

Understanding the Psychological Impacts of Teenage Pregnancy through a Socio-ecological Framework and Life Course Approach

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Abstract

The relationship between mental health and teenage pregnancy is complex. Mental health can be both an antecedent and contributing factor to teenage pregnancy and a concurrent factor wherein pregnancy itself can contribute to depression. Expectant and parenting teens (EPT) are faced with the simultaneous challenges of pregnancy and parenting while navigating the developmental tasks of adolescence which increases their risk for mental health problems. In addition, adolescents growing up in stressful community or home situations where their parents experienced depression, further places them and their children at greater risk of repeated patterns over time. However, adverse mental health outcomes are not inevitable. The socio-ecological model combined with a life course perspective provides a framework for understanding the complexity of risk and protective factors at multiple levels that influence knowledge, attitudes, behaviors, and other health outcomes later in life and across generations. This approach has important implications for reducing adolescents' risk of an unintended/mistimed pregnancy and improving mental health and other outcomes for EPT. This paper describes the prevalence of mental health problems in EPT and using a socio-ecological framework and life course perspective explains variations in mental health outcome among EPT. Implications for interventions and innovative approaches are also discussed.

Keywords

- expectant and parenting teens
- mental health
- socio-ecological model
- life course
- resilience

The relationship between mental health issues and teenage pregnancy is complex. Mental health can be an antecedent and contributing factor to teenage pregnancy as well as a concurrent factor whereas the pregnancy itself can contribute to depression. Expectant and parenting teens (EPT) are faced with both the challenges of navigating through the developmental tasks of adolescence, as well as the demands of pregnancy and adjusting to the responsibilities of parent-

ing. Increasingly, social determinants of health, which are the conditions in which individuals live work and play, are being recognized as having a profound impact on overall adolescent health and specifically, their increased risk of pregnancy and associated mental health outcomes. Specific social determinants include: poverty, institutional/structural racism, race/ethnicity, geographic area, community violence, homelessness, living in foster care and experience with the

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juvenile justice system. A systematic review of studies analyzing the relationship between social determinants of health and teenage pregnancy documented seventeen studies that reported an empirical association between at least one social determinant of health and pregnancy among young people.¹

EPT are also more likely than their peers to have experienced adverse childhood experiences (ACEs) including disruptive home environments, such as a parent in prison, and physical and/or sexual abuse. Given these developmental and socio-economic stressors, it is not surprising that EPT are at a greater risk for depression than their nonpregnant/parenting peers and these symptoms can last long after giving birth. While limited, some research suggests that EPT have a higher risk of depression than their adult counterparts, with an estimated range between 16% and 44%.² This range is higher than rates among nonpregnant teens (5–20%) and pregnant adult women (6–17%).³ Assessing the true prevalence of depression among EPT is difficult as it is often under-reported and depends on the study, population sampled, and measures used. While EPT are at a greater risk of mental health problems, such adverse outcomes are not inevitable.

The Complex Interaction of Mental Health and Teenage Pregnancy and Parenting

The psychological impacts of teen pregnancy and the transition to motherhood reflects mixed findings. There is a complex interplay between mental health and teen pregnancy. Understanding the interplay of risk and protective factors using a socio-ecological framework and a life course approach recognizes the complex pathways of factors that contribute to and protect EPT from adverse psychological impacts. Over the past several decades, growing evidence has contributed to a more nuanced understanding of the complex factors that place adolescents at risk for teenage pregnancy with its associated outcomes. This includes a growing appreciation of protective factors that reduce risk and for those that become pregnant, factors that promote positive outcomes. In a systematic review,⁴ EPT expressed ambivalent feelings about their pregnancy. Some expressed both joy and worry about their pregnancy, the responsibilities associated with motherhood and the extent to which they are prepared for this new role. EPT have also reported feeling isolated and disconnected from their peers and experienced distress about their future educational and employment opportunities. The physical transition to motherhood can create psychological stress depending on the extent to which the pregnancy was planned or desired. Such feelings of regret have been linked with maternal depression among EPT.⁵ A prospective study found that depression prior to pregnancy predicted post-partum depression among adolescent mothers.⁶ They also found that poor social adjustment, maternal stress, less social support (including limited involvement of the baby's father), poorer attitudes toward pregnancy, and a less positive view of pregnancy were predictive of depressive symptoms. In contrast, some EPT report that being a mother

helped them to become more mature, with some showing improvements in their sense of self in becoming a "good" mother. They noted that having a baby had changed their lives for the better.⁴ A socio-ecological framework and life course perspective can help explain the pathways to these varied outcomes.

