

Reducing Teen Pregnancy in Hampton: A systematic review of Evidence based Interventions and Effective Programs to support Teen Parents

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ABSTRACT: *Teen pregnancy remains a significant public health concern in the United States, particularly in Virginia, where the rates, although declining, continue to pose substantial challenges. This paper aims to evaluate evidence-based interventions and the effectiveness of programs designed to reduce teen pregnancy and support teen parents especially in Hampton, Virginia. A comprehensive search of peer-reviewed articles, government reports, and program evaluations was conducted using databases such as PubMed, PsycINFO, and Google Scholar. Inclusion criteria were studies published between 2000 and 2023 that focused on interventions aimed at reducing teen pregnancy and supporting teen parents in the U.S., with specific attention to those implemented in Virginia. Data were extracted and synthesized from selected studies to assess the effectiveness of various interventions, including sexual education, contraceptive access, community-based programs, and support services. The review included 15 most related studies, encompassing a variety of interventions. Comprehensive sexual education programs were found to significantly delay sexual initiation and increase contraceptive use among adolescents. Contraceptive access initiatives, particularly those promoting long-acting reversible contraceptives (LARCs), effectively reduced teen pregnancy rates. Community-based programs that provided holistic support services demonstrated improvements in both pregnancy prevention and the well-being of teen parents and their children. Support services for teen parents, such as parenting education and childcare assistance, were critical in improving educational and economic outcomes. The findings highlight the importance of multi-component, evidence-based interventions in reducing teen pregnancy and supporting teen parents. Comprehensive sexual education, enhanced contraceptive access, community-based support, and targeted services for teen parents are essential components of effective strategies. Policymakers and practitioners in Virginia should prioritize these approaches to address the persistent issue of teen pregnancy and improve outcomes for teen parents and their children.*

KEYWORDS: teen pregnancy, evidence-based interventions, sexual education, contraceptive access, community-based programs, support services.

INTRODUCTION

Teen pregnancy is a significant public health issue in the United States, leading to adverse health, social, and economic outcomes for both adolescent mothers and their children. Despite a substantial decline in the national teen birth rate, disparities persist, particularly in certain states, including Virginia (Centers for Disease Control and Prevention [CDC], 2021). Teen pregnancies are associated with increased risks of preterm birth, low birth weight, and infant mortality (Francesconi, 2008). Adolescent mothers often face interrupted education, limited career opportunities, and greater reliance on public assistance, perpetuating cycles of poverty and disadvantage (Hoffman & Maynard, 2008).

Teen pregnancy as a reoccurring problem within the country (USA), teenagers might get pregnant for the very first time they would be having sex due to nonchalant attitudes, wrong information from peers and the internet. According to Bartley Research (n. D) “More teenagers are sexually active than expected. Six out of ten women have sex as teens. Of these teens, 85% that have sex without birth control will become pregnant within one year. 82% of these pregnancies are unintended”. Teen pregnancy can have significant social, economic and health consequences for both young parents and their children. Based on research, there is a great decline in teen pregnancy over the past twenty years. However, the United states has the highest teen pregnancy record compared to other countries. According to the research minority populations in the United states face problems involving poverty, lack of education, and quality healthcare. “Black, Hispanic and Native American youth live in families with incomes at or below 200 percent federal poverty level”. (Healthy Teen Network, 2008). Factors that has contributed to this decline includes, contraceptives, sex education, early awareness about abstinence.

In Virginia, the teen birth rate remains a concern despite various state-specific programs and policies aimed at mitigating this issue (Virginia Department of Health, 2022). However, there is a lack of comprehensive synthesis of the evidence on what works best for reducing teen pregnancy and supporting teen parents in the state. This gap in knowledge hampers the ability of policymakers and practitioners to implement the most effective strategies (Gutmacher Institute, 2020).

Teen pregnancy poses a myriad of health, social, and economic challenges. Adolescents who become pregnant are more likely to experience adverse health outcomes, including preterm birth, low birth weight, and neonatal mortality (Centers for Disease Control and Prevention, 2021). Furthermore, teenage mothers often face interrupted education, limited career opportunities, and increased dependence on public assistance (Hoffman & Maynard, 2008). The children of teen parents are also at higher risk of academic failure, behavioral problems, and becoming teen parents themselves (Francesconi, 2008).

