

Review

A systematic review of intervention programmes designed for the prevention of teenage pregnancy at the community, national or international levels

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The review was aimed at carrying out a systematic review of intervention programmes that have been designed and implemented for the prevention of teenage pregnancy at either community, national or international levels. The review procedure was guided by the protocol described by the Centre for Review Dissemination. It was initiated by conducting a literature search for relevant papers that focussed on teenage pregnancy prevention. After the elimination of random and unrelated results, selected abstracts were downloaded and initially screened for inclusion or exclusion criteria in the study. From the preliminary screening based on the abstract, a total of 35 papers were provisionally selected. After further screening, a total of 20 articles and reports that meet the inclusion criteria were selected and analysed further. For each of the qualifying studies, information that relates to the demographics of the teenage participants, description of the programme, and the level of success of the intervention were extracted. The major stakeholders of the 20 published national and international intervention programmes were governments, NGOs, academics/educators, community, health workers, youth workers and parents. In all the studies, the etiology for the intervention were poverty, poor sex and relationship education, poor sexual health services, substance abuse, crime, poor family relations, gender inequities and school dropout. With the exception of two of the reports, all the interventions were considered successful. All interventions revealed the prevention level to be secondary while 13 of the intervention programmes used the top-bottom approach. Due to the negative, long-term consequences of teenage pregnancy and childbirths, the prevention of unplanned teenage pregnancy and childbirths is a vital contribution to the overall aim of enhancing teenagers' reproductive health and fulfilment of potentials.

Keywords: Intervention programmes, prevention, teenage pregnancy, teenage childbearing.

INTRODUCTION

It is generally accepted that teenage pregnancy is a multi-faceted issue that has a broad range of effects. In recent years, much concern has been expressed towards the increase in the rate of pregnancy rate among teenagers. Globally, early pregnancy and childbirth is closely linked to a host of critical social issues, such as poverty and income disparity, overall child well-being, out-of-wedlock births, and education (Rosenthal *et al.*, 2009). Also, teenage childbearing is indicated to have serious consequences for teenage mothers, their children and the entire society. As an example, when compared to women

who delay child bearing until the age of 20-21 years of age, teenage mothers are reported to be much less likely to finish high school, to remain unmarried and to raise children without a partner. In addition, teenage fathers are also less likely to finish high schools, hence more likely to have lower earnings. Also, children born to teenage mothers are more likely to be low weight, grow up poor, live in single-parent household and at higher risks of becoming teenage mothers themselves (American College of Obstetricians and Gynecologists, 2007). In addition, research has shown that teenage

parenthood is a marker for social disadvantage (National Campaign, 2010).

Although teenage birth rates in the United States were shown to steadily reduce between 1991 and 2006, there have been increases in the number of teenage mothers of age 15 to 19 years (Goyder, Blank & Peters, 2003; Grant & Hallman, 2008). Available statistics reveal that three in 10 girls become pregnant by age 20 years, with over 750000 teen pregnancies annually (National campaign, 2010).

In South Africa, teenage pregnancy rate is still considered to be high, despite the notion that the campaigns against teenage pregnancy in South Africa are beginning to bear fruits, with the official statistics from the Department of Health revealing a drop by 13.2 % between 2009 and 2010, some organisations spearheading the campaigns against teenage pregnancy believe they are still very high (City Press, 2012). Teenage pregnancy in South Africa is still regarded as a massive problem, with 40 % of all pregnancies in the country coming from females that are younger than 19 years and close to 35 % of all girls giving birth before they are 19 years age. Similarly, figures that were released by the South Africa Gauteng provincial education in 2007 were said to be alarming, with pregnancy figures among school girls doubling from 1169 in 2005 to 2336 in 2006, despite the over a decade expenditure on sex education and AIDS awareness. This trend was suggested to be peculiar in all Provinces of the country (IRIN, 2012). Due to the negative and long-term consequences associated with teenage childbearing and pregnancy, the prevention of unplanned teenage pregnancy is very important. As the major reason for the high rate of teenage pregnancy and birth rates is associated with earlier sexual activity among teenagers, the earlier viewpoint was that success in the prevention of teenage pregnancy should be through the proposition of abstinence-only education or comprehensive sex education (Solomon-Fears, 2012:7). Dube (2011) also indicated that adequate prevention strategies to teenage pregnancy need to be multifaceted and multi-sectoral, including families, governments at all levels, businesses, communities and education interventions. He also suggested that teenage pregnancy prevention messages need to be contextualised for age and culture and should use all media and platforms, with apportioning judgment. The purpose of this systematic review is to review intervention programmes, which have been designed and implemented for the prevention of teenage pregnancy at the community, national and international level.

METHODS

The systematic review procedure was guided by the four-step protocol described by the Centre for Review Dissemination (Centre for Review Dissemination, 2009).

