented. This includes tap, bottled, and unflavored sparkling water. Yet again, this was highest among black male adolescents at 8%. Lastly, not eating breakfast was common among 14.1% of adolescents 7 days prior to the YRBS being implemented. In contrast, this was highest among Hispanic male adolescents at 16.4%.

Among adolescents nationwide, 15.4% were not physically active for at least 60 minutes on at least one day during the 7 days prior the YRBS being implemented. This was highest among black females at 26.6%. In contrast, there were 46.5% of adolescents that had been physically active for a total of at least 60 minutes per day on 5 or more days during the 7 days prior to the YRBS being implemented. This was highest among white male adolescents at 59.4%. Playing video or computer games or used a computer 3 or more hours per day was

common among 43% of adolescents. This percentage counted for time spent on devices such as Xbox, PlayStation, tablet, or smartphone and social media such as YouTube, Instagram, or Facebook. This was highest among black male adolescents at 47.7%. Lastly, in the category of physical inactivity, 20% of students watched television 3 or more hours per day on an average school day. Again, this was highest among black male adolescents at 37.8% (Kann et al., 2018).

Sexual Risk Behaviors

According to the YRBS there are 13 categories related to adolescent sexual risky behaviors. In this literature review's final portion about morbidity and mortality, seven of the 13 categories related to sexual risk behaviors will be discussed: ever had sexual intercourse; had sexual intercourse before age 13 years; had sexual intercourse with four or more persons; currently sexually active; used a condom during last sexual intercourse; used birth control pills, IUD, implant, shot, patch, or birth control ring before last sexual intercourse; and did not use any method to prevent pregnancy (Kann et al., 2018).

There were 39.5% of adolescents nationwide that reported having sexual intercourse. This was high among black adolescent males at 52.7% and highest among 12th grade male adolescents of all ethnicities at 58.9%. The YRBS indicated that nationwide 48.4% of gay, lesbian, and bisexual adolescents reported having sexual intercourse and 39.1% of heterosexual adolescents reported having sexual intercourse. Thirty-four percent of adolescents reported having sexual intercourse before the age of 13. This was highest among black male adolescents at 12.8%. Surprisingly, it was common among 9th grade males at 5.7%. The YRBS indicated that nationwide 6.1% of gay, lesbian, and bisexual adolescents reported having sexual intercourse before age 13, which was double the rate at 3% for heterosexual adolescents that reported having sexual intercourse before age 13. There were 9.7% of adolescents having sexual intercourse with

four or more people in their lifetime. This was highest among black adolescent males at 23.2%. Having sexual intercourse with four or more people was also common among 12th grade males at 19.5%. The YRBS indicated that nationwide 14.7% of gay, lesbian, and bisexual adolescents reported having sexual intercourse with four or more people in their lifetime; again, a rate that is nearly double the rate of 9.1% for heterosexual adolescents reporting having sexual intercourse with four or more people in their lifetime. There were 28.7% of students that had sexual intercourse with at least one person during the 3 months before the YRBS was implemented. In keeping with the other categories, this was again most prevalent among black males at 34.6%. Twelfth grade females reported having sexual intercourse with at least one person during the 3 months before the YRBS was implemented at 45.1%. The YRBS indicated that nationwide 33.7% of gay, lesbian, and bisexual adolescents having sexual intercourse with at least one person during the 3 months before the YRBS was implemented. And while still high, the rate of 28.5% of heterosexual adolescents having sexual intercourse with at least one person during the 3 months before the YRBS was implemented is still significantly lower than the rate for gay, lesbian, and bisexual adolescents in this category. Among the 28.7% of adolescents currently sexually active, 53.8% disclosed that either they or their partner used a condom during their last sexual intercourse. This was high among Hispanic adolescent males at 62.4% and highest among 11th grade males at 63.1%. The YRBS indicated that 56.1% of heterosexual adolescents reported using a condom during sexual intercourse and 39.9% of gay, lesbian, and bisexual adolescents reported using a condom during sexual intercourse. It is notable that this is a category in which heterosexual adolescents score higher than do gay, lesbian, and bisexual adolescents. Amid the 28.7% of presently sexually active adolescents, 29.4% stated that either they or their partner used birth control pills, an IUD or implant, or birth control ring to prevent pregnancy before their last

sexual intercourse. This was high among white female adolescents at 43.9% and highest among 12th grade females at 44.7%. The YRBS indicated 30.3% of heterosexual adolescents reported using birth control pills, an IUD or implant, or birth control ring to prevent pregnancy and 24.4% of gay, lesbian, and bisexual adolescents reported using birth control pills, an IUD or implant, or birth control ring to prevent pregnancy. This is another category related to the use of a birth control method in which heterosexual adolescents score higher than do gay, lesbian, and bisexual adolescents. Finally, in contrast to using birth control, among the 28.7% of presently sexually active adolescents, 13.8% stated never using or their sexual partner never using a method of birth control to prevent pregnancy during their last sexual encounter. This was high among black female adolescents at 25.5%, and highest among 12th grade females at 27.6%. The YRBS indicated 27.4% of gay, lesbian, and bisexual adolescents reported not using any method to prevent pregnancy and 11.5% of heterosexual adolescents reported not using any method to prevent pregnancy. In this category, the percentage of gay, lesbian, and bisexual adolescents are again over double that of the percentage of heterosexual adolescents (Kann et al., 2018).

Conclusion

This section will conclude with a summary of the risk behaviors most commonly associated with specific gender and ethnic groups. In the category of behaviors contributing to unintentional injuries and violence, it was most common for black males to rarely or never wear their seatbelts in vehicles while others were driving. Hispanic females more commonly reported traveling one or more times in a car with others driving under the influence of alcohol. In contrast, it was more common for Hispanic males to report driving a vehicle one or more times under the influence of alcohol. Carrying a weapon in public, and specifically carrying a weapon on school property at least one day during the 30 days before the YRBS was implemented was

most commonly reported among white males. In the category of tobacco and electronic vapor use, white males most commonly reported ever trying a cigarette, smoking a cigarette on 20 or more days during the 30 days before the YRBS was implemented, and using an electronic cigarette at least 1 day within the 30 days before the YRBS was implemented. In the category of alcohol and drug use Hispanic females most commonly drank on at least one day of their life, consumed one drink on at least one day during the 30 days before the YRBS was implemented, drank four or more alcoholic drinks in a row within a 2 hour time period on at least 1 day 30 days before the YRBS was implemented, and reported taking prescription pain medication without a physician prescription or taken it differently than stated by the physician one or more times in their life. Continuing the category of alcohol and drug use, black females most commonly reported using marijuana one or more times in their life, black males used heroin one or more times in their life, and Hispanic males used methamphetamines one or more times in their life (Kann et al., 2018).

In the category of unhealthy dietary behaviors and physical inactivity black males displayed a common pattern of unhealthy behavior. They most commonly did not eat vegetables, drank one can, bottle, or glass of soda 3 more times per day, and did not drink plain water during the 7 days prior to the YRBS being implemented. They also played video or computer games or used a computer 3 or more hours per day and watched tv 3 or more hours per day on an average school day. In contrast, black females, commonly reported not being physically active for at least 60 minutes on at least one day during the 7 days prior to the YRBS being implemented, whereas, white males commonly reported being physically active for a total of 60 minutes per day on 5 or more days during the 7 days prior to the YRBS being implemented. Lastly, in the category of unhealthy dietary behaviors and physical inactivity, it was most commonly reported not

consuming breakfast 7 days prior to the YRBS being implemented among Hispanic males (Kann et al., 2018).

Black males were highest in four of the categories covering sexually risky behaviors: having sexual intercourse at least once in their lifetime, having sexual intercourse before the age of 13, having sexual intercourse four or more times in their lifetime, and having sexual intercourse with at least one person during the three months before the YRBS was implemented. Black females most commonly reported never using or their sexual partners never using a method of birth control to prevent pregnancy during their last sexual encounter, whereas, white females most commonly reported either they or their partner used birth control pills, an IUD or implant, or birth control ring to prevent pregnancy before their last sexual intercourse. Lastly, Hispanic females most commonly reported either they or their partner used a condom during their last sexual intercourse (Kann et al., 2018).

Considering all of the information from the YRBS report, one can see that minority and marginalized populations are at most risk for all but a few of the reported categories (Kann et al., 2018). The categories relating to alcohol in which minority and marginalized populations are at most risk include: rarely or never wearing a seatbelt in a vehicle while someone else was driving; traveling one or more times in a car with someone who was under the influence of alcohol; driving a vehicle one or more time while under the influence of alcohol; having at least one alcoholic drink one day in their life; having one alcoholic drink on at least one day during the 30 days before the YRBS was implemented; drinking four or more alcoholic drinks within 2 hours for females, and five or more if they were male. Minority and marginalized populations are also most at risk in these categories related to the use of drugs: using marijuana one or more time in their lives; using cocaine one or more times in their lives; using heroin one or more times in their

lives; using methamphetamine one or more times in their lives; taking prescription pain medication without a physicians' prescription or taken it differently than stated by the physician on or more times in their lives. In the following categories that relate to nutrition minority and marginalized populations again are most at risk: did not eat vegetables during the 7 days before the YRBS was implemented; drank one can, bottle, or glass of soda three or more times per day during the 7 days prior to the YRBS being implemented; did not drink plain water during the 7 days before the YRBS was implemented; did not eat breakfast 7 days prior to the survey being implemented. In the category of physical inactivity, minority and marginalized populations were most often physically inactive for at least 60 minutes on at least one day during the 7 days before the YRBS was implemented; they most often played video or computer games or used a computer 3 or more hours per day; and watched TV 3 more hours per day on average school day. Lastly, in the category of sexual activity minority and marginalized populations were the most likely to have had: sexual intercourse; sexual intercourse before the age of 13; 4 or more sexual intercourse encounters in their lifetime; sexual intercourse with at least one or more persons during the 3 months before the YRBS was implemented; and never used a method of birth control to prevent pregnancy during their last sexual encounter (Kann et al., 2018).