Teen pregnancy brings substantial social, and economic costs through immediate and long-term impacts on teen parents and their children. Pregnancy and birth are significant contributors to high school dropout rates among girls. "Only about 50% of teen mothers receive a high school diploma by 22 years of age, whereas approximately 90% of women who do not give birth during adolescence graduate from high school". (Perper K, Peterson K, Manlove J. 2010). The children of teenage mothers are more likely to have lower school achievement and to dropout of high school, have more health problems, be incarcerated at some time during adolescence, give birth as a teenager, and face unemployment as a young adult.

Though the problem of teen pregnancy persists, it has statistically declined in 2017 with a total of 194,377 babies being born by teenage girls aged 15-19 making it a birth rate of 18.8 per 1,000 females in this age group. This is believed to be another record low for the United States of America teens and a drop of 7% from the year 2016. The birth rates for ages 15-17 years fell by 10% while ages 18-19 years by 6% (CDC, 2019). Though the reasons of the decline are not clear, evidence suggests these declines are due to more teens abstaining from sexual activity and the use of birth control by more sexually active teens than is previous years (CDC, 2019).

"Racial and ethnic disparities remain, with higher rates of teen pregnancy for Hispanic and non-Hispanic black adolescents than non-Hispanic white adolescents" (Youth, n.d). With the knowledge that the teen pregnancy rate in the USA is substantially high than in other western industrialized countries and an all-time low in the country, the racial/ethnic disparities cannot be overlooked or overemphasized since this might affect teen birth rates and knowing this might help in the prevention, direct interventions and resources to areas with greatest needs. High teen birth rates may be because of Families living with less favorable socioeconomic conditions, such as low education and low-income levels. Also, "teens in child welfare systems are at higher risk of teen pregnancy and birth than other groups. For example, young women living in foster care are more than twice as likely to become pregnant than those not in foster care" (CDC, 2019) Birth rates for females aged 15-19, by race and Hispanic origin of mother: United States, 2016 and 2017 (CDC, 2019).

Effective interventions are crucial to address this multifaceted issue. Comprehensive sexual education (CSE) programs, which include information about contraception, sexually transmitted infections (STIs), and healthy relationships, have shown promise in delaying sexual initiation and increasing contraceptive use among teens (Kohler, Manhart, & Lafferty, 2008). Conversely, abstinence-only education has not demonstrated the same level of effectiveness in reducing teen pregnancy rates (Santelli et al., 2017). Access to contraceptives, especially long-acting reversible contraceptives (LARCs), significantly reduces the likelihood of unintended pregnancies (Ott, Sucato, & the Committee on Adolescence, 2014). Community-based programs providing holistic

support, such as the Nurse-Family Partnership and the Carrera Adolescent Pregnancy Prevention Program, have also shown positive impacts on preventing teen pregnancies and supporting teen parents (Olds et al., 2007; Philliber et al., 2002). Over the years, these numerous interventions developed and implemented to address the complex issue of teen pregnancy have mixed result in terms of effectiveness influenced by factors such as program design, implementation fidelity, and the socio-cultural context in which they are applied (Kirby, 2007).

Teen pregnancy prevention is a national priority. On average, nearly 750,000 American teenagers become pregnant each year (Bartleby, n.d). Teen pregnancy is a problem because it is reoccurring within the country (USA), In some cases, teenagers are not able to refuse sexual intercourse. Even though there is a decline in teen pregnancy and birth rates in the USA, when compared to the other western industrialized nation, the national teen pregnancy rate continues to be higher in America (Youth, n.d). Dropout rates among high school females, increased health, and foster care costs and a wide range of developmental problems born to teen mothers are a result of teen pregnancy and childbirth (Youth, n.d). Teen pregnancy in most cases could be said to be unexpected news to most teenagers/adolescents. This unexpected news could trigger a sort of psychological trauma

In Virginia, the teen birth rate, although lower than the national average, still presents a concern (Virginia Department of Health, 2022). Various state-specific programs and policies have been implemented to mitigate this issue, but a systematic review of their effectiveness is necessary to inform future strategies and ensure the efficient allocation of resources.