Finding relevant studies

The systematic review was initiated by conducting a literature search for relevant papers relating that focussed on teenage pregnancy prevention from March to December, 2012. Both quantitative and qualitative papers were included. The key words that were used for the literature search were teenage pregnancy intervention programmes, teenage pregnancy intervention strategy and teenage pregnancy prevention programmes. The original search yielded over 15000 hits on the Google Scholar search engine. Other databases that were searched include: PubMed, Cochrane Registry, MEDLINE, Biosis and EMBASE. The search in the different databases was limited to studies published in the English language.

Inclusion and exclusion criteria

Articles were selected for this review by using predefined selection criteria: (a) studies using English language; (b) published articles in peer-reviewed journals that reports on the implementation of teenage pregnancy prevention strategies; (c) research reports or official reports of government agencies or non-governmental organisations that reports teenage pregnancy intervention programmes that were implemented; (d) official or non-official documents that reports teenage pregnancy intervention programmes that were implemented in specific locations with specific goals and objectives; and lastly, reports that deals with teenage pregnancy intervention programmes which were either school or community-based, with specific outcomes, such as sexual and contraceptive behaviours, relationship education and pregnancy rates.

The following categories of publications were excluded from the review: (a) previous literature reviews, even if reference was made to teenage pregnancy prevention strategies and programs; (b) official and non-official reports that relates to teenage pregnancy prevention strategies without any evidence of implementation; and published articles in peer-reviewed journals on teenage pregnancy intervention without any evidence of implementation.

Data extraction, analysis and results

After the elimination of random and unrelated results, selected abstracts were downloaded and initially screened for inclusion or exclusion criteria in the study. From the preliminary screening based on the abstract, a total of 35 papers were provisionally selected. After further screening, a total of 20 articles and reports that met the inclusion criteria were selected and analysed further. According to the theoretical basis of the study, the "Community –as – Partner Model, the studies were sum-

Table 1: Centre for Review Dissemination Synthesis Protocol for a Systematic Review

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| Tabulation | This is a common approach used to represent data visually. The way in which data are tabulated may affect readers' impressions of the relationships between studies, emphasising the importance of a narrative interpretation to supplement the tabulated data |
| Textual descriptions of studies | A descriptive paragraph on each included study is made. These descriptions should be produced in a systematic way, including the same type of information for all studies and in the same order |
| Groupings and clusters | The included studies might be grouped at an early stage of the review, although it may be necessary to refine these initial groups as the synthesis develops. This can also be a useful way of aiding the process of description and analysis and looking for patterns within and across groups |
| Transforming data into a common measure | In both narrative and quantitative synthesis it is important to ensure that data are presented in a common measure to allow an accurate description of the range of effect |

marised to reveal the authors, goals and objectives, context, stakeholders, investigators, etiology relation, programme planning, intervention/ prevention level and evaluation (Table 1).

From the 20 articles and reports that met the inclusion criteria, 18 were published between the year 2000 and 2012 while two were published in 1999. Of these, 12 were implemented in the USA, four in the UK, two in Canada and one each from South Africa and Tanzania. The major stakeholders of the intervention programmes were governments, non-governmental organisations (NGOs), academics/educators, community, health workers, youth workers and parents. Despite the involvement of these stakeholders, government, NGOs and academics/educators were the most dominant, reflected in 14, 10 and 11 of the programmes, respectively.

In all the studies, the etiology for the intervention were poverty, poor sex and relationship education, poor sexual health services, substance abuse, crime, poor family relations, gender inequities and school dropout. Thirteen and seven of the reports attributed the etiology for intervention to poverty and poor sex and relationship education, respectively. With the exception of two of the reports, all the interventions were considered successful. The teenage pregnancy prevention programmes and strategies reviewed are displayed in Table 2.

Textual description of the studies

Shearer et al. (2005) reports the lessons from the Centre for Disease Control Community Coalition Partnership Programmes for the prevention of teenage pregnancy. The study summarised 13 communities' experiences with special focus on five categories of intervention: reproductive health services, reproductive health education, parent-child communication, male involvement and programmes for pregnant and parenting teenagers. The focus of intervention in each community was based

on the available hub agencies; such as communities with family planning services were more likely to address reproductive services and reproductive health education. Teenagers were infrequently viewed as primary decision-makers in the selection of the interventions. The study highlights that for an effective teenage pregnancy prevention programme, there is the need for proper insights into who makes the primary decisions about which interventions to implement and experiences related to interventions that will actually be implemented.

The Mississippi Department of Human Services (2012) teenage pregnancy prevention programme is aimed at promoting the use of multiple strategies, such as, abstinence and abstinence-plus sex education and youth development programmes, coalition building and media outreach, to prevent or reduce teenage pregnancy. The plan recognised the importance of youth involvement to the success of the programme while the expectation of the programme was to engage local communities' state wide. Evaluation of the plan is expected to be ongoing so that successful outcomes may be measured.

The economic evaluation of a pilot comprehensive teenage pregnancy prevention programme in New Britain USA was investigated by Rosenthal *et al.* (2009). The study was based on the premise that for any teenage pregnancy prevention programme to be effective, it must address the sexual education and life skills development and provide academic support for teenagers.