In contrast, Caucasian adolescent males were most at risk in the categories including; carrying a weapon on at least one day during the 30 days before the survey was implemented; carrying a weapon on school property at least 1 day during the 30 days before they survey was implemented; smoking cigarettes on 20 or more day during the 30 days before the survey was implemented; using electronic cigarette at least 1 day within the 30 days of the survey being implemented; and ever trying a cigarette (Kann et al., 2018).

Rural Adolescent Sexual and Reproductive Health Risk Behaviors

Recap of the YRBSS

The YRBSS provides not only national, but also state and large urban school district data. The YRBS data can be used to help develop, improve, and evaluate state and local policies, programs, and practices. However, this report states that a few subgroups of adolescents represented by sex, race/ethnicity, grade in school, and sexual minority status have an increased commonality of health-risk behaviors that place them at risk for avoidable or premature mortality, morbidity, and social obstacles. For the purpose of this review of literature the continued focus will be on sexual health specifically focusing on rural vs urban areas and what interventions are effective in rural population.

Urban versus Rural

The Census Bureau defines urbanized areas as 50,000 or more people, and urban clusters as at least 2,500 and less than 50,000 people. However, the Census Bureau does not define "rural." Therefore, this proposal will use the definition used by the Health Resources & Services Administration (2018) that states that "rural" includes all of the population, housing, and territory not included within an urban area. This means that whatever is not considered urban will be considered rural.

Both urban and rural demographics are included by the Centers for Disease Control and Prevention in their 2017 report indicating that a total of 194,377 babies were born to adolescent females ages 15-19 years. This encompasses a birth rate of 18.8 per 1,000 women in this age class. In addition, this rate reflects a 6% drop in adolescent pregnancies since 2016. In adolescent females ages 15-17 years there was a 10% drop and for adolescent females ages 18-19 years there was a 6% drop (Centers for Disease Control and Prevention, 2019).

Despite this gradual decline in adolescent pregnancy in the United States (US), these adolescent pregnancy rates still remain the highest in the industrialized world. Unfortunately, there are adolescents in the US that face an even higher risk than these numbers indicate—adolescents who live in rural areas throughout the country (Hamilton, Rossen, & Branum, 2016; Kozhimannil et al., 2016; Thompson et al., 2018). In fact, the 2010 birth rate of rural adolescents exceeded the birth rate in suburban and major urban areas for all ages and racial/ethnic subpopulations (Kozhimannil et al., 2016). Even more specifically, in 2015 adolescent birth rates were highest in rural areas and lowest in large urban areas for non-Hispanic white, non-Hispanic black, and Hispanic females (Hamilton et al., 2016). Thompson et al. (2018) also indicates that rural adolescent females are more likely to report having an initial encounter of sexual intercourse compared to urban adolescent females, and they are less likely to report using a form of contraception during their first sexual encounter. Thus, it is not surprising that in an ecologic analysis, Kozhimannil et al. (2016), reports approximately 5% of adolescent females in rural areas became pregnant between the ages of 15 and 19. In addition, adolescents living in rural communities are at a higher risk for tobacco use, alcohol use, sexual intercourse, and pregnancy (Thompson et al., 2018).

The equivalent situations that place rural adolescents at risk for pregnancy also increase their exposure for acquiring sexually transmitted infections (Kozhimannil et al., 2016). Kozhimannil et al. (2016) states that adolescents ages 15-24 represented only 25% of the sexually experienced populace, but they acquired approximately 50% of all new sexually transmitted infections. In light of these findings, which clearly show the prevalence of sexually transmitted infections and unintended pregnancies among rural adolescents, the research may reflect the numerous obstacles to accessing quality preventative services. These findings include

the absence of health insurance or the capability to pay, lack of transportation, uneasiness with facilities and services made for adults, and concerns about maintaining confidentiality (Kozhimannil et al., 2016; Secor-Turner et al., 2014). Moreover, these obstacles are exacerbated for rural adolescents, where the amount of poverty and the numbers of uninsured are greater, travel lengths to necessary services are longer, and facilities and services are limited (Kozhimannil et al., 2016; Secor-Turner et al., 2014). According to Secor-Turner et al. (2014), a more individualized and personal set of concerns adolescents face when accessing health care in a rural setting include mental health stigma, confidentiality, parental control, and preferring to visit with coaches or athletic trainers about intimate health questions.

Health Services

Rural areas lack comprehensive sexual health services because of narrowed clinic hours and lengthy travel distances. Additionally, it is common for adolescents living in rural areas to know the providers, health educators, business owners, pharmacists, and teachers by name. This can lead to rural adolescents feeling embarrassed or nervous when seeking the resources they need (Johnston et al., 2015).

However, according to Hardin et al. (2018), a school-based health clinic (SBHC) resolves many barriers adolescents experience when accessing preventative services. SBHC's are precisely what the name signifies: a center for health care services in the schools in which they are based. They administer primary medical care, mental/behavioral health care, dental/oral health care, substance abuse counseling, case management, and nutrition education. SBHC's place an emphasis on prevention, early intervention, and risk reduction. They educate students on healthy habits and how they can prevent injury, violence, and other threats to their health (Hardin et al., 2018; Health Resources & Services Administration, 2017). The Health Resources &

Services Administration (2017), states SBHC's are regulated as partnerships between schools and community health organizations. The community health organizations consist of either a community health center, hospital, or local health department. The services administered by school-based health centers are modified according to the community's needs and resources. These needs are determined via collaborations between communities, school districts, and health care providers (Health Resources & Services Administration, 2017).

However, it may not be practical for a small, rural school to support full-time staff for a SBHC. According to Hardin et al. (2018), SBHC's are uncommon is rural areas because of the decreased practicality. Nevertheless, school nurses can fill critical needs in rural areas, replacing SBHC's by evaluating adolescents individually in their school settings. School nurses are excellent resources when working with adolescents. They encourage them to lead healthy lifestyles and foster trusting relationships with their health care providers. Furthermore, for adolescents who have difficulty accessing preventative health services, school nurses assess their needs and coordinate services with local health care providers (Hardin et al., 2018).

Contraceptive Use

Education and support are two crucial components when it comes to addressing adolescents' emerging sexuality. Educating them on safe sex practices and contraceptive use is vital due to the health, economic, and social costs of pregnancy and motherhood. Secondly, supporting adolescents during their time of emerging sexuality, by fostering a non-judgmental, and open environment for them to share their thoughts and feelings regarding this time of change is necessary.

In order for adolescents to avoid pregnancy, they must either abstain from sex or use a form of contraceptive. While this is true for all adolescents, it can be especially difficult to

navigate for adolescents residing in rural areas. Adolescents living in rural areas run into multiple barriers when accessing comprehensive sexual and reproductive health services. In addition, as stated earlier in the literature review, adolescents in rural areas often have limited availability of quality health facilities and services that provide comprehensive sexual and reproductive care. This lack of availability of sexual and reproductive services for rural adolescents makes an already sensitive conversation regarding their sexual and reproductive health even less possible.

Abstinence

Abstaining from sexual activity is the indisputable way to prevent unintended pregnancies and avoid sexually transmitted diseases in adolescents. Unfortunately, state programs advocating and promoting abstinence-only-until-marriage (AOUM) often fail to prevent adolescents from having sex (Beechey & Moon, 2015; McCammon, 2017; Santelli et al., 2017; Stranger-Hall & Hall, 2011).

According to the Santelli et al., (2017) the promotion of AOUM or sexual risk avoidance programs are "scientifically and ethically problematic," and have been rejected by public and medical health professionals (Santelli et al., 2017, p. 273). In a recent analysis by Lindberg, Maddow-Zimet, & Boonstra (2016) of national representative data collected between 2006-2010 and 2011-2013 from the National Survey of Family Growth from adolescents aged 15-19, there was a significant decline in adolescent females receiving formal education about birth control (from 70% to 60%). They also reported not receiving instruction on how to say no to sex (from 89 to 82%) or about how to prevent sexually transmitted diseases (from 94% to 90%) and protect themselves against HIV/AIDS (from 89% to 86%). In addition, adolescent males also reported a significant decline (61% to 55%) in formal instruction about how to access and use birth control

(Lindberg, Maddow-Zimet & Boonstra, 2016). In another more recent 2016 analysis of 37 systematic reviews, an analysis of 224 randomized controlled trials of school-based sex education programs discovered that abstinence-only education programs did not advocate for positive changes in sexual intercourse or other sexual practices (Abraham, Campbell & Busse, 2016; Santelli et al., 2017). These studies indicate that abstinence-only mandated education curriculums do not adequately inform adolescents about disease and pregnancy prevention nor do they provide opportunity for adolescents to discuss individual choices.

However, proponents of AOUM programs argue that sexual activity outside of marriage can lead to harm to an adolescent's psychological and physical state (Santelli et al., 2017). Unfortunately, the research evidence to support this argument is either hard to find or non-existent. In fact, the House Committee on Government Reform released a report that 11 of the 13 AOUM programs most widely used by Community-Based Abstinences Education (CBAE) recipients involved inaccurate, misleading, or distorted education about reproductive health. Sexual and reproductive education was misrepresented about the effectiveness of condoms in preventing sexually transmitted infections, and adolescent pregnancy (Santelli et al., 2017). A report released by the nonpartisan Government Accountability Office discovered the Administration for Children and Families, which managed a majority of the federal AOUM funding, was neglectful when managing AOUM programs, they failed to review its' recipients teaching components for scientific validity (Santelli et al., 2017). There are 11 states in the U.S. that have accepted federal AOUM funding to carry out abstinence as the only topic covered during sex education – North Dakota being one of those mandated states (Santelli et al., 2017).

In contrast, there is recent research-based evidence indicating abstinence-only education programs does not reduce adolescent pregnancy or sexually transmitted infection (STI) rates – it

only deprives adolescents of the facts of human reproduction, including safe sexual health practices prevention of unintended pregnancies and STIs (Beechey & Moon, 2015; McCammon, 2017; Santelli et al., 2017; Stonehall & Hall, 2011).