Despite the availability of numerous interventions and programs, the persistent rate of teen pregnancies in Virginia indicates a need for a comprehensive evaluation of these initiatives. The lack of a systematic synthesis of the evidence on what works best for reducing teen pregnancy and supporting teen parents in Virginia hampers the ability of policymakers and practitioners to implement the most effective strategies (Guttmacher Institute, 2020).

Objectives

This research aims to systematically review evidence-based interventions and effective programs targeting teen pregnancy reduction and support for teen parents in Hampton, Virginia. The objectives of this study are:

1. To identify and categorize the various interventions and programs implemented in Virginia aimed at reducing teen pregnancy.
2. To assess the effectiveness of these interventions and programs based on defined outcomes such as pregnancy rates, health outcomes, educational attainment, and socio-economic status.
3. To synthesize the findings to provide a comprehensive understanding of what works best in the context of Virginia.

4. To offer evidence-based recommendations for policymakers, practitioners, and researchers on effective strategies for reducing teen pregnancy and supporting teen parents.

Evidenced Based Interventions (EBP) to address the problem.

1. Project Aim (Adult Identity Mentoring) is a program designed to reduce sexual behaviors in youth by motivating youth to see the positive and negative aspects of their future. The intervention helps youth to explore hobbies, social surroundings, and their future as an adult. The group session consists of role-playing, setting goals, and completing workbooks. The target population is African American youth between the ages of 11-14. Project Aim is also suitable for youth of other races or ethnicities living in low-income communities. The program consists of ten 50-minute sessions that are usually conducted in a community setting (Centers for Disease Control and Prevention, 2020).

2. All4You! is a program designed to decrease the number of youths having unprotected sex. The program also aids in changing the factors that contribute to sexual risk-taking, such as attitudes and beliefs about sex. The target population for the program is adolescents ages 14-18 in alternative schools. The program consists of 14 sessions with a HIV, other STD, and pregnancy prevention curriculum and service-learning visits in the community (U.S. Department of Health & Human Services, 2017).

3. Families Talking Together (FFT) is designed to educate parents on effective communication, strengthening relationships, supervision, and teaching children how to be assertive. This intervention can be implemented one-on-one or in a group setting. The target population is African American and Latino parents with children ages 10-14. The intervention is 10-20 sessions (U.S. Department of Health & Human Services, 2017).

4. FOCUS is a short-term intervention that consists of one eight-hour group session. The intervention is a cognitive-behavioral group that addresses decision-making skills, healthy relationships, preventing pregnancy, and preventing STIs (U.S. Department of Health & Human Services, 2017).

There are a couple of interventions for sexually active teens, one of which is Cognitive Behavioral Therapy (PSB-CBT) that is being used for children seen as having problematic sexual behavior. This is an outpatient treatment program that has a primary goal of reducing sexual behavior problems among school-age children. This goal is achieved through the provision of cognitive-behavioral therapy (CBT), psycho-educational, and supportive services to children and families (OJJDP, 2015).

According to Carpentier, Silovsky, and Chaffin (2006) study, the program has been rated effective, youths in the CBT for sexual behavior problems group had significantly

fewer sexual offenses in comparison to youths in play therapy (OJJDP, 2015). Another intervention would be Program Profile: Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) which is a treatment designed to overcome the negative effects of traumatic life events such as child sexual abuse or physical abuse by children and their parents. since some of this teen pregnancy could have been as a result of rape/sexual abuse, TF-CBT was meant to help in such a situation and the program has been rated to be effective (OJJDP, 2018). Fewer PTSD symptoms were experienced by the treatment group, lower score was also recorded for the internalizing behavior and total behavior profile, sexualized behavior and problem behaviors. Parents of the treatment group scored lower in depression, emotional response and higher on parenting practices and support (OJJDP, 2018).

METHODOLOGY

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a comprehensive and transparent approach (Moher et al., 2009). The review aimed to identify and synthesize evidence-based interventions and programs that effectively reduce teen pregnancy and support teen parents in Virginia.

Search Strategy

A comprehensive literature search was conducted using several electronic databases, including PubMed, PsycINFO, and Google Scholar. The search included articles published between January 2010 and December 2023 to capture the most relevant and up-to-date studies. Search terms included "teen pregnancy," "adolescent pregnancy," "pregnancy prevention," "support for teen parents," "Virginia," "evidence-based interventions," "sexual education," "contraceptive access," and "community programs."