The Socio-ecological Model Applied to Expectant and Parenting Teens (EPT)

The socio-ecological model was originally conceptualized by Bronfenbrenner to better understand factors that shape human development.⁷ It has evolved to help inform our understanding of the influences on health outcomes and inform health promotion interventions by focusing attention on five major levels of influence⁸ (see ►Fig. 1, adapted from this prior work). The most outer or macro-level includes public policies, mass media and cultural factors that shape the extent to which there are racial, economic and health inequities. The next level includes community factors, such as neighborhood characteristics, community services, and relationships among organizations. Next are factors associated with institutions where the individual spends much of their lives (e.g., school characteristics, work settings, health care settings, etc.) Next is the interpersonal level which includes social networks/support systems including relationships with family, peers, friends, teachers, etc. At the most proximal level are individual characteristics (e.g., age, health status, gender identity, sexual orientation, knowledge, skills and attitudes). It is important to understand how each level independently influences health, but also how the levels bidirectionally influence one another including the reciprocal interactions between biology, psychology, and socio-economic factors. Many of the same factors that increase the odds of teen pregnancy are also associated with psychological adjustment to pregnancy and parenthood (e.g., social support of parents, peers, school, community support and socio-economic status), as well as overall mental health and well-being. Thus, we are using this model to inform our understanding of the factors that influence the mental health of EPT.

Macro-level

There are several macro-level factors that influence adolescent development, and in this case, teen pregnancy and psychological adjustment. As indicated above, these include economic, housing, education, infrastructure, and health policies, mass media, and culture. These policies are often related to racial, economic, and health inequities. While there are many examples of macro-level factors, just three examples - poverty, racism and health care policy - are discussed below.

Poverty/Socio-economic status: Extensive research has shown that poverty and socio-economic status has a profound effect on both risk of becoming an EPT and mental health outcomes. Socio-economic status, specifically, the level of poverty, which results in economic and resource insecurities, is also associated with increased stress, mental

Socio-ecological Model to Understand the Mental Health Impacts on EPT



Fig. 1 Socio-ecological model to understand the mental health impacts on EPT.

health issues, substance use and risk of poorer reproductive health outcomes.⁹ Poverty is inextricably linked to housing insecurity and homelessness which places adolescents at risk of both teen pregnancy and mental health issues.^{10,11} High unemployment and poor educational opportunities shape teenagers' sense of hope for the future which influences both sexual risk behaviors and mental health.¹² Poverty also creates cost-barriers to supervised out-of-school time and

fewer opportunities for structured recreational/after-school activities, creating greater opportunity for adolescents to engage in risky behaviors (i.e., sexual activity, substance use¹³), further contributing to social isolation and depression.¹⁴ Relatedly, there are several policy-level and contextual factors at the macro-level that shape the mental health of adolescents, risk of pregnancy and their subsequent adjustment to pregnancy and parenting. These are often

referred to as social determinants of health and have a profound effect on adolescent health.^{15,16} Adolescents who are homeless, living in foster care and incarcerated youth are at higher risk of teen pregnancy and mental health issues.

Race/Racism: Structural racism, discrimination, and conscious and unconscious biases have unjustly placed Black, Brown, and Native American youth at a disproportionate disadvantage compared with their peers.^{17–20} Structural racism has led to unfair housing practices, educational segregation, and economic and health disparities²¹ including varying rates of teenage pregnancy.²² Thus, while racism increases the risk of teen pregnancy, it also has been shown to place adolescents at higher risk of adverse mental health outcomes.²³ One study found that adolescents with depression onset at the same age as having initiated sex had a significantly higher risk of becoming pregnant compared with those without depression, with race (non-Hispanic Black) also being a significant factor in terms of risk for both.²⁴

Health Policy: The psychological adjustment to teen pregnancy has been associated with the extent to which the pregnancy is planned and wanted.²⁵ While at first glance, this may seem like an individual decision, universal access to comprehensive, confidential, evidence-based contraceptive information and services without financial barriers is critical to ensuring all women, including adolescents, have the ability to choose if or when they want to have a baby.^{26,27} Despite increased access to contraception, far too many women and especially adolescents, lack this basic human right.²⁸ For example in the U.S., 20 states have no sexual health education requirements, with the exception of HIV/AIDS education.²⁹ Additionally, contraceptive “deserts” are a result of public policies, such as the lack of sufficient Title X family planning funds and states’ policy decisions limiting access to Medicaid expansions as part of the Affordable Care Act, further hindering women’s abilities to plan their pregnancies.³⁰ There is also