Condom Use

The condom is the most commonly used contraceptive method amongst adolescents. Condoms are the only birth control method that lowers the risk of both unintended pregnancies and certain sexually transmitted infections, e.g. gonorrhea, chlamydia, trichomoniasis, hepatitis B virus, and HIV (Centers for Disease Control and Prevention, 2016; Committee on Adolescence, 2013). Unfortunately, adolescents may lack knowledge on obtaining and utilizing condoms correctly. According to the CDC's 2014 School Health Policies and Practices Study (SHPPS), most U.S. state high schools have restrictions when it comes to educating adolescents on obtaining and using condoms (Centers for Disease Control and Prevention, 2019b).

Condom Availability Programs (CAPs) have been evaluated in a multitude of settings. In one study of condom availability programs in Massachusetts high schools, adolescents with condom availability in their school systems were more likely to receive condom use instruction and less likely to report ever having sexual intercourse or recent sexual intercourse and adolescents who were sexually active were twice as likely to use condoms during a sexual encounter (Committee on Adolescence, 2013). Although condoms are a low-cost and effective method of preventing some STIs and unintended pregnancies, there is still controversy because opponents of condom accessibility programs argue it promotes sexual intercourse (Committee on Adolescence, 2013; Wang et al., 2017). However, a cross-sectional study by Wang et al., (2017) found that the odds of using condoms or using condoms as a form of contraceptive doubled among students who attended schools with a CAP. Additionally, this cross-sectional study also

indicated the odds of using a condom during the adolescents' last sexual encounter within the past 6 months from school with CAPs also doubled (Wang et al., 2017).

Oral Contraceptives

Overall, the birth control pill is a safe, uncomplicated, and convenient way to avoid unintended pregnancies. It also has other perks like reducing acne, making female adolescent periods lighter, regular, and decreasing premenstrual symptoms (e.g. abdominal pain, abdominal bloating, acne, food cravings, and night sweats) (Ott & Sucato, 2014). Among female high school adolescents that responded to the 2017 Youth Risk Behavior Survey, 22% responded that they used an oral contraceptive. Additionally, statistics from the 2011 to 2015 National Survey of Family Growth state that 56% female adolescents ages 15 to 19 used an oral contraceptive (Chacko, Blake & Torchia, 2019).

However, there are disadvantages when this is the choice of contraceptive amongst female adolescents. They have to take the pill every day, otherwise there is no guaranteed protection against unintended pregnancy; taking an oral contraceptive only protects against pregnancy if taken every day. Adolescents have a higher failure rate with oral contraceptives due to lack of daily adherence of taking the medication. Alternatively, if oral contraceptives are used perfectly, meaning they are taken at the same time every day, there is failure rate of 0.3%. However, with non-adherence there is a 9% failure rate amongst adolescent females (Ott & Sucato, 2014). Furthermore, unlike condoms or abstinence only, oral contraceptives do not prevent sexually transmitted infections. In this case when oral contraceptives are the only form of contraception, the adolescent who is sexually active should also use a dual form of contraception (e.g. condom) to prevent the transmission of sexually transmitted infections (Lemoine et al., 2017).

Long-Acting Reversible Methods (LARC)

Intrauterine contraception and contraceptive implants are two types of long-acting reversible methods of contraception (LARC). According to the American Academy of Pediatrics and the American College of Obstetrics and Gynecology, LARCs are the most effective reversible methods of contraception and first-line option for adolescents. Once they've been inserted, they do not require regular action on the part of the adolescent (Chacko, Blake, & Torchia, 2019). A systematic review of nine studies by Diedrich, Klein, & Peipert (2017) consisting of 26,907 participants compared intrauterine devices with other methods of contraception in women less than 25 years of age. The studies were completed over a 12-month period. In that 12-month period LARC usage was highest among all types of contraceptives studied, at approximately 85% compared to 40 to 50% for non-LARC methods. Additionally, they also noted the failure rate of oral contraceptives is 20-fold greater than LARC methods (Diedrich, Klein, & Peipert, 2017). However, similar to oral contraceptives, an additional method of contraception should be used when using a LARC method. This is due to the risk of acquiring sexually transmitted infections. The LARC method only prevents unintended pregnancy but does nothing to protect the adolescent against sexually transmitted infections (Lemoine et al., 2017).

LARC is suggested as first-line therapy when consulting with female adolescents about potential forms of contraception (Diedrich, Klein, & Peipert, 2017). Advocating for the usage of LARCs by female adolescents has shown to decrease the rates of unintended pregnancy, abortion, and unintended childbearing. To this end, LARCs can also help lower health disparities among different sociodemographic adolescent populations (Chacko, Blake, & Torchia, 2019; Diedrich, Klein, & Peipert, 2017; Weber et al., 2017). Unfortunately, accessing LARCs is one of the many barriers rural adolescents face given the limited access to health care facilities that

offer these methods. Weber et al., (2017), states in a study comparing rural and urban adolescents' access to contraception, there were significant barriers faced by adolescents residing in rural areas. They found rural adolescents had to drive long distances to access LARCs. Additionally, the LARC method is not practiced routinely by rural providers, because they have limited training in the procedure. The providers working in rural clinics also need a provider to "proctor" them when they are new to the procedure. Along with this, providers must perform a certain number of proctored LARC placements before they can perform them on their own. This significantly limits access to LARC forms of contraception for adolescents residing in rural areas (Weber et al., 2017).

Conclusion

As highlighted the YRBS (2018) in the beginning of this literature review and supported by many other research studies, the period of adolescence is a time of constant emotional and physical change and it is also a time of increased risk (e.g. unintentional injuries and violence; drug and alcohol use; physical inactivity and unhealthy dietary behaviors; risky sexual behaviors) (Kann et al., 2018; Morelli & Zupanick, 2018; Sanders, 2013). Sexual risk behaviors are primarily addressed for this practice improvement project. Furthermore, when considering sexual risk behaviors, the adolescent is at risk for unintended pregnancies and sexually transmitted infections. In order to reduce unintended pregnancies and sexually transmitted infections amongst adolescents, preventative and educational measures must be implemented. These measures will help adolescents achieve lifelong behaviors that support their health and well-being. Again, given the period of adolescence is a time of increased risk, positive health practices are vital (Kann et al., 2018).

Social Ecological Model

In this practice improvement project, the Social Ecological Model (SEM) will be utilized (Gombachilka et al., 2012). The goal for using the SEM, which is a theory-based framework, is to understand the multiple effects of personal and environmental factors that contribute to adolescent sexual and reproductive health risk behaviors in rural ND. The SEM figure (*Figure 1*) below recognizes five levels that influence adolescent health behaviors; Individual, interpersonal, organizational, community, and societal levels. The first level, or the individual level, includes the attitudes, and beliefs of the adolescent that influences their behaviors. The second level, or interpersonal level, lays out the adolescent's role, and social identity such as a friend, partner, and family member. The third level, or organizational level, includes the rules and policies set in place in the school and clinic settings. The fourth level, or community level, establishes values and norms within the community. Lastly, the fifth level, or societal level, includes the cultural background and national guidelines on sexual and reproductive health (Gombachilka et al., 2012). These five levels will guide the list of interview questions formulated for adolescents, health care providers, educators, and parents.

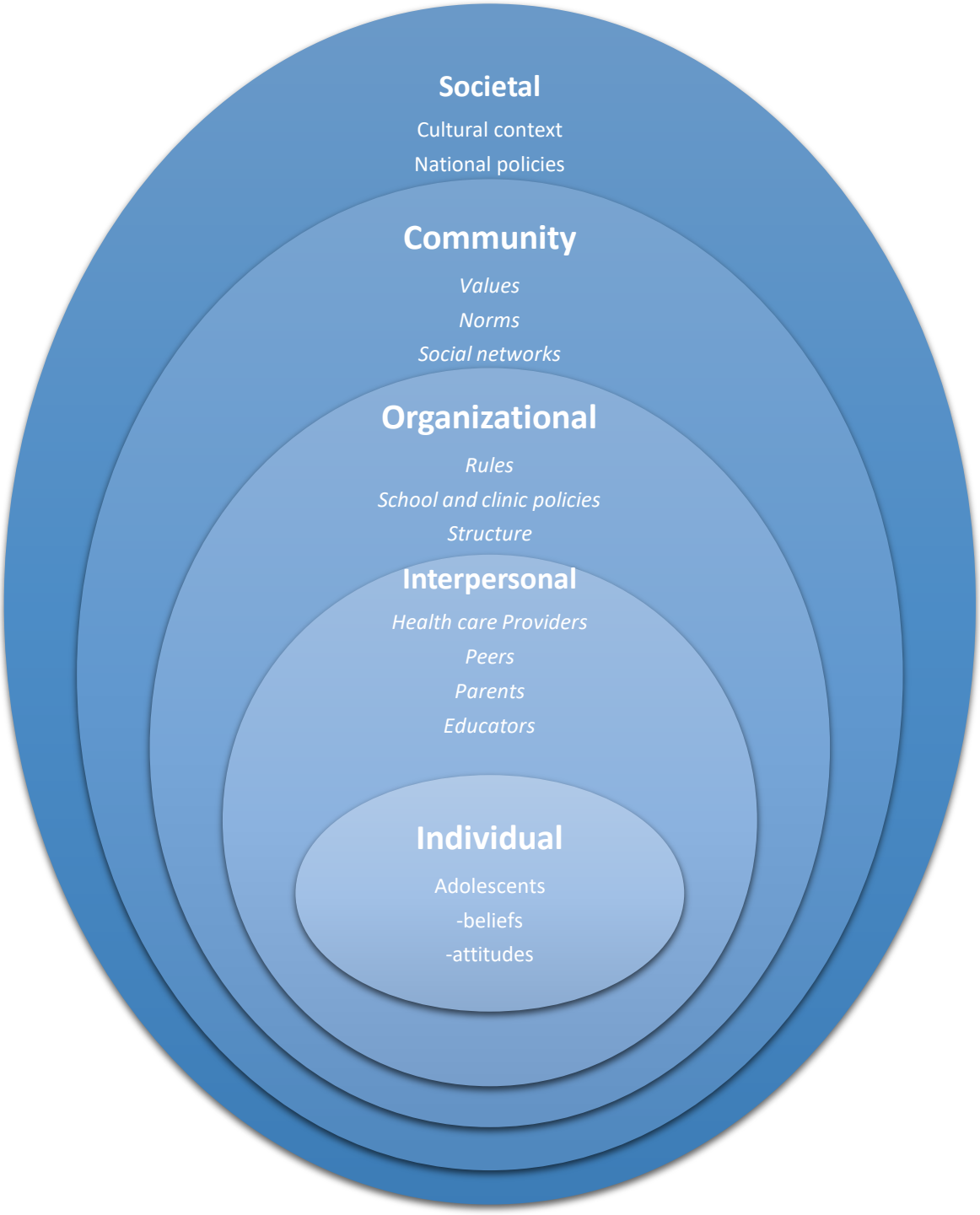

Figure 1. Social Ecological Model for Adolescent Sexual Health.