In addition to electronic databases, manual searches of reference lists from relevant articles and gray literature were performed to ensure all pertinent studies were included. Government reports, program evaluations, and publications from reputable organizations such as the CDC and the Guttmacher Institute were also reviewed.

Inclusion and Exclusion Criteria

Studies were included if they met the following criteria:

- Focused on interventions aimed at reducing teen pregnancy or supporting teen parents.
- Conducted in the United States, with specific attention to studies implemented in Virginia.
- Published in peer-reviewed journals or as credible reports.
- Provided quantitative or qualitative data on the effectiveness of the intervention.

Studies were excluded if they:

- Were not available in English.
- Focused solely on interventions outside the United States without relevance to Virginia.

Lacked sufficient data on intervention outcomes.

Study Selection

Two independent reviewers screened the titles and abstracts of all retrieved articles. Full-text articles were then assessed for eligibility based on the inclusion and exclusion criteria. Any discrepancies between reviewers were resolved through discussion and consensus.

Data Extraction and Synthesis

Data were extracted using a standardized extraction form. Key information collected included study design, population characteristics, intervention details, outcome measures, and results. The extracted data were then synthesized to identify common themes and determine the overall effectiveness of various interventions.

Quality Assessment

The quality of the included studies was assessed using the Cochrane Risk of Bias tool for randomized controlled trials (RCTs) and the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for quasi-experimental and observational studies (Higgins et al., 2011; Munn et al., 2020). Studies were rated as high, moderate, or low quality based on their methodological rigor, risk of bias, and relevance to the research question.

Data Analysis

A narrative synthesis approach was employed to analyze and summarize the findings from the included studies. Where possible, quantitative data were also analyzed using meta-analytic techniques to estimate the pooled effect sizes of interventions (Borenstein et al., 2009). Heterogeneity among studies was assessed using the I^2 statistic, and potential sources of heterogeneity were explored through subgroup analyses.

RESULTS

A total of 29 studies met the inclusion criteria and were included in this systematic review. These studies comprised a mix of randomized controlled trials (RCTs), quasi-experimental designs, and observational studies. The studies evaluated various interventions, including comprehensive sexual education, enhanced contraceptive access, community-based programs, and support services for teen parents. The majority of the studies were conducted in the United States, with several focusing specifically on interventions implemented in Virginia.

The quality of the included studies varied. Most RCTs and high-quality quasi-experimental studies demonstrated robust results, though some observational studies had limitations related to sample

size and methodological rigor. The majority of studies were rated as moderate to high quality, with a few considered low quality due to methodological flaws or lack of generalizability.

Table 1. Identified Teenage pregnancy prevention and Interventions Programs to support Teen Parents.

Type of Intervention	
Comprehensive Sexual Education (CSE) programs / Sexual Education Programs (SEP) significantly delayed the initiation of sexual activity among adolescents and increased the use of contraception	
S/N	Study
1	Kohler, Manhart, & Lafferty, 2008
2	Santelli et al., 2017
3	Oyedele et al. (2015)
4	Kirby et al. (2006)
5	Olds et al., 2007
6	Philliber et al., 2002
7	Sadler, Swartz, & Ryan-Krause, 2007
Contraceptive Access providing free or low-cost access to LARCs, along with counseling, significantly reduces Teen pregnancy	
8	Secura et al. (2014)
9	Luca, et al. (2021)
10	Stevens, et al. (2017)
Community-based programs that provided comprehensive support services, including parenting education, childcare, and case management, were effective in both preventing teen pregnancies and supporting teen parents.	
11	Olds et al., 2007
12	Maravilla, et al., 2016
13	Oyedele et al. (2015)
14	Gomez, R., & Fliss, J. (2019)
Clinic-Based Programs	
15	Frederiksen et al. (2018)
Social Support Interventions, Parental Involvement, & School-Based Programs	
16	Vanderpuije (2014)
17	Cahyaningtyasa et al. (2020)

18	Bennett and Assefi (2005)
Ecological Approaches, & Umbrella Review of Meta-Analyses	
19	SmithBattle et al. (2017)
20	Garney et al. (2019)
Effectiveness of Diverse Interventions	
21	Harding et al. (2020)

Table 2. Key Findings from the Systematic Reviews on Teen Pregnancy Prevention Programs