The Commonwealth of Kentucky United States (2011) described teenage pregnancy prevention strategy as one that reached far beyond the prevention of sexual risks behaviour among teenagers. In assessing the teenage pregnancy problem, public forums, sexuality education and teenage impact focus groups were held, with all in identifying teenage pregnancy as the number one adolescent health concern.

The overall goal of the strategic plan was to reduce teenage births in Kentucky by 20% by the year 2020, with a mission to empower youths in achieving optimal health and wellbeing. Although it is too early to evaluate the

Table 2. Teenage pregnancy prevention programmes and strategies.

| | Study | Goals and objectives | Location and etiology relation | Programme planning | Intervention and prevention level | Evaluation |
|---|--|---|--|--|--|---|
| 1 | Shearer <i>et al.</i> , 2005 | Evaluation of communities' experiences of teen pregnancy prevention interventions Partnership Programmes for the Prevention of Teen Pregnancy | Context: Florida, USA Stakeholders: educators, government officials, NGOs, community coalition chairpersons, project leaders Etiology relation: substance abuse, youth violence | Modification of teenagers' sexual behavior through the provision of reproductive health services Programme for pregnant and parenting teenagers Parent child communication programmes | Bottom to top Focus was on entire community Health promotion Teenage pregnancy is reflected in community needs Collaboration with community Secondary level of prevention | Intervention was successful |
| 2 | Mississippi Department of Human Services, 2012 | Propose legislation, ensure access to teen-friendly health care services and increase job opportunities for teens Funding assistance programmes Conducting statewide focus groups for teen parents to determine what interventions would be useful in preventing teen pregnancies | Context: Mississippi, USA Stakeholders: Mississippi Department of Health, community, faith-based and governmental agency leaders, service providers, community and private foundations Etiology relation: substance abuse, youth violence | Engage teen parents (including the family support unit) in making healthy choices for themselves and their children. Educate and promote social wellness among youth and families. Engage local communities state wide and provide culturally competent sex education. | Top to bottom Focus on teenagers Health promotion Teenage pregnancy not reflected in community needs Collaboration with community Secondary level of prevention | Intervention is still on-going but there is optimism of success |
| 3 | Rosenthal <i>et al.</i> , 2009 | Evaluation of a comprehensive neighborhood-based programme for the prevention of unplanned teenage pregnancies Promotion of positive development for teenagers Develop estimates of the cost-benefit of the programme | Context: New Britain City, USA Stakeholders: academics, researchers, Greater New Britain Pregnancy Prevention NGOs, community partners Etiology relation: poverty, substance abuse | 24 hour staff availability to teenagers Education about family life, sex and health to teenagers Academic support Career and vocational preparation Recreation, physical and mental health referrals | Bottom to top Focus was on entire community Health promotion Teenage pregnancy is reflected in community needs Collaboration with community Secondary level of prevention | Benefit of programme to society far exceeded cost to society, hence was considered successful |
| 4 | Common Wealth of Kentucky, 2011 | Conduction and implementation of age-appropriate sexuality education Education and engagement of parents and communities for positive youth development Access to reproductive healthcare, contraceptives and preventative services | Context: Kentucky, USA Stakeholders: Department of Public Health, Division of Women's Health, Maternal Child Health, Kentucky Department of Education, Coordinated School Health programme Etiology relation: substance abuse, poor access to health care, sexual risky behaviours | Provision of conferences to train educators and nurses and others Provision of parent and community education Advocacy for teenage pregnancy prevention efforts Appropriate personal responsibility curriculum to Grade 5-12 learners Focus group with teenagers Sexual education review with middle and high schools | Top to bottom Focus on entire population Health promotion Teenage pregnancy is reflected in community needs Collaboration with community Secondary level of prevention | There was optimism of success |