CHAPTER 3. PROJECT DESCRIPTION

Project Design

The purpose of this practice improvement project is to describe the sexual and reproductive health needs of adolescents in rural ND. The project is guided by the following objectives:

1. Describe sexual and reproductive health needs of adolescents in rural ND from the perspectives of health care providers, educators, parents, and adolescents.
2. Identify barriers to addressing the sexual and reproductive needs from the perspectives of health care providers, educators, parents, and adolescents in rural ND.
3. Make recommendations to health care providers to meet the sexual and reproductive health needs of adolescents in rural ND.

Methods & Evaluation

A qualitative approach was used to elicit the perspectives of adolescents, health providers, educators, and parents regarding the sexual and reproductive health needs of adolescents in rural ND. Individual, semi-structured interviews were conducted with five participants in each target group of health care providers, educators, parents and adolescents. Interviews were conducted in a private location of the participant's choosing, digitally recorded, and lasted approximately 5-10 minutes. All participants provided consent and adolescents had parents' consent prior to beginning of interviews (see Appendix A for interview questions). Participants were recruited via convenient sampling from the researcher's personal relationships and participant suggestions of possible willing participants.

Following each interview, the digitally recorded interviews were transcribed verbatim and checked for accuracy by rereading all transcriptions. Descriptive content analysis was used

to compare and contrast adolescent sexual and reproductive health needs from the perspective of adolescents, health care providers, educators, and parents. Data dissemination occurred in rural ND at a local clinic. The data dissemination was shared in a form of a handout and short presentation with health care providers within the clinic.

Resources

In order to successfully complete the community needs assessment, numerous resources were used: a) a car used to travel back and forth from rural ND to Bismarck during the implementation process; b) a Sony ICD-UX560 digital voice recorder used during the interviewing process; c) committee members for this practice improvement project; and d) participants who took part in the interview process.

Protection of Human Subjects

Prior to beginning the practice improvement project, approval was obtained for the North Dakota State University Institutional Review Board (IRB). The goal of the community needs assessment was to assess what adolescents, parents, health care providers, and educators' current knowledge about sex education and what sexual and reproductive resources are available to adolescents in rural ND. In order to obtain the data for this practice improvement project, these individuals in rural ND were interviewed. Written consent was obtained from all participants prior to participation. Parental consent was also obtained prior to interviewing adolescents under the age of 18; the adolescents also provided consent. Written consents from all participants were scanned and put into files on the researcher's password protected personal computer. In addition, confidentiality was maintained throughout the entire interview process and each individual interviewed remained anonymous.

CHAPTER 4. RESULTS

Twenty participants equally grouped into four separate categories (health care providers (n=5), educators (n=5), parents (n=5), and adolescents (n=5)) participated in face-to-face, semi-structured interviews lasting five to ten minutes. There was a total of 16 female, and two male participants. The health care providers consisted of four Nurse Practitioners with their Master of Science in Nursing, and 1 Physician Assistant with their Master of Science in Medicine. The educators ranged from athletic coaches, counselors, classroom teachers, and a vice principal. Results are presented in the following sections using quotes to illuminate findings (see Table 1 for combined responses).

Table 1

Combined Responses

Theme	Exemplars
Health care Providers (n=5)	
Experiences discussing sexual and reproductive health	• Range of experiences • Primarily delivered at sports physicals and well-child visits • Occasionally in response to acute presentation • On demand
Barriers and facilitators to discussing sexual and reproductive health	*Barriers* • Remembering the topic • Male vs. female • Parents in the room • Perceived lack of confidentiality • Sensitivity of subject • Community confidentiality, e.g. filling prescriptions *Facilitators* • Confidentiality • Provider/patient relationship • Maturity of adolescent • Truthfulness • Openness
Guidelines	• None • Department of Health • CDC • The American Academy of Pediatrics • Bright Futures • UpToDate

Table 1. *Combined Responses* (continued)

Theme	Exemplars
Services	• Birth control options • Puberty education • Well-child visits • Sports physicals • STD screening • Safe sex practices • Abstinence only education
Needs and recommendations	• Resources • Education • Anonymous/free clinics • Outreach educators • Hotline number
Educators (n=5)	
Experiences discussing sexual and reproductive health	• Little to no experience • On demand • During health class
Barriers and facilitators to discussing sexual and reproductive health	*Barriers* • Maturity of adolescent • Confidentiality • Privacy issue • Legality • Parents should be responsible • Male/Female • Conservative community *Facilitators* • Comfortability of educator • Group size of adolescents • Credibility of sources • Age when introduced to sex ed
Guidelines	• None • Glencoe Health (published 2007) • UpToDate
Services	• Abstinence only education
Needs and recommendations	• Education • Awareness • Parents should be responsible for education • Honest communication • No needs necessary in community
Parents (n=5)	
Experience discussing sexual and reproductive health	• Only when adolescent willing • Situational

Table 1. *Combined Responses* (continued)

Theme	Exemplars
Barriers and facilitators to discussing sexual and reproductive health	*Barriers* • Body language/demeanor of adolescent • Friends unreliable resource • Confidentiality • Maintaining attention • Negative influences through media • Technology • Maturity • Male/female *Facilitators* • Comfortability of parent • Maturity of adolescent • Private setting
Timing	• 5th grade • Puberty • Ages 12-13
Guidelines	• Social media • CDC • Age appropriate • None
Services	• Youth groups within the church • Counselor at school • County nurse
Needs	• Education • Abstinence only not affective • Openness • Awareness of consequences
Adolescents (n=5)	
Experiences discussing sexual and reproductive health	• Health class • Parents • Friends • Health care providers
Important health topics	• Exercise • Nutrition • Hygiene
Sexual and reproductive health messages	• Consequences • Abstinence is best
Services available to adolescents for sexual and reproductive health	• Clinic • Gym or health teacher • Health care providers • Educators

Health Care Providers

Health care providers' responses were categorized into five main areas using the interview guide to create *a priori* categories. The results for each category are described below.

Experiences Discussing Sexual and Reproductive Health

The health care providers described a range of experiences discussing sexual and reproductive health with their adolescent patients. They primarily addressed sexual and reproductive health at sports physicals and well-child visits. Four of the participants described occasionally addressing sexual and reproductive health in response to acute presentations (e.g. urinary tract infections, yeast infections, and pelvic pain). One participant described addressing sexual and reproductive health only if the adolescent specifically had questions related to it. The following quotes demonstrate the range of provider approaches to addressing sexual and reproductive health for adolescents from very comprehensive to more limited (respectively):

> So, with every well-child exam, sports physical, there's sensitive questions so we'll discuss if they're currently sexually active, whether they are or not. We do follow up questions for girls, birth control options whether it's to treat painful periods, to prevent pregnancy, or for acne. We'll talk about birth control. If that's the case. We always talk about periods, what's normal abnormal, and then sexual practices. Talking about and educating about STDs, about how and when you could get pregnant and how to prevent pregnancy if that's the case. So yeah, I'd say that it's pretty thorough, especially for women. I go pretty in detail with them about period history and health and then how to protect themselves sexually against STDs and pregnancy. And then with men and boys, I specifically talk about checking for testicular cancer and how they can spread STDS and how would to be cautious with that, and then just the importance of being abstinent that since that's the only way to prevent pregnancy.
>
> - Health care provider participant

> My experience here at our clinic is probably pretty limited. It'd be probably well-child and sports physical. Very rarely, honestly, in sports physical do we get into much details than simply asking I f they have any concerns.
>
> - Health care provider participant

Thus, although some participants report having comprehensive discussions about sexual and reproductive health with adolescents, it is apparent in the above comments that sexual health education for adolescents is inconsistent amongst providers.

Barriers to Discussing Sexual and Reproductive Health

Health care providers reported the following barriers to discussing sexual and reproductive health: a) remembering to bring it up during an appointment; b) adolescent gender—more likely to address if female; c) parents being present in the room; d) adolescents being worried about confidentiality during visits; e) overall sensitivity of the subject of sexual and reproductive health; and f) community confidentiality (e.g. filling prescriptions at local pharmacies). The following quotes show the variety of barriers to discussing sexual and reproductive health with adolescents. The first quote states very plainly that the presence of parents and parental opinion are major factors in how, when, and to what extent sexual health issues are freely discussed even by a health care provider who wishes to have these kinds of conversations.

> Parental opinions and whether or not they're in the room I find being the biggest barrier. And just remembering to do it, it's not hard for me to discuss, because I'm a proponent to protection, it's just remembering to bring it up with visits.
>
> - Health care provider participant

Because these providers work in small, rural communities, they will most probably know the parents, and their opinions, personally. They will need interact with these parents in many situations, so the providers are, whether they wish it or not, influenced by these outside relationships. The second quote focuses on the providers own sensitivity to discussing sexual health.