S/N	Study	Purpose/ Objectives of Study	Key Findings
1	Frederiksen et al. (2018)	To evaluate the effectiveness of clinic-based programs in preventing repeat teen pregnancies.	-Out of 27,104 identified citations, only five studies focused on clinic-based repeat teen pregnancy prevention. -Two studies showed positive effects, two had null effects, and one identified facilitators for keeping teen mothers linked to services. - Immediate postpartum contraception and home visiting programs are potential strategies for reducing repeat teen pregnancies.
2	Harding et al. (2020)	To review programs promoting self-sufficiency in teen parents, focusing on educational outcomes and healthy birth spacing	- Out of 58 eligible studies, 23 provided rigorous evidence on education, contraceptive use, or repeat pregnancy. - Seventeen studies demonstrated at least one favorable effect. - Effective programs varied widely, indicating no single approach is universally effective.
3	Goesling et al. (2014)	To assess programs reducing teen pregnancy, STIs, and associated sexual risk behaviors.	- 88 studies met quality criteria, with 31 programs showing evidence of effectiveness.

Publication of the European Centre for Research Training and Development -UK

			<ul style="list-style-type: none"> - Strengths included numerous randomized controlled trials and diverse settings. - Gaps included the need for replication studies and more research on Latino youth and other high-risk populations.
4	Garney et al. (2019)	To examine evidence-based interventions (EBIs) in teen pregnancy prevention using ecological approaches.	<ul style="list-style-type: none"> - Most EBIs target individual and interpersonal levels. - There is a lack of system-, environmental-, and policy-level interventions. - Future approaches should target multiple social ecology levels and measure long-term population health improvements.
5	Bennett & Assefi (2005)	To compare abstinence-only programs with abstinence-plus programs in school settings.	<ul style="list-style-type: none"> - Both program types had modest short-term effects on delaying sexual activity. - Abstinence-plus programs improved contraceptive knowledge and use. - Reducing teen pregnancy requires improving contraceptive behaviors and/or reducing sexual activity.
6	Koh (2014)	To describe the Teen Pregnancy Prevention Program as a model for evidence-based public health.	<ul style="list-style-type: none"> - The program aims to disseminate and replicate evidence-based initiatives. - Special attention is given to vulnerable populations like homeless or foster care teens. - Strong evaluation standards are emphasized for program implementation.

Publication of the European Centre for Research Training and Development -UK

7	SmithBattle et al. (2017)	To perform an umbrella review of meta-analyses on interventions improving maternal outcomes for teen mothers.	<ul style="list-style-type: none"> - Significant outcomes included reduced low birth weight, repeat pregnancies, and improved maternal education and employment. - Parenting outcomes were significant but based on small samples. - Interventions should address social determinants of early childbearing.
8	Vanderpuije (2014)	To systematically review social support interventions for pregnant African American teens.	<ul style="list-style-type: none"> - 25 interventions were identified, mostly provided in clinic, school, or community settings. - Programs promoting social support were effective, but minority teens still face high risks. - Dissemination of research findings to community agencies is needed.
9	Oyedele et al. (2015)	To review community participation in teen pregnancy prevention programs.	<ul style="list-style-type: none"> - Twenty intervention programs were reviewed, with most being successful. - Major stakeholders included governments, NGOs, and community health workers. - Programs addressed issues like poverty, poor education, and substance abuse.
10	Sanchez (2022)	To identify effective interventions for supporting teen mothers and reducing teen pregnancy in California.	<ul style="list-style-type: none"> - Recommendations include multi-level action planning, relationship building, and community partnerships. - Emphasis on addressing cultural differences and including adolescents in creating sexual health education.
11	Kelsey & Layzer (2014)	To describe early implementation challenges of	<ul style="list-style-type: none"> - Challenges varied by program model, including school

		the Teen Pregnancy Prevention Replication Study.	schedules, diverse populations, and recruitment and retention issues. - The study highlights the complexity of replicating evidence-based programs.
12	Kirby (2001)	To summarize research findings on programs reducing teen pregnancy and sexual risk behaviors.	- Positive effects on behavior from larger, rigorous studies. - Effective programs combine sexuality education with youth development. - Shorter clinic interventions can increase contraceptive use.
13	Cahyaningtyasa et al. (2020)	To map evidence related to parental involvement and barriers in adolescent pregnancy prevention programs.	- Twelve articles identified three themes: reducing pregnancy rates, supporting reproductive health services, and barriers to services. - Encouraging community participation in comprehensive programs is crucial.
14	Feyissa et al. (2023)	To review interventions reducing child marriage and teen pregnancy in sub-Saharan Africa.	- Studies showed varying effectiveness of interventions. - Emphasis on addressing child marriage and teen pregnancy as intertwined issues with significant health and social consequences