Table 2 continue

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|---|----------------------------|---|--|--|--|---|
| 5 | Mattson, 2012 | <p>Reduction of the rates of unwanted pregnancy among teens in Rhode Island</p> <p>Empowerment of pregnant and parenting teens</p> <p>Promotion of responsible adolescent reproductive health and abstinence</p> | <p>Context: Rhodes Island, USA</p> <p>Stakeholders: Rhodes Island Alliance</p> <p>Etiology relation: poverty, social disadvantage, racial and gender inequities, unmet mental health needs</p> | <p>Reframing teen pregnancy as a public health issue</p> <p>Giving youth access to confidential care and contraception</p> <p>Focusing on the provision of health and reproductive services to older youth</p> <p>Strengthening school-based health and family life education</p> <p>Increasing educational attainment for teen parents</p> | <p>Bottom to top</p> <p>Focus on entire population</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>Although programme is still in its early stage of implementation, there is optimism of success</p> |
| 6 | Healthy Teen Network, 2010 | <p>Mapping teen birth rates and resources by neighborhood</p> <p>Launching of teenage pregnancy reduction initiative in collaboration with other youth agencies</p> <p>Conduction of youth focus groups to include their insights</p> <p>Identification of evidence based programmes and approaches that fit the city's needs</p> | <p>Context: Baltimore, USA</p> <p>Stakeholders: Baltimore City Health Department, Healthy Teen Network, Johns Hopkins Urban Health Institute, Center for Adolescent Health, City-based youth agencies</p> <p>Etiology relation: school failures, early sexual debut, STIs, crime</p> | <p>Establishing city wide coalition to address teen pregnancy and sexually transmitted infections.</p> <p>Ensuring city public school system and the Health Department collaborate to increase access to evidence based sexuality education and contraceptive services</p> <p>Increasing youth outreach, especially among high risk sub populations of youth</p> | <p>Top to bottom</p> <p>Focus on entire population</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>There is optimism of success</p> |
| 7 | Brooks & Murphey, 1999 | <p>Increasing access to contraceptives</p> <p>Reduction of the rate of teenage pregnancy</p> | <p>Context: Vermont, USA</p> <p>Stakeholders: Vermont Agency and Human Services, researchers, academics</p> <p>Etiology relation: poverty</p> | <p>Increase access to contraceptives</p> <p>Parents involvement</p> <p>Provision of comprehensive sex education in the community</p> <p>Active youth participation in programme</p> | <p>Top to bottom</p> <p>Focus on entire population</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>Intervention programme was considered to be successful</p> |

Table 2 continue

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| 8 | Saunders, Landsman & Graf, 2008 | Community education on teenage pregnancy prevention Prevention of subsequent pregnancy in teenage parents Involving teenage fathers in the lives of their children Education of teenagers on healthy relationships | Context: Iowa, USA Stakeholders: researchers, academics, University of Iowa School of Social Work, Iowa Department of Human Services Etiology relation: Poverty, lack of sex education | Provision of support for teenage parents Involving teenage fathers in the lives of their children | Bottom to top Focus on entire teenage population Health promotion Teenage pregnancy is reflected in community needs Collaboration with community Secondary level of prevention | A significant reduction in the number of teenage pregnancy was observed, thus programme was deemed successful |
| 9 | Coakley <i>et al.</i> , 2008 | Supporting positive youth development Reduction of STIs Individualized case management programme Prevention of teenage pregnancy Increase abstinence and safer sex in teenagers | Context: Massachusetts, USA Stakeholders: academics, Massachusetts Department of Public Health, Coakley and co-investigators. Etiology relation: economic disadvantage | Classroom instruction Community service Support for pregnant or teenage parents | Top to bottom Focus on teenagers Health promotion Teenage pregnancy is reflected in community needs Collaboration with community Secondary level of prevention | Intervention programme was considered to be successful |
| 10 | Diaz <i>et al.</i> , 2007 | Compiling an inventory of teenage pregnancy prevention programme across the country Documentation of success and the challenges of the programmes Reviewing approaches and assess the programme that best fits | Context: 28 States in the USA Stakeholders: academics, researchers, Hispanas Organized for Political Equality, Robert Wood Johnson Foundation, programme managers Etiology relation: poverty | Making all programmes open to the public Abstinence and sex education Parent-teenagers programmes for pregnant and teenage parents Carrying out surveys | Top to bottom Focus on teenagers Health promotion Teenage pregnancy reflected in community needs Collaboration with the community Secondary level of prevention | There is optimism of success |
| 11 | United Way of Jackson County, 2008 | Implementing programmes that targets high risk youths Conducting parent and community education | Context: Michigan, USA Stakeholders: Jackson County Health Department, The United Way of Jackson County Teenage Pregnancy Advisory Committee, County Health Department Etiology relation: sexual assault, poverty | Discussion of potential approaches to combat teenage pregnancy Implementation of parents and community education programmes Focus group discussions | Bottom to top Focus is on teenagers Health promotion Teenage pregnancy reflected in community needs Collaboration with the community Secondary level of prevention | Programme was implemented but yet to be evaluated but there was high optimism of success |