> My experience is if they come in asking for it. I'm open to it. I also like to talk about it at sports physicals, although I'm probably not real good about talking to all girls. I am a proponent of protecting young girls from unplanned pregnancies. And that's how I bring it up to them, that by having some type of contraception, no matter what type it is, to protect themselves, is important. I am a big proponent of it.
>
> - Health care provider participant

What is important to note here is that this provider does not note addressing sexual health with male patients. This quote may be the most alarming because this participant gave conflicting information regarding their thoughts on barriers of discussing sexual and reproductive health with adolescents. The participant states, "I'm not real good at talking to all girls," and then follows with "I am a proponent of protecting young girls from unplanned pregnancies." This particular statement raises concern about the participants' true thoughts and feelings regarding sexual and reproductive health education to adolescents

The last quote focuses on the closeness of the overall community, echoing the concerns of the participant that found parental presence and opinion to be a barrier.

> Some barriers I would say in rural health are that it's a small, and a close-knit community. They're afraid if they bring it up to me, maybe I'm good friends with their mom, and I see them in the clinic. There's that, the less anonymous part of it, but a lot of times I think being that there's three providers in our clinic, if they're uncomfortable with one of us, they'll move to the other, or if they're too close with one, they'll go to the other. I believe this is a barrier in our clinic.
>
> - Health care provider participant

As one can see, there is a multitude of barriers given by the participants. Overall, it is clear that barriers to free and open communication are both self-imposed by the providers and the result of confidentiality and community and adolescent reluctance.

Facilitators to Discussing Sexual and Reproductive Health

Health care providers described elements of the adolescent clinic visit that could facilitate addressing the sexual and reproductive health needs of an adolescent patient. Facilitators included: a) making sure the adolescent understands confidentiality; b) facilitating a comfortable relationship between the provider and adolescent; c) maturity level of the adolescent; d) if the adolescent is honest during a conversation on sexual and reproductive health; and e) how open the adolescents are during the conversation about sexual and reproductive health. The following

quote shows an example of a facilitator to discussing sexual and reproductive health with adolescents.

> I remember trying to start my sexual and reproductive conversations stating that I don't care what your answers are, and I just need you to be honest. I just care about your health and I want to make sure that you're going to be healthy now and in the future, so that when these things become more important in a marriage setting, that you will have made the choices and you have the education that you wanted now that you'll want in the future.
>
> - Health care provider participant

This particular quote provides an example of the importance the provider placed on maintaining an open and honest relationship with the adolescent. It also carries the importance of reminding the adolescent what is said will be strictly confidential.

Sexual and Reproductive Health Guidelines Used and Services Provided

Health care providers described limited use of guidelines when addressing sexual and reproductive health needs of adolescents and providing a range of sexual and reproductive health services to adolescents in the rural clinic where they practice (see Table 2). Participant responses ranged from not using guidelines, to naming specific guidelines that may occasionally be used, including guidelines from North Dakota Department of Health; Centers for Disease Control and Prevention; The American Academy of Pediatrics; Bright Futures; and UpToDate. Participant responses to services provided included educating and providing birth control options for adolescents; education on puberty and the adolescents changing bodies; well-child examinations; sports physicals; sexually transmitted disease screening and education; safe sex practices; and stressing abstinence only education to the adolescent.

Table 2

Provider Reported Sexual and Reproductive Health Guidelines Used and Services Provided

Sexual and Reproductive Health Guidelines Used	
North Dakota Department of Health	N = 1
Centers for Disease Control and Prevention	N = 2
The American Academy of Pediatrics	N = 1
Bright Futures	N = 1
UpToDate	N = 1
No guidelines used	N = 2
Sexual and Reproductive Health Services Provided	
Educate and provide birth control options for adolescents	N = 1
Education on puberty and the adolescents changing bodies	N = 1
Well-child examinations	N = 4
Sports physicals	N = 5
Sexually transmitted disease screening and education	N = 2
Safe sex practices	N = 2
Stressing abstinence only education	N = 1

Needs and Recommendations

Health care providers suggested the following needs and recommendations to meet the sexual and reproductive health needs of adolescents in rural ND: a) more comprehensive sexual and reproductive health education in the school systems and during scheduled well-chill/sports physical visits with adolescent patients; b) anonymous and free adolescent sexual and reproductive health outreach clinics; c) outreach sexual and reproductive health educators; and d) a hotline number for adolescents to call with concerns and questions related to sexual and reproductive health. In the quote from a health care provider participant below discusses the need for anonymous and free adolescent sexual and reproductive health outreach clinics. This participant also includes the need for outreach sexual and reproductive health educators in rural ND.

> I think access and then just knowing that it is a safe place and reconfirming that because I think that they do need someone to talk to about it, that's not mom or dad. And I think they need education, it's the biggest thing, and a place to talk that is a safe place. And so just getting the word out there, so I think being in the schools is really important, even if

> the students think its awkward, I think it's important for the students to know that need to seek that care and attention. Honestly, I think so much of it is about the decisions we make today, how they affect tomorrow, and I think kids aren't thinking that way. Kids never do that.
>
> - Health care provider participant

The health care provider participant above emphasizes the importance of adolescents in rural communities having a safe, and accessible place to obtain sexual and reproductive education and care.

Secondary School Educators

Educators' responses were categorized into five main areas using the interview guide to create *a priori* categories. The categories are described below.

Experiences Discussing Sexual and Reproductive Health

Educators described a range of experiences discussing sexual and reproductive health with adolescents in the school setting. It included little to no experience, providing education in 7th, 8th, and 9th grade health classes, and only on demand when the adolescent asked. As one participant described it:

> I've been teaching health for 12 years. There are two different chapters started in 7th grade regarding puberty and in 8th and 9th grade covering STDs. I only ask about sexual and reproductive health behaviors when we are talking about chapters in the health book that are related to it, but I never bluntly ask the students if they are sexually active. But depending on my groups and how willing they are to share. For example, my freshmen who I had last year as eighth graders, were quite willing to share different things. First time I've really experienced that; it was almost too much sharing for my comfort level.
>
> - Educator participant

The quote above comes from a health teacher participant's experience covering sexual and reproductive health curriculum with 7th, 8th, and 9th grade adolescent students. However, the participant also describes being uncomfortable when students become open about their sexual and reproductive health experiences. This raises concern given this participant is responsible for

teaching adolescent sexual and reproductive health; it should be expected that the topic itself can lead to many uncomfortable conversations and that it is necessary to have those uncomfortable conversations in the adolescents' best interest. This discomfort or unease lead into a discussion of barriers secondary educators face when discussing sexual and reproductive health with adolescents.

Barriers to Discussing Sexual and Reproductive Health

Educators also described barriers to discussing sexual and reproductive health with adolescents in the school setting including: a) maturity level of the adolescent; b) confidentiality; c) privacy issues; d) legality; e) expectations that parents should be responsible for educating on sexual and reproductive health; f) gender of adolescent; and g) living in a conservative community. Below are examples of barriers described by secondary educators:

> I think there are quite a bit of barriers. But I don't think it falls on us as the educators. I think that is something that needs to initially come from home, or at least get approval from the home. And since I work with younger students, some students may be ready, but I don't want to introduce a topic that makes the other students nervous and the parents upset.
>
> - Educator participant

> They don't want to give information. They think they are going to get reprimanded if they discuss their sexual and reproductive questions with their teachers.
>
> - Educator participant

> At our school we have a pretty conservative school board and so at one point I think it was brought up about how much do we talk about birth control, as far as sharing all the information with them or bringing somebody in. They are pretty conservative and don't want that topic to be brought up by the health teacher or any other educator. I guess I also think it is up to the parents to address birth control and their child's sexual encounters. That is their job. So, I've never discussed about birth control, only discussed abstinence is the best way to prevent STDs and pregnancy.
>
> - Educator participant

The above quotes describe multiple barriers from the perspective of the secondary educators. They raise concern that sexual and reproductive education should not fall on the educators themselves but should be based in the home with the adolescent's parents. Additionally, the educator said that the adolescents were unwilling to give information of their sexual and reproductive concerns because they worry about getting into trouble with the educators. Finally, multiple educators brought up the barriers of their rural community being conservative, and enforced abstinence only education.

Facilitators for Discussing Sexual and Reproductive Health

Despite multiple barriers to discussing sexual and reproductive health with adolescents in the school setting, secondary educators also described factors that could make it easier, including comfort level of the educator; group size of adolescents; credibility of sources; and age when sexual and reproductive health is introduced to the adolescent. The following quote comes from a secondary educator participant giving a thorough example of what kinds of factors can facilitate discussions of sexual and reproductive health education with adolescents:

> I think smaller group sizes would probably make it easier. Maturity level of the students that you're working with. The individual having the discussion with the student groups makes a difference. The comfortability with the class or the group and individual discussing the topic, and then maybe the makeup of the groups as well too. It depends on who is in each group you are discussing the topic with.
>
> - Educator participant

This response shows the complexity of educator/student discussions—so much depends on individual maturity, groups sizes, comfort with the topic, and group dynamics, very little of which an educator has control over.

Adolescent Sexual and Reproductive Health Education Guidelines and Approaches

Educators described minimal use of evidence-based guidelines to approach adolescent sexual and reproductive health education. Three participants described using no guidelines or

curriculum, while one participant used the Glencoe Health book (published in 2007), and one used UpToDate. The five educator participants reported providing abstinence only education as their approach to adolescent sexual and reproductive health education.

Education Needs and Recommendations

Educators suggested the following recommendations to meet the sexual and reproductive needs of adolescents in rural ND: a) more comprehensive education on sexual reproductive health that is not abstinence only based; b) awareness of consequences when being sexually active; c) more accountability for parents to provide sexual and reproductive health education; d) honest communication about sexual and reproductive health between educators and adolescents; and e) one participant noted there were no sexual and reproductive health needs in the rural community. This was the only adult participant in the study that indicated that further sexual health interventions were unnecessary. In contrast, in the quote below an educator participant argues that there is a real and timely need for accurate sexual and reproductive health information for adolescents in the rural community:

> Adolescents need to know the statistics of how prevalent STDs and unintended pregnancies are in urban and rural communities. They need to understand how unprotected sex can lead to these things, and I don't think they necessarily understand that.
>
> - Educator participant

The above quote emphasizes laying out statistics to adolescents on the prevalence of STDs and unintended pregnancies in urban and rural comminutes and how unprotected sex can lead to a multitude of consequences.