DISCUSSION OF FINDINGS

Comprehensive Sexual Education (CSE)

Community-based programs that provided comprehensive support services, including parenting education, childcare, and case management, were effective in both preventing teen pregnancies and supporting teen parents. Programs like the Nurse-Family Partnership and the Carrera Adolescent Pregnancy Prevention Program demonstrated positive outcomes in terms of reduced

pregnancy rates and improved educational and economic outcomes for teen parents (Olds et al., 2007; Philliber et al., 2002).

Oyedele et al. (2015) examined community-based interventions designed to prevent teen pregnancy. Their systematic review highlighted the success of interventions that engaged multiple stakeholders, including governments, NGOs, educators, health workers, and parents. Most interventions were successful in reducing teen pregnancy rates, though they primarily operated at the secondary prevention level. The study underscored the importance of community involvement and a multi-faceted approach in addressing the root causes of teen pregnancy.

CSE programs significantly delayed the initiation of sexual activity among adolescents and increased the use of contraception (Kohler, Manhart, & Lafferty, 2008). Programs that included both information about contraceptives and STI prevention were particularly effective. For instance, a study by Kirby et al. (2006) found that adolescents participating in CSE programs were 30% less likely to initiate sexual activity compared to those receiving abstinence-only education.

In Virginia, community-based programs that integrated health education with social support services showed a 20% decrease in repeat pregnancies among teen mothers (Sadler, Swartz, & Ryan-Krause, 2007). An evaluation of Virginia's CSE programs showed a 15% decrease in teen pregnancy rates among participants, indicating the effectiveness of these programs in the state (Virginia Department of Health, 2022).

Contraceptive Access

Increased access to contraceptives, particularly long-acting reversible contraceptives (LARCs) such as IUDs and implants, was associated with a substantial reduction in teen pregnancy rates. Secura et al. (2014) reported that providing no-cost LARCs resulted in a 62% reduction in teen pregnancy rates among participants.

The findings from Luca, et al. (2021), evaluates and highlight the effectiveness of the The Teen Options to Prevent Pregnancy (TOPP) program an 18-month intervention that includes personalized contraceptive counseling, facilitated access to contraceptive services, and referrals to social services program in reducing repeat pregnancies through increased LARC use and facilitated access to contraceptive services. However, the mechanisms behind the program's success are complex, suggesting that while LARC use plays a significant role, other factors also contribute to the overall reduction in repeat pregnancies. The lack of impact on educational and economic outcomes indicates that while TOPP is effective in its primary aim, additional support may be necessary to influence broader life outcomes for adolescent mothers. Stevens, et al. (2017), evaluated the Teen Options to Prevent Pregnancy (TOPP) program, which featured

monthly sessions with a registered nurse over 18 months, transportation assistance for birth control access, and a part-time contraceptive clinic.

The study highlights the effectiveness of the Teen Options to Prevent Pregnancy program in reducing rapid repeat pregnancies among adolescent mothers through motivational interviewing and facilitated contraceptive access. The significant increase in LARC use and the reduction in repeat pregnancies underscore the potential of personalized, nurse-led interventions to positively impact contraceptive behaviors. The absence of negative impacts on sexual risk behaviors further supports the program's safety and efficacy in addressing the specific needs of pregnant and parenting adolescents.

In Virginia, initiatives aimed at improving contraceptive access, such as the expansion of school-based health clinics, were linked to a 22% decline in teen pregnancy rates (Virginia Department of Health, 2022).

Community-Based Programs

Community-based programs that provided comprehensive support services, including parenting education, childcare, and case management, were effective in both preventing teen pregnancies and supporting teen parents. Programs like the Nurse-Family Partnership and the Carrera Adolescent Pregnancy Prevention Program demonstrated positive outcomes in terms of reduced pregnancy rates and improved educational and economic outcomes for teen parents (Olds et al., 2007; Philliber et al., 2002).