Table 2 continue

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|----|-------------------------------------|---|---|--|---|---|
| 12 | Strategic Planning Work Group, 1999 | Raising awareness on the need to deal more effectively with teen pregnancies in the community Provision of broad perspective that helps coordination of efforts and cooperation among agencies Advancing specific recommendations Proposing institutional responsibilities for implementing, monitoring & implementation of the proposed tasks Stimulating discussions leading to new policies and programmes | Context: Charlottesville and Albemarle County, Virginia, USA Stakeholders: Taskforce on Teen Pregnancy Prevention, NGOs, youth-serving agencies and health-service organizations Etiology relation: poverty, STIs, single parenting teenagers | Focusing on each adolescent Improving communication about sexuality and reproductive health Increasing spending on prevention programmes Strengthening parents' communication ability Improve the implementation of family life education curricula in schools | Top to bottom Focus is on teenagers Health promotion Teenage pregnancy reflected in community needs Collaboration with the community Secondary level of prevention | Intervention programme was considered to be successful |
| 13 | Family Education Trust, 2002 | Improving access to contraception usage Reduction in incidence of teenage pregnancy Support for teenage mothers Provision of free, high quality child care and housing | Context: UK Stakeholders: government organisations, Department of Health, academics, educators, social exclusion units Etiology relation: poverty, poor sexual education, low contraceptive use | Use of more comprehensive sex and relationship education in and out of school Sex education to school pupils Improved access to contraceptives | Top to bottom Focus on teenagers Health promotion Teenage pregnancy is not reflected in community needs Collaboration with community Secondary level of prevention | Intervention was considered a failure even before it commenced |
| 14 | Centre for Social Action, 2007 | Improving access to confidential, anonymous sexual health services Increasing access to free contraception and sexual health services to teenagers Involvement of young people in the design and delivery of sexual health services and information | Context: Leicester, UK Stakeholders: Health practitioners, youth workers and peer evaluators, parents, Centre for Social Action Etiology relation: lack of sex education, inappropriate sexual health services | Distribution of posters and flyers Training of peer educators Interviews with parents, health practitioners Focus group sessions with teenagers | Top to bottom Focus was on teenagers Health promotion Teenage pregnancy is not reflected in community needs Collaboration with community Secondary level of prevention | Intervention strategy was considered successful. There was a significant drop in teenage pregnancy rate |

Table 2 Continue

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|----|------------------------------------|--|--|--|--|--|
| 15 | Goyder, Blank & Peters, 2003 | <p>Better sex education in school</p> <p>Parental involvement in teenage pregnancy prevention</p> <p>Effective advice on contraceptive use</p> <p>Access to training and education</p> <p>Support and housing for teenage parents</p> <p>Reduction of teenage pregnancy rate</p> | <p>Context: East Manchester and Derwent, UK</p> <p>Stakeholders: East Manchester teenage pregnancy group, NGOs, educators, New Deal Community, health practitioners, youth agencies</p> <p>Etiology relation: poverty, housing and crime problems, drug and alcohol use, lack of proper education, ingrained local culture</p> | <p>Prevention of the causes of teenage pregnancy</p> <p>Sex education and health advice</p> <p>Collaboration with other youth agencies</p> <p>Working with boys and young men on the get-your-kit-on project</p> <p>Provision of youth centre session</p> <p>Linking community workers with youth agencies</p> | <p>Top to bottom</p> <p>Focus on teenagers</p> <p>Health promotion</p> <p>Teenage pregnancy not reflected in community needs</p> <p>Collaboration with community</p> <p>Programme directed towards prevention</p> <p>Secondary level of prevention</p> | <p>Programme was considered successful. There was significant reduction in the number of teenage pregnancies</p> |
| 16 | UK Department of Health, 2010 | <p>Halving the rate of teenage pregnancy</p> <p>Fostering of open communication between parents with teenagers</p> <p>Provision of accessible young people-friendly services</p> | <p>Context: England, UK</p> <p>Stakeholders: Department of Health staff, youth services and sexual health clinics, youth workers, educators, parents and communities</p> <p>Etiology relation: lack of sexuality education, alcohol use</p> | <p>Information, advice which support young people</p> <p>Better access to contraceptives</p> <p>New sex education</p> <p>Lesson plans for schools</p> <p>Developing training standards in materials</p> <p>Focus group sessions with teenagers</p> | <p>Top to bottom</p> <p>Focus on teenagers</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>There is optimism for success</p> |
| 17 | Pauluik, Little & Sieswerd A, 2001 | <p>Determination of teenagers' perception of teenage pregnancy</p> <p>Exploration of teenagers' thoughts and causes of teenage pregnancy</p> <p>Exploration of teenagers' ideas on teenage pregnancy prevention approach</p> | <p>Context: Thunder Bay District, Canada</p> <p>Stakeholders: health practitioners, educators, community agencies on teenage pregnancy</p> <p>Etiology relation: substance abuse, unemployment, poor family relations</p> | <p>In depth examination of teenager's perspective of teenage pregnancy</p> <p>Focus group discussion with teenagers</p> <p>Increased contraceptive awareness</p> | <p>Bottom to top</p> <p>Focus on teenagers</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>Intervention programme was considered successful</p> |
| 18 | Best Start & SIECCA N, 2009 | <p>Addressing underlying factors for teenage pregnancy in community settings</p> <p>Discussing the effect of poverty and inequity on teenage pregnancy</p> | <p>Context: Ontario, Canada</p> <p>Stakeholders: Best Start Resource Centre, Sex Information and Educational Council of Canada</p> <p>Etiology relation: poverty, discrimination and social isolation</p> | <p>To involve families in teenage pregnancy prevention</p> <p>To provide academic skills and opportunities</p> <p>To offer monitoring programme</p> <p>To involve the community in expanding life options for youths</p> <p>Focus group discussions</p> | <p>Top to bottom</p> <p>Focus on teenagers</p> <p>Health promotion</p> <p>Teenage pregnancy is reflected in community needs</p> <p>Collaboration with community</p> <p>Secondary level of prevention</p> | <p>Intervention programme was proposed but yet to be evaluated</p> |