Parents

Parents' responses were categorized into five main areas using the interview guide to create a *priori* categories. The categories are described below.

Experiences Discussing Sexual and Reproductive Health

Parents described a range of experiences discussing sexual and reproductive health with their adolescents. One noted discussing sexual and reproductive health with their adolescent if the adolescent was willing to sit down and listen to them. There were multiple parents that stated if there was an appropriate time and place to start discussing sexual and reproductive health, they would take advantage of that moment. Examples of appropriate settings parents listed were at night in the adolescent's bedroom, after school if the adolescent stated they discussed sexual and reproductive health in school, and if something came up on TV that sparked the conversation. The below quotes are a couple examples of what parents stated during the interviews of their experiences discussing sexual and reproductive health with their adolescents.

> I'm pretty comfortable talking about sex with my kids. I guess I'll bring it up whenever there is an appropriate situation. For example, while we're watching TV and something shows up that is related to the topic, I watch my kids' reaction and I'll slowly bring it up and see how they react to the start of the conversation.
>
> - Parent participant

> I discuss it typically in the evening when the children are in bed, because that's when it seems they want to talk. I don't do this all the time, maybe once or twice a year, or if I heard something then I might bring it up more often.
>
> - Parent participant.

The commonality of the above statements from parent participants is finding the most opportune moment to discuss the sensitive topic of sexual and reproductive health. These opportune moments seem to arise from situations that spark the topic of sexual and reproductive health conversations.

Barriers to Discussing Sexual and Reproductive Health

Parents also described barriers to discussing sexual and reproductive health with their adolescents including: a) adolescent body language/demeanor during the topic discussion; b)

adolescent friends as unreliable resources; c) confidentiality; d) maintaining the adolescents' attention; e) negative influences throughout social media; g) maturity level of the adolescent; and h) if the adolescent is male or female. The following are quotes which describe barriers parents experience when discussing sexual and reproductive health with their adolescents.

> My son is very humorous, so he makes a joke out of everything. I don't ever know if he's being serious or if he's listening to me when I'm trying to talk to him about it.
>
> - Parent participant

> It's hard whether it's a boy or girl, I guess. I think, there's two different sides of sexual health when discussing it with a boy or girl. Boys sometimes think maybe it's not a big deal for them to be sexually safe because they're not the ones that will get pregnant or whatever. But it's not just about pregnancy or the diseases that come with unprotected sex it's about the responsibilities that come alone with it when you decide to become sexually active.
>
> - Parent participant

The above quotes primarily list barriers parents experienced when discussing sexual and reproductive health with their adolescents. The barriers they discussed were the maturity of the adolescent, maintaining the adolescent's attention, and if the adolescent is male or female.

Facilitators to Discussing Sexual and Reproductive Health

Despite the multiple barrier's participants experienced discussing sexual and reproductive health with adolescents, participants also described factors that could make the discussion easier, including comfort level of the parent, maturity of adolescent, and if there is a private setting available in which to have the discussion. Below is a quote from a parent who thought discussing sexual and reproductive health is best before the adolescent goes to bed.

> I think it's beneficial to discuss sex in the evening when the children are getting ready for bed, because that is when they want to talk, and they are the most relaxed. It's easier to get more out of them when they have gotten the entire day out of their minds and that's usually when they'll talk to be about sensitive subjects.
>
> - Parent participant

Overall, the participants found it difficult to articulate what may actually help them discuss sexual health with their adolescents. They seemed to find that timing and comfort level in the surroundings were key to successful conversations. Finally, the evening conversation the parent above states as being the most opportune time to discuss sexual and reproductive health with the adolescent.

Sexual and Reproductive Health Timing, Guidelines Used, and Services Provided

Parents described three examples of when they started educating their adolescent on sexual and reproductive health. One participant noted starting the conversation in 5th grade, because this is when sexual health is introduced in the school system. Other participants stated between the ages of 12 and 13, and when they started noticing signs of puberty in their adolescents. The participants also had limited to no use of reputable or well-known guidelines when addressing sexual and reproductive health with their adolescents but were able to provide a range of sexual and reproductive health services available to their adolescents in the rural area in which they reside. When asked about any potential guidelines they may have used, one participant indicated that some information was obtained from "social media." This particular statement is alarming given the question it poses about the reliability of social media articles? It also raises the question as to how individuals utilizing these articles are educated on determining what makes an article reputable. Finally, the participants noted three different services that were available to their adolescents if they were in need of sexual and reproductive health guidance; youth groups within church, counselors within the school system, and the county nurse (see Table 3).

Table 3

Parent Reported Sexual and Reproductive Health Timing, Guidelines Used, and Services Provided

Timing	
5th Grade	N = 1
Signs of puberty	N = 2
Between ages 12-13	N = 2
Sexual and Reproductive Health Guidelines Used	
Social Media Articles	N = 1
Centers for Disease Control and Prevention	N = 1
No guidelines Utilized	N = 3
Services Provided	
Youth Groups within church	N = 1
Counselors within school system	N = 2
County nurse	N = 1

Needs and Recommendations

Parents suggested the following recommendations to meet the sexual and reproductive needs of their adolescents in rural ND: a) more comprehensive education of sexual reproductive health in the school system; b) that abstinence only is not the best form of sexual and reproductive education; c) educators within the school system need to be more open to discussion on sexual and reproductive health; and d) risks/consequences need to be listed out to adolescents for when they do decide to become sexually active. In the quote below a parent participant states the need for more open information available to adolescents and where they can access that information.

> They need more open information about sexual and reproductive health and awareness, of where they can access that information. But, unfortunately, I know that's not available to them in our area.
>
> - Parent participant

The above comment by a parent participant solidifies the need for more open sexual and reproductive health information for adolescents in rural areas. They need someone or somewhere they can go to access open and reputable information.

Adolescents

Adolescents' responses were categorized into five main areas using the interview guide to create a *priori* categories. The categories are described below. Underneath each category, one can see the adolescent participants gave one-worded responses. During the interviews, the interviewer asked each adolescent to elaborate on their one-worded responses, but the same answer was given even when asked to elaborate.

Experience Discussing Sexual and Reproductive Health and Important Health Topics

Adolescent participants listed various experiences discussing sexual and reproductive health. They all stated they discussed sexual and reproductive health in their health class in school, but only three added talking about sexual and reproductive health with their parents, friends, and/or health care providers. The participants were also asked what health topics were important to them (see Table 4).

Table 4

Adolescent Experiences Discussing Sexual and Reproductive Health and Important Health Topics

Experience discussing Sexual and Reproductive Health	
Health class	N = 5
Parents	N = 3
Friends	N = 2
Health care providers	N = 1
Important Health Topics	
Nutrition	N = 4
Exercise	N = 3
Hygiene	N = 2

Sexual and Reproductive Health Messages

Adolescent participants stated the following sexual and reproductive health messages that have been given to them in their lifetime: a) consequences of engaging in sexual behaviors and b) abstinence is best.

Services Available to Adolescents for Sexual and Reproductive Health

Adolescent participants stated the following sexual and reproductive health services that are available to them in rural ND: a) health care providers and nurses in the clinic closest to them, b) gym teachers, c) health teachers, and d) school counselors.

CHAPTER 5. DISCUSSION AND RECOMMENDATIONS

Summary

The purpose of this qualitative quality-improvement project was to determine the sexual and reproductive needs of adolescents in rural North Dakota (ND). In order to determine the sexual and reproductive needs of adolescents in rural ND 20 participants equally grouped into 4 separate categories (health care providers, educators, parents, and adolescents) participated in face-to-face, semi-structured interviews.

Health Care Providers

It was evident in the provider interviews that there was a range of approaches to addressing sexual and reproductive health with adolescents. Their approaches ranged from very comprehensive, to more limited in the discussion of sexual and reproductive health with the adolescents they saw in their clinic. The alarming finding was they all practiced within the same rural clinic. The fact that the amount and quality of information adolescents received was entirely dependent upon which individual provider they happened to see means that both consistency and quality of information was compromised. This is even more concerning because the American Academy of Pediatrics (AAP) has already provided national guideline for discussing sexual and reproductive health information with adolescents, both male and female (Marcell, Burstein, & Committee on Adolescence, 2017). When reviewing the AAP guidelines, importance of discussing sexual and reproductive health with both male and female adolescents is emphasized. This leads to another alarming finding where one provider stated they didn't discuss sexual and reproductive health with males at all, and also noted they had a hard time talking with females about it too. It is incredibly concerning that the adolescent's gender is dependent on if they receive education, if any at all, on sexual and reproductive health from their

health care provider. In addition, the AAP recommends all health care providers should allot confidential time during each visit with adolescents on maintaining and promoting the adolescent's sexual health and the reduction of risks (Gavin et al., 2014; Gavin & Pazol, 2016; Society for Adolescent Health and Medicine, 2014). This time allotted by health care providers discussing sexual health should consist of best practice recommendations for contraceptive use, safe sex, STI treatment, HIV testing, and preconception health (Gavin et al., 2014; Gavin & Pazol, 2016; Marcell, Burstein, & Committee on Adolescence, 2017; Society for Adolescent Health and Medicine, 2014). Furthermore, it is obvious that best practice encompasses the need to direct confidential time when discussing these sexual health topics with adolescents at every well-child, annual, and sports physical exams. Finally, the tenor of the interviews revealed that for most of the providers discussing sexual health, even confidentially, with adolescents was uncomfortable. This unease seemed to be at the heart of many of the comments. While this may be understandable, it is not acceptable. To counter this, the AAP provides a multitude of clinical reports and policy statements to guide health care providers on counseling adolescents on these subjects (Marcell, Burstein, & Committee on Adolescence, 2017).

Educators

The educators described little to no experience discussing sexually education with adolescents. The only educator participant who actively educated adolescents on sexual and reproductive health was a health educator within a rural school system. Alarmingly, this health educator teaches sexual and reproductive health to adolescents from 7th-9th grade using a Glencoe Health book published in 2007. This raises concern because this educator participant is the only one who discussed sexual and reproductive health with adolescents. It is paramount that health educators use the most up to date, evidence-based resources when educating adolescent students.