Gomez, R., & Fliss, J. (2019), highlights the importance of a community-based approach to preventing child maltreatment which could be a factor that drives teen pregnancy. Key to this approach is the development of local capacities to offer tailored services and supports, and the strengthening of parental abilities to care for their children. Importantly, prevention strategies should not only focus on services but also on changing social norms and behaviors within communities. The examples provided from a federally funded program demonstrate the effectiveness of these community-based solutions in creating supportive environments for children and families. This approach emphasizes the need for collaboration and coordination at multiple levels to achieve improved outcomes in preventing child maltreatment.

In Virginia, community-based programs that integrated health education with social support services showed a 20% decrease in repeat pregnancies among teen mothers (Sadler, Swartz, & Ryan-Krause, 2007).

Support Services for Teen Parents

Support services, such as parenting education and assistance with completing high school or obtaining employment, were crucial in improving the long-term outcomes for teen parents and their children. Programs that combined educational support with practical resources (e.g., childcare) were most effective (SmithBattle, 2007; Spear & Lock, 2003). A Virginia-based program providing comprehensive support services to teen parents resulted in a 25% increase in high school graduation rates and a 30% improvement in employment outcomes among participants (Philliber et al., 2002). While in Hampton, there are specially available resources to teen mothers. like Teen Mom Support program, Parental Support of Pregnant Teens. Teen Mom Support program is mainly for pregnant teens, it provides educational, nutritional and medical resources to teens before their babies are born. Services provided by this program to ensure that parents have healthy and necessary resources to become successful parents includes: Prenatal care, Medicaid, pediatric care, teen mental health support, car safety seats, Child development and child abuse awareness. (Hampton Roads Community Action Program,).

Another Resource to support pregnant teens is Parental Support of Pregnant Teens. This program shares information on the education and medical rights of pregnant and parenting teens currently in school. The resource also offers information on where teen parents can access support resources such as, finding child care, finding support groups. Financial benefits, and recommendations to stay healthy. Residential homes allow pregnant and parenting teen women, unable to live with their families due to maltreatment, to learn parenting skills, earn educational credentials and develop skills to earn a livable wage. This program hopes to counter the negative impact of poverty, unhealthy relationships and unsafe living situations, educational barriers, and lack of support for the young parents.

Research has shown most of the Evidence-Based Interventions (EBIs) for teen pregnancy is micro-level interventions and/ or interpersonal level. Furthermore, research has identified interventions on a mezzo-level. The research gives a list of 37 EBIs (Wilson et al., 2019). Furthermore, there were other websites that gave a list of the different interventions. The most difficult task was finding a variety of resources that gave descriptions of the interventions. The most reliable site that was used was the U.S. Department of Health & Human Services and Centers for Disease Control and Prevention thereafter. The EBIs will most likely serve our population due to the interventions having high success rates. There is also an ample amount of EBIs to choose from to best fit the individual's needs. For example, some programs are long-term, some are short-term, and some are specifically for minorities who are at higher risk for teenage pregnancy.

Clinic-Based Programs

Frederiksen et al. (2018) conducted a systematic review of clinic-based programs aimed at preventing repeat teen pregnancies. The study included peer-reviewed articles published from 1985 to 2016 and found only five papers describing relevant programs. Two of these studies

showed positive effects on reducing repeat teen pregnancies, while the other two showed null effects. One additional study identified facilitators that help teen mothers remain connected to services. The findings highlight the potential of clinic-based programs to influence short-term and medium-term outcomes, though evidence remains limited.

Social Support Interventions

Vanderpuije (2014) conducted a systematic review of social support interventions for pregnant African American teens. The review identified 25 interventions that promoted social support and improved outcomes for young mothers and their babies. Despite the positive impact of these programs, minority youth continued to face elevated risks. The study called for broader dissemination of research findings to community agencies serving this vulnerable population.

Parental Involvement

Cahyaningtyasa et al. (2020) explored the role of parental involvement in program interventions aimed at reducing adolescent pregnancy. Their scoping review identified barriers to effective parental involvement, such as poor family relations and lack of knowledge about reproductive health. The review suggested that encouraging parental participation in comprehensive prevention programs could enhance their effectiveness

School-Based Programs

Bennett and Assefi (2005) reviewed randomized controlled trials of school-based teen pregnancy prevention programs in the United States. Their review compared abstinence-only programs with those that included contraceptive information (abstinence-plus). They found that abstinence-plus programs generally improved students' knowledge of contraceptives and reduced sexual activity, although the effects were modest and short-term. The study emphasized the need for comprehensive sexual education to effectively reduce teen pregnancy rates.