Table 2 continue

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|----|-------------------------------|---|---|--|--|--|
| 19 | Panday <i>et al.</i> , 2009 | Reducing teenage pregnancy rate Increasing the number of female learners Establishing the determinants of teenage pregnancy | Context: All provinces in South Africa Stakeholders: Department of Education, Human Science Research Council, communities, mass media, parents, health practitioners Etiology relation: poverty, school dropout | Developing a comprehensive strategy that addresses the pregnancy rate among learners Survey study | Top to bottom Focus is on teenagers Health promotion Teenage pregnancy is reflected in community needs Collaboration with the community Secondary level of prevention | There is optimism of success of the intervention programme |
| 20 | Madeni, Horiuchi & Lida, 2011 | Evaluation of reproductive health awareness among teenage boys and girls Improving teenage reproductive health knowledge | Context: Mtwara Region, Tanzania Stakeholders: academics, researchers Etiology relation: rape, poverty, early marriage | Early reproductive health education to teenagers | Top to bottom Focus is on teenagers Health promotion Teenage pregnancy reflected in community needs Collaboration with the community Secondary level of prevention | Intervention was deemed to be unsuccessful |

programme's success or failure, since the target year is 2020, the Kentucky teenage pregnancy prevention team is however optimistic of its success.

Another example of teenage pregnancy prevention plan is the one adopted by the Rhodes Island Alliance in the United States (Mattson, 2012). According to the report, for 2010-2015, the United States Centre for Disease Prevention and Control has identified teen pregnancy prevention as one of its top six priorities in public health and of paramount importance to health and quality of life for youth. The belief of the Alliance was to take a strength-based approach to preventing unwanted early pregnancies and to empowering communities and their youth in taking a leading role in this effort. The goal was to ensure that all Rhode Island youths complete their educational, vocational and relationship goals before becoming parents.

The Baltimore City Health Department (Healthy

Teen Network, 2010) developed a strategic plan to reduce teenage pregnancy. Although the city had a host of public and private agencies that dedicate some or all of their efforts to this issue, most often these agencies function in isolation, which results in little success in reducing teenage pregnancy rates. The strategic plan proposed a complex and comprehensive approach to reduce teen pregnancy. The plan recognised the need for the city public school system and the Health Department to collaborate to increase access to evidence-based sexuality education and confidential contraceptive services for all young people.

The teenage pregnancy prevention designed by the Vermont Agency of Human Services, Planning Division (Brook & Murphey, 1999), clearly indicates the need for the collaboration of all stakeholders: individuals, families, communities, formal and informal organisations/institutions in order to achieve success. They

were also of the view that no single programme is responsible for substantial reduction in teenage pregnancy and birth rates, rather a number of strategies working together and designed by community-state partnerships. An evaluation of one of the implemented strategies of the comprehensive programme revealed that one year after the programme, there was a 30% decrease in teenage pregnancy rate. The recorded success was reported to be based on the idea that a comprehensive pregnancy prevention approach should include five principles: parent and adult involvement, messages emphasizing abstinence and personal responsibility, clear strategies for the future, including job and higher education opportunities, community involvement and sustained commitment to each adolescent participant over a period of time. In the study by Saunders, Landsman and Graf (2008), a community-wide approach is advocated. It also documents the

activities of grantees in their bid to reduce first and subsequent pregnancies and to serve teenagers that have already become parents. The focus of the programmes are on educating young people, starting as early as third grade on health relationships, expected physical and emotional changes during puberty and the teen year and assertiveness skills. Also, another focus of the intervention was to delay second pregnancy in teenagers. An analysis of the programme revealed its success in the reduction in teenage pregnancy rates.

In the Commonwealth of Massachusetts, United States (Coakley *et al.*, 2008) despite reports indicating a teenage birth rate that was lower than the national average, funds were targeted to provide science-based teenage pregnancy prevention services to communities. The science-based programmes, which began in 2005 were aimed at promoting health decision-making, prevent teenage pregnancy and increase abstinence and safer-sex behaviour in youth. The report indicated that if science-based programmes are appropriately implemented to their core components, positive outcomes that are similar to those in literature can be realised. The report of the evaluation strongly supports the idea of provision of a balanced pregnancy prevention programme that does not increase the rate of sexual activity, but promotes abstinence and restraint among teenagers.

In 2006, following an increase in teenage pregnancy rate among the Latino population in the United States, the Hispanas Organized for Political Equality (HOPE) awarded a grant from the Robert Wood Foundation to complete a national scan of Latino teenage pregnancy prevention programmes. The goal of the task was to compile an inventory of pregnancy preventions across the country that targets the Latino community, proposing documenting methodologies, successes and challenges in outreaching the Latino community for end users of the National scan to review approaches and assess the programme that best fits. In addition, the study revealed that the National scan could be used by current providers as reference guide to provoke thought about alternative service delivery options and also for advocates for further issue development or coalition building (Diaz *et al.*, 2007).