This individual also expressed feeling "uncomfortable," in conversations with adolescent students who were open to talking about their experiences and knowledge on sexual and reproductive health. Although it would not be surprising if the adolescents felt uncomfortable discussing their sexual and reproductive health, it is the health educator's responsibility to facilitate open conversation, especially when they are discussing their own experiences and knowledge.

This also leads to conflicting information when discussing adolescent sexual and reproductive needs amongst educators within their rural community. One of the five educator participants stated there were no needs within the rural community for adolescents sexual and reproductive health needs. This educator participant thought there was enough sexual and reproductive health resources available to adolescents within their community and this participant also stated parents should be responsible for sexual and reproductive education. On the other hand, the remaining educator participants stated adolescents in their community needed more awareness, honest communication, and education on sexual and reproductive health.

Parents

The parent participants stated that adolescents need more open and honest education regarding sexual and reproductive health. One parent stated that abstinence only is not the best method for educating adolescents on sexual and reproductive health. This statement is refreshing, given government enforcement of abstinence-only-until-marriage (AOUM) programs is common today throughout the US. The Society for Adolescent Health and Medicine (2017) states government programs that only provide AOUM programs are proven to be problematic. The AOUM program and policies enforced by the US has shown to be ineffective for sexual and reproductive education within the US school systems (Chin et al., 2012; The Society for

Adolescent Health and Medicine, 2017). It is important to know as a health care provider, educator, and parent that adolescents start becoming sexually active at an early age despite the enforcement of AOUM programs (Chin et al., 2012; Planned Parenthood, 2017; The Society for Adolescent Health and Medicine, 2017). According to Chin et al., (2012) adolescents and young adults are waiting longer to get married; because of this wait they are more likely to engage in sexual activity prior to marriage (Chin et al., 2012). Given the fact parent participants stated in their opinion abstinence only education is not the best way to educate adolescents on sexual and reproductive health, it is important for health care providers to continue to stress that abstinence only education is not going to stop adolescents from having sexual intercourse. Health care providers can continue to stress this during clinic appointments with adolescents if parents accompany them during their appointment.

Adolescents

The adolescent participants gave one-worded responses; they did not expound on any questions they were asked. The interviewer asked for an expansion on their one-worded answers, but the adolescents would simply repeat what they had said initially. This raises multiple questions considering the adolescent participant responses. Is it because adolescent participants were uncomfortable talking with individuals they did not know regarding sexual and reproductive health? Is it possible the adolescent would be more open to talking to someone who was a friend, family member, or someone they had a relationship with and trusted? Is the adolescent only responding to what they think the interviewer wants to hear, and not really how they feel about sexual and reproductive health?

The adolescent participants were asked about sexual and reproductive health messages given to them by either health care providers, educators, or parents. Their responses consisted of

abstinence is best, and the consequences of sexual experimentation. If this is the adolescent participants' truthful answer, it is concerning on many levels. As previously stated, it is important we give adolescents accurate and up to date information on sexual and reproductive health. It is not only the health care providers' responsibility to give them reputable information, but also the parents and educators' responsibilities. Everyone must be prepared and held accountable to educate adolescents, because they might not always feel comfortable talking with their health care providers, they may feel more comfortable talking with adults they already know and trust, such as a gym or health teacher or a parent.

Finally, all parent participants stated that they discussed sexual and reproductive health with their adolescents between the ages of 10-13 or when their adolescent started showing signs of puberty. This information was significant because two of the adolescent participants were dyads with the parents and these two adolescent participants stated they never had a conversation with either of their parents on sexual and reproductive health. This discrepancy could be accounted for in a variety of ways. The adolescents could have forgotten the time their parents spent discussing sexual and reproductive health with them given the sensitivity of the conversation itself. The adolescents also could have not understood the references their parents used when talking about sexual and reproductive health. Conversely, parents could have thought they had conversations with their adolescents and actually had not.

Recommendations for Providers

In order to cultivate well-rounded adolescents, it is essential we provide them with comprehensive sexual and reproductive health care. Every adolescent deserves comprehensive education regarding their sexual health despite the push for AOUM education programs. In addition, regardless whether the adolescent states they plan on staying abstinent until marriage,

or does not plan on having intercourse anytime soon, it is still the duty of health care providers to prepare them, even to the point of assuming adolescents will be sexually active despite what they say. This will equip the adolescent with the proper knowledge and education so when they decide to become sexually active, they will be well prepared to make the most educated decision. In order to make this a reality, health care providers must have guidelines that are used across every provider at every clinic. These guidelines should be used with every adolescent at every sports-physical, well-child, and/or annual exam. To such an end the American Academy of Pediatrics published a clinical report in 2017 of Sexual and Reproductive Health Care Services in the Pediatric Setting (Marcell & Burstein, 2017). This clinical report provides multiple national guidelines and recommendations on how health care providers can discuss sexual and reproductive health education and services with male and female adolescents. It discusses confidentiality and consent to sexual and reproductive health care; the office environment; making offices LGBTQ friendly; introducing confidentiality and time alone; involving families; proper history taking; physical examination; laboratory tests; immunizations; counseling; and minimizing breaches in confidentiality. This clinical report also provides additional publications for topics not covered within the article that providers can look into for additional education on sexual and reproductive health care (Marcell & Burstein, 2017).

Dissemination

This disquisition project was initially disseminated as a PowerPoint presentation to the evidence-based research committee at Sanford Health in April of 2019. It was again presented in poster format at the annual North Dakota Nurse Practitioner Association (NDNPA) Pharmacology conference in October of 2019. The final results will be given in another poster presentation at the College of Health Professions in Fargo, ND in the spring of 2020.

There will be another 30-minute presentation given to health care providers in a rural clinic in ND regarding key findings of the needs assessment and recommendations to enhance sexual and reproductive health education to adolescents. This discussion will take place over their 60-minute lunch hour, which will leave time for questions after the presentation is completed. Further dissemination of this disquisition project will occur summer 2020 with anticipation for submission to suitable journal with specific interest in the *Journal of Adolescent Health*.

Limitations

During the course of this need's assessment project in rural ND there were a few limitations. Firstly, the small sample size used for the interview process limits broad generalizability of the results, however, the intent of this project was to examine a particular setting, rather than achieve generalizability. There was a total of 20 participants, five from each group (health care providers, educators, parents, and adolescents). While the results do have some applicability to rural areas that are white, politically conservative, and mainly have AOUM education programs in their schools, rural areas that do not have these characteristics may not have similar results. Secondly, because these individuals all resided within the same rural area and had some acquaintance with one another, this may have resulted in social desirability bias. Study participants may have self-censored, especially the adolescents, in order to maintain participant-perceived social expectations. It may have been more beneficial to the applicability and depth of responses if they had come from multiple rural regions throughout ND. Lastly, the participants were primarily female. There were 16 female and only four male participants total in the need's assessment. In future need's assessment's having a more diverse gender population may contribute to a range of responses from each target group.

Strengths

Because discussing sexual health openly, or even at all, in this community is full of social barriers and assumptions, the fact I had already strong relationships meant that the trust necessary for qualitative research on this subject and in this community was already in place. And, although the sample size was small and focused in a specific rural locality, this research gave a focused, firsthand look into how communities like this think and communicate about adolescent sexual and reproductive health, communities that are often closed to outsiders. Thus, this research is valuable because, while it gives some specific insight to the need for good sexual and reproductive health information and good training for adults attempting to educate adolescents, it also provides insight into how important trust is in attempting to study or impact rural communities that can be closed to outsiders.

Significance of the Project and Application of Project Findings to the DNP Role

Nursing practice is the stepping-stone that drives practice change initiatives amongst specific specialties and areas of nursing. Practice change initiatives create new knowledge in health care; helps develop new policies and practices; improves the quality of health care; and leads to the advancement in health information technology (Joseph & Huber, 2015).

This specific project impacts nursing leadership and contributes to the success of the DNP role by improving the sexual health of adolescents in rural ND. It improves and impacts adolescent sexual health by educating health care providers on how to facilitate and foster the sexual and reproductive health of adolescents in rural communities. The importance of educating health care providers on how to best meet the sexual and reproductive needs of adolescents in their area will create a well-rounded community, free of barriers and stigmas related to sexual and reproductive health.

It is evident we all have our unique and specific feelings on what adolescents should be doing to maintain their sexual and reproductive integrity. But it is not our duty as health care providers in the DNP role to push our views, standards, and beliefs on adolescents when we are counseling them. It is our duty to give them reputable, and honest information regardless of their age, gender, sexual identity, or activity.

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APPENDIX A. QUESTIONS DURING INTERVIEW PROCESS

Health Care Providers & Educators

1. What is your experience discussing sexual and reproductive health with adolescents?
2. How often do you ask about sexual & reproductive health behaviors?
3. How do you decide when and who you discuss these questions with?
4. What are the barriers to discussing sexual and reproductive health?
5. What makes it easier discussing sexual and reproductive health?
6. Are there guidelines you follow (why or why not)? If guidelines are followed, which guidelines are utilized?
7. What services do you provide for adolescents in regard to sexual and reproductive health?
8. What do you think are adolescent needs as far as sexual and reproductive health?

Educators

1. What is your experience discussing sexual and reproductive health with adolescents?
2. How often do you ask about sexual & reproductive health behaviors?
3. How do you decide when and who you discuss these questions with?
4. What are the barriers to discussing sexual and reproductive health?
5. What makes it easier discussing sexual and reproductive health?
6. Are there guidelines you follow (why or why not)? If guidelines are followed, which guidelines are utilized?
7. What services do you provide for adolescents in regard to sexual and reproductive health?
8. What do you think adolescents need as far as sexual and reproductive health?
9. What is your experience discussing sex education to adolescents?