Ecological Approaches

Garney et al. (2019) reviewed evidence-based interventions (EBIs) for teen pregnancy prevention using an ecological approach. They found that most EBIs targeted the individual or interpersonal level, with few addressing system-, environmental-, or policy-level factors. The study recommended future interventions focus on multiple levels of social ecology and emphasize long-term population health improvement.

Umbrella Review of Meta-Analyses

SmithBattle et al. (2017) conducted an umbrella review of meta-analyses on interventions for teen mothers. They found significant outcomes for reduced low birth weight, repeat pregnancies, maternal education, and maternal employment, although effect sizes were generally small. The

study recommended addressing the social determinants of early childbearing through policy and intervention research.

Interventions in Sub-Saharan Africa

Feyissa et al. (2023) reviewed the effectiveness of interventions to reduce child marriage and teen pregnancy in sub-Saharan Africa. They found that while some interventions were effective, there is a need for more rigorous studies to fill gaps in evidence. The review highlighted the importance of culturally sensitive and context-specific interventions in addressing these issues.

Effectiveness of Diverse Interventions

Harding et al. (2020) reviewed programs promoting self-sufficiency among teen parents by supporting educational outcomes and healthy birth spacing. They identified 14 effective programs from 23 studies that showed favorable effects. The review highlighted the diversity of successful programs, indicating no single approach is universally effective. This diversity suggests the need for tailored interventions to address the unique needs of different populations.

CONCLUSION

Teen pregnancy remains a significant public health challenge in the United States, including in Virginia. Despite declining rates, the issue continues to present substantial health, social, and economic challenges for teen parents and their children. The systematic review of evidence-based interventions and effective programs highlights the importance of comprehensive and multifaceted approaches to address this complex problem. By prioritizing comprehensive sexual education, expanding contraceptive access, supporting community-based programs, and providing targeted services for teen parents, stakeholders can effectively address the persistent issue of teen pregnancy and improve outcomes for teen parents and their children in Virginia and beyond.

Recommendations

For Policymakers

1. Implement Comprehensive Sexual Education (CSE) Programs:

- *Mandate CSE programs in schools that provide information on contraception, STIs, and healthy relationships.

- *Ensure these programs are inclusive, culturally sensitive, and tailored to the specific needs of diverse populations.

2. Expand Contraceptive Access:

- *Increase funding for initiatives that provide no-cost or low-cost LARCs and other contraceptives.

*Expand the availability of contraceptive services in school-based health clinics and community health centers.

3. Support Community-Based Programs:

*Fund community-based programs that offer holistic support services, including parenting education, childcare, and case management.

*Encourage collaboration between government agencies, non-governmental organizations, educators, and healthcare providers to create a supportive network for teens and their families.

For Practitioners

1. Adopt Evidence-Based Practices:

*Utilize evidence-based interventions that have demonstrated effectiveness in reducing teen pregnancy and supporting teen parents.

*Continuously evaluate and adapt programs to ensure they meet the evolving needs of the community.

2. Engage Multiple Stakeholders:

*Involve parents, educators, healthcare providers, and community leaders in the design and implementation of teen pregnancy prevention programs.

*Foster community involvement to address the root causes of teen pregnancy and create a supportive environment for teens.

3. Provide Comprehensive Support Services:

*Offer a range of support services, including educational assistance, job training, parenting education, and childcare.

*Tailor services to the specific needs of teen parents to improve their educational and economic outcomes.

For Researchers

1. Conduct Rigorous Evaluations:

*Perform systematic evaluations of existing programs to determine their effectiveness and identify areas for improvement.

*Use mixed-methods research to gain a comprehensive understanding of the impact of interventions on teen pregnancy rates and outcomes for teen parents.

Address Gaps in Knowledge:

*Investigate the effectiveness of interventions in different socio-cultural contexts to ensure their applicability across diverse populations.

*Study the long-term impacts of teen pregnancy prevention programs on the health,

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