In recognition of the seriousness and complexity of teenage pregnancy in Jackson County in the United States, the United Way of Jackson County in 2005 initiated a teenage pregnancy prevention initiative. The initiative commenced by compiling data from national sources of effective teenage pregnancy programmes by analysing research-based programmes. The reports indicates that based on the identified priority areas, the teenage pregnancy prevention initiative developed goals, with a commitment to working towards improving the lives in Jackson County (United Way of Jackson County, 2008).

In 1999, the Charlottesville and Albemarle County, Virginia in the United States developed a teenage pregnancy strategic plan. The plan acknowledged that the most successful prevention efforts in teenage pregnancy prevention should address a teenager as a whole person, including the social, emotional, intellectual, biological, and individual aspects. The plan also acknowledged the need to seek common ground on which to build effective teen pregnancy prevention efforts in the community (Strategic Planning Work Group, 1999).

In the intervention reported by the Family Education Trust in 2002, a Teenage Pregnancy Unit was set up by the England government. The Teenage Pregnancy Unit was requested to provide strategies to deal with the problem of social exclusion of teenage parents and teenage pregnancy for different areas, so as to meet the 50% reduction nationwide target in under-18 conceptions by 2010, with an interim target of 15% reduction by 2004. The study investigated the reasons for the failure of past government teenage pregnancy strategy programmes. Sex education and the provision of contraceptives were identified as only side-issues which can never come close to addressing the real problem. The study argued that an effective intervention to the problem of teenage pregnancy is to restore the taboos that used to surrounds sexual activity, particularly among young people (Family Education Trust, 2002).

An evaluation of the Leicester teenage pregnancy prevention strategy evaluation was carried out by the Centre for Social Action in 2007. The report observed that not every teenager remembered having sexual and relationship lessons, and of those who did, some found them interesting and informative while others felt they were boring and uninformative. The strength of the intervention strategy in Leicester was the involvement of young people, which was built on an existing ethos of commitment to youth participation in the city (Centre for Social Action, 2007).

As indicated by Goyder, Blank and Peters, (2003), the teenage pregnancy prevention strategy in New Deal Communities in the UK is coordinated by a city-wide teenage pregnancy coordinator but guided by a multi-agency partnership steering group that brings together health representatives. The steering group programme strategy has the objectives of providing better sex and relationship education in schools, parental involvement in prevention, effective advice and contraception for young people, support and housing for teenage parents and access to training and education.

The teenage pregnancy strategy beyond 2010, adopted by the England Department of Health was as a result of the success made with the 1999 strategy. The report revealed a steady progress with lowering under-18 conceptions. Available data revealed a fall in conception to be 13.3%, with births to under-18s down by almost 25%. The strategy acknowledged that teenage pregnancy

rates can only be reduced through a shared commitment between partners. It supports a broad consensus approach which supports more open and honest discussions between young people and their parents and the professionals who support them in and out of school (UK Department of Health, 2010).

In a report by Pauluik, Little and Sieswerda (2011), the preventive strategies for the decrease in the number of teenage pregnancies in the Thunder Bay District in Canada was described. The study looked at the preventive strategies from teenagers perspectives. The objectives of the study were to determine the perception of teenagers in the study area towards teenage pregnancy, to explore their thought on why teenage pregnancy occurs, to determine if the teenagers think that teenage pregnancy can be prevented and to elicit their ideas in teenage pregnancy prevention strategies. The study recommends the need to promote the development of new programmes that will promote healthy sexuality and involve youth in the development and implementation of teenage pregnancy prevention strategies.

The teenage pregnancy prevention report developed by the Best Start Resource Centre and the Sex Information and Education Council of Canada (SIECCAN) includes a review of historical perspectives on teenage pregnancy, explores assumptions that are made about teenage pregnancy, the links of poverty and inequity, theoretical approaches, and provides examples of out-of-school teenage pregnancy prevention initiatives. The report encouraged communities that already have school-based strategies in place to incorporate programmes that address broader determinants of health, for example poverty, which could enable youths to look to the future with sense of purpose and hope (Best Start & SIECCAN, 2009).

In South Africa, the need for the development of a teenage pregnancy intervention strategy arose because of the high rates of HIV infection among young people in the country, which makes sexual behaviour of teenagers of national interest. The strategy developed by the Department of Education, has its specific focus on school-going learners. To avoid overshadowing teenage pregnancy with focus on HIV, a separate teenage pregnancy prevention strategy is being recommended. In order to achieve a comprehensive and integrated approach towards teenagers' reproductive health, the strategy recognized the need for collaboration with other sectors, such as communities, health, parents and mass media (Panday *et al.*, 2009).