10. When is sexual & reproductive health education introduced to students? What does it include and what guidelines?

Parents

1. What is your comfort level discussing your child's sexual and reproductive needs, and when and how often do you do so?
2. How do you decide when and where it's an appropriate time to talk to your child about their sexual and reproductive needs?
3. What are barriers you experience when trying to discuss sexual and reproductive health with your child?
4. Do you follow guidelines from specific sources when educating your child on sexual and reproductive health, If so, which guidelines?
5. How do you decide which message to give to them?
6. Are there resources in your area that your child can access with or without your presence regarding their sexual and reproductive health? If so, where?
7. What do you think sexual and reproductive adolescent health needs are in rural ND?

Adolescents

1. What is your experience talking about health in general?
2. What are important health topics to you?
3. Have your parents talked to you about sexual health? What did they tell you, and how old were you?
4. Have your health care providers talked to you about sexual health? What did they tell you, and how old were you?

5. Have your teachers talked to you about sexual health? What did they tell you, and how old were you?
6. Have your friends talked to you about sexual health? What did they tell you, and how old were you?
7. Do you think adolescents in rural ND are sexually active? Do you think they use condoms or birth control?
8. What do you think adolescents need to be healthy, and stay sexually safe?
9. Where can you go to get help or ask questions, or get forms of birth control?

APPENDIX B. IRB APPROVAL

NDSU NORTH DAKOTA STATE UNIVERSITY

October 8, 2019

Dr. Molly Secor-Turner
Nursing

IRB Approval of Protocol #PH20062, "Adolescent Sexual and Reproductive Needs in Rural, ND: A Needs Assessment"
Co-investigator(s) and research team: Hailey Pomonis

Protocol Reviewed: 10/1/2019
Protocol Status Update Due prior to: 9/30/2022

Research site(s): varied Funding Agency: n/a
Review Type: Expedited category # 7
IRB approval is based on the revised protocol submission (received 10/7/2019). Please use the approved consent forms (version received 10/2/2019).

Additional approval from the IRB is required:
o Prior to implementation of any changes to the protocol (Protocol Amendment Request Form).
o For continuation of the project beyond the approval period (Continuing Review Report Form). A reminder is typically sent approximately 4 weeks prior to the expiration date; timely submission of the report the responsibility of the PI. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

Other institutional approvals:
• Research projects may be subject to further review and approval processes.

A report is required for:
o Any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (Report of Unanticipated Problem or Serious Adverse Event Form).
o Any significant new findings that may affect risks to participants.
o Closure of the project (Protocol Termination Report).

Research records are subject to random or directed audits at any time to verify compliance with human subjects protection regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,
Kristy Shirley
Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult https://www.ndsu.edu/research/for_researchers/research_integrity_and_compliance/institutional_review_board_irb/. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

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APPENDIX C. EXECUTIVE SUMMARY

Project Summary

In order to reduce sexual risk behaviors and related health problems, preventative and educational measures must be implemented to help adolescents adopt lifelong attitudes and behaviors that support their health and well-being. Given the period of adolescence is a time of increased risk, positive health practices are vital. The end goal of this quality improvement project was to educate health care providers to successfully promote the formation of positive health practices during the period of adolescence, this in turn will create a healthy and strong passageway into adulthood

Background

In a survey of U.S. high school students in 2017, the CDC found 40% of the students were sexually active, 10% had four or more sexual partners, 7% had been physically forced to have sexual intercourse when they did not want to, and 30% had sexual intercourse within 3 months of the survey being implemented (CDC, 2018). Astonishingly, 46% of these students did not use a condom the last time they had sex, 14% did not use any method to prevent pregnancy, and 19% were under the influence of alcohol or used drugs before their last sexual encounter (CDC, 2018). And as stated above, these sexual risk behaviors place youth at risk for unintended pregnancies, sexually transmitted infections (STIs), and more specifically HIV infections. For example, the WHO notes about 1 million girls under the age of 15 give birth every year, and one in five women will have a child by the age of 18.

Furthermore, living in a rural area can contribute to adolescent health and health disparities, distinctly in environmental and social contexts (Thompson et al., 2017). This research shows that rural adolescents face an increased risk compared with urban adolescents because of

the rural adolescent tendency to engage in high-risk behaviors, including sexual risk behaviors that can lead to unplanned pregnancies and STIs. This research has also indicated that teens living in a rural community may be more sexually risky than adolescents living in an urban setting (Thompson et al., 2017).

In spite of the fact that U.S. teen birth rates are currently decreasing—in 2016 the teen birth rate fell 9% over the course of a year and 51% over the past decade (Sitrin, 2017)—cohorts in rural environments remain at a higher risk for adolescent pregnancy (Kozhimannil et al., 2015). The same behaviors that place rural adolescents at risk for pregnancy also elevate their chances of acquiring sexually transmitted infections. Adolescents ages 15-19 represent only 25% of the sexually experienced population, yet they acquire nearly 50% of all new STI's (Kozhimannil et al., 2015). Furthermore, the prevalence of adolescent pregnancy and STI's reflect on multiple health disparities to the access of quality prevention services. These disparities amongst adolescents in rural counties are associated with reduced access to health services, lack of health insurance, poverty, longer travel distances to services, more limited services and facilities in rural settings, and the high proportion of female-headed households (Thompson et al., 2017). Kozhimannil et al. (2015) states, "Efforts to promote adolescent sexual health take on particular urgency in rural counties and communities" (p. 6). Due to these unique challenge's rural adolescents face, there is a need to focus more attention on sexual health amongst adolescents living in rural areas (Kozhimannil et al., 2015).

Process

This practice improvement project used a qualitative approach to elicit the perspectives of adolescents, health providers, educators and parents regarding the sexual and reproductive health needs of adolescents in rural N.D. Individual, semi-structured interviews were conducted with 5

participants in each target group of health care providers, educators, parents, and adolescents. Following each interview, the digitally recorded interviews will be transcribed verbatim and checked for accuracy. Descriptive content analysis was used to compare and contrast adolescent sexual and reproductive health needs from the perspective of health care providers, educators, parents, and adolescents. Once the descriptive content analysis was completed, the results were shared to the health care providers at a clinic in rural ND. The results shared will have the intent to better educational measures on adolescent sexual and reproductive health practices in rural ND.

Findings

It was evident in the provider interviews that there was a range of approaches to addressing sexual and reproductive health with adolescents. Their approaches ranged from very comprehensive, to more limited in the discussion of sexual and reproductive health with the adolescents they saw in their clinic. The alarming finding was they all practiced within the same rural clinic. The fact that the amount and quality of information adolescents received was entirely dependent upon which individual provider they happened to see means that both consistency and quality of information was compromised. This is even more concerning because the American Academy of Pediatrics (AAP) has already provided national guideline for discussing sexual and reproductive health information with adolescents, both male and female (Marcell, Burstein, & Committee on Adolescence, 2017). When reviewing the AAP guidelines, importance of discussing sexual and reproductive health with both male and female adolescents is emphasized. This leads to another alarming finding where one provider stated they didn't discuss sexual and reproductive health with males at all, and also noted they had a hard time talking with females about it too. It is incredibly concerning that the adolescent's gender is

dependent on if they receive education, if any at all, on sexual and reproductive health from their health care provider. In addition, the AAP recommends all health care providers should allot confidential time during each visit with adolescents on maintaining and promoting the adolescent's sexual health and the reduction of risks (Gavin et al., 2014; Gavin & Pazol, 2016; Society for Adolescent Health and Medicine, 2014). This time allotted by health care providers discussing sexual health should consist of best practice recommendations for contraceptive use, safe sex, STI treatment, HIV testing, and preconception health (Gavin et al., 2014; Gavin & Pazol, 2016; Marcell, Burstein, & Committee on Adolescence, 2017; Society for Adolescent Health and Medicine, 2014). Furthermore, it is obvious that best practice encompasses the need to direct confidential time when discussing these sexual health topics with adolescents at every well-child, annual, and sports physical exams. Finally, the tenor of the interviews revealed that for most of the providers discussing sexual health, even confidentially, with adolescents was uncomfortable. This unease seemed to be at the heart of many of the comments. While this may be understandable, it is not acceptable. To counter this, the AAP provides a multitude of clinical reports, and policy statements to guide health care providers on counseling adolescents on these subjects (Marcell, Burstein, & Committee on Adolescence, 2017).

Conclusion & Recommendations

In order to cultivate well-rounded adolescents, it is essential we provide them with comprehensive sexual and reproductive health care. Every adolescent deserves comprehensive education regarding their sexual health despite the push for AOUM education programs. In addition, regardless whether the adolescent states they plan on staying abstinent until marriage, or does not plan on having intercourse anytime soon, it is still the duty of health care providers to prepare them, even to the point of assuming adolescents will be sexually active despite what they

say. This will equip the adolescent with the proper knowledge and education so when they decide to become sexually active, they will be well prepared to make the most educated decision. In order to make this a reality, health care providers must have guidelines that are used across every provider at every clinic. These guidelines should be used with every adolescent at every sports-physical, well-child, and/or annual exam. To such an end the American Academy of Pediatrics published a clinical report in 2017 of Sexual and Reproductive Health Care Services in the Pediatric Setting (Marcell & Burstein, 2017). This clinical report provides multiple national guidelines and recommendations on how health care providers can discuss sexual and reproductive health education and services with male and female adolescents. It discusses confidentiality and consent to sexual and reproductive health care; the office environment; making offices LGBTQ friendly; introducing confidentiality and time alone; involving families; proper history taking; physical examination; laboratory tests; immunizations; counseling; and minimizing breaches in confidentiality. This clinical report also provides additional publications for topics not covered within the article that providers can look into for additional education on sexual and reproductive health care (Marcell & Burstein, 2017). When utilizing these clinical reports, it will impact the quality and type of education the health providers give to adolescents when counseling on safe sexual and reproductive practices. The importance of educating health care providers on how to best meet the sexual and reproductive needs of adolescents in their area will create a well-rounded community, free of barriers and stigmas related to sexual and reproductive health.

It is evident we all have our unique and specific feelings on what adolescents should be doing to maintain their sexual and reproductive integrity. But it is not our duty as health care providers in the DNP role to push our views, standards, and beliefs on adolescents when we are

counseling them. It is our duty to give them reputable, and honest information regardless of their age, gender, sexual identity, or activity.