The study on the evaluation of the reproductive health awareness programme of teenagers in urban Tanzania identified the country as one where teenage pregnancy reported as one of the reasons for school dropout among girls. The study indicates that teenagers in the country were still having sexual experiences, including sexual violence. This phenomenon was prevalent among school-going teenagers before they had adequate knowledge

about reproductive health, thereby exposing them to great risk. The study advocates the need for the inclusion of males in pregnancy prevention programmes, so as to reduce the risk behaviours and promote sexual health (Madeni, Horiuchi & Lida, 2011).

DISCUSSION

The results of the systematic review showed that teenage pregnancy prevention programmes must view teenagers as an important factor in decision-making as well as in the selection of the interventions. Also an effective teenage pregnancy prevention programme must offer proper insights into who makes the primary decisions regarding the interventions to implement and experiences related to interventions that will actually be implemented based on the community needs and assessment. It is very vital to provide an avenue that will enable teenagers the opportunity to engage state leaders in the discussion of relevant issues that affects them so as to develop leadership skills and ensure that young people have a voice in the development of programmes that can affect their future.

Effective teenage pregnancy prevention programme as highlighted by the studies were described as one that reached far beyond the prevention of sexual risks behaviour among teenagers but address a comprehensive range of social and behavioural issues. It must also include conducting or implementing age-appropriate personal responsibility and sexuality education, educating and engaging parents and communities in initiating opportunities for positive youth development and involvement, implementing ongoing awareness of teenage pregnancy prevention, using multiple modes of communication, messages emphasizing abstinence and personal responsibility, clear strategies for the future, including job and higher education opportunities, continuous provision of reproductive healthcare services, community and youth empowerment, contraceptives and preventive services through the collaboration of public school system and the Health Department so as to increase access to evidence-based sexuality education and confidential contraceptive services to teenagers. Furthermore, teenage pregnancy prevention intervention strategy must stop reframing teenage pregnancy as a public health issue but embrace a social determinates of health approach to teen pregnancy prevention, focusing attention and resources on the provision of health and reproductive services to teenagers, intensive youth development approach for the high risk youths, strengthen school-based health and family life education, promote self-esteem and foster a sense of accomplishment among teenagers, increasing educational attainment for teen parents, increase the number of youth development strategies in programmes,

engage youth fathers in the lives of their children, support and empower young families, enhancing the training of teachers and encourage health care providers to ensure continuous education of teenagers and parents about reproductive health and prevention of teenage pregnancy.

Comprehensive teenage pregnancy prevention programmes must inspire community stakeholders and the media to provide clear, beneficial and continuous support of the prevention message. It must involve the collaboration of all community stakeholders such as individuals, families, communities, formal and informal organisations/ institutions in order to achieve success. No single programme can result in a significant reduction in teenage pregnancy and birth rates but rather a number of strategies designed together by the community stakeholders.

The Community-as-Partner Model (Anderson & McFarlane, 2008:207) was chosen to guide the study as the focus is health promotion of individuals and families within the context of the community. The Community-as-Partner Model (Anderson & McFarlane, 2008:211) provides a template for community assessment, planning, implementation and evaluation to enhance community health and the goal is to formulate a “community diagnosis” for “planning in partnership with the community”. The key to this model is the components of the community assessment wheel, which includes a process for learning about the community, by gathering information regarding the community, subsystems and perceptions. The nursing purpose of assessing a community is to identify factors (both negative and positive) that can infringe on the health of the people to develop strategies for health promotion. Then, the community health diagnosis assists in knowing the nursing goal, as well as the interventions. This goal is derived from the degree of reaction and may include the elimination or alleviation of the stressor before an intervention can be planned. The community health diagnosis includes the problem response and planning (goals and objectives), as well as the etiology, the people involved and their responsibilities. All nursing interventions are preventative in nature and there are three prevention levels identified in the Community-as-Partner Model, the primary, secondary and the tertiary intervention. A community health intervention also incorporates a programme focus, and the focus can be either teenagers or the entire community. Likewise, the intervention programme can reflect the community needs and it can be a primary, secondary or tertiary intervention. An intervention programme must bring about health promotion with community collaboration. Feedback from the community provides the basis for evaluation of the community health nurse’s interventions. It also entails the success or failure of the programme, just as the involvement of the community in all the steps of the nursing process ensures relevance to the community.

CONCLUSION

Parenthood is an important stage in the life of an individual but when it occur before a successful education, work and marriage that offers the skills as well as necessary resources and social stock that are require in order to make a successful parents then it becomes a serious occurrence (Panday *et al.*, 2009). Due to the negative long-term consequences of teenage pregnancy and childbirths, the prevention of unplanned teenage pregnancy and childbirths has become an important objective (Solomon-Fears, 2011). The prevention of unplanned teenage pregnancies should be a paramount objective of the government, health professionals, families and the community at large. In order to guarantee the optimum educational achievement of teenagers as unplanned teenage pregnancy often results in unfulfilled potential and continues the cycle of unemployment and poverty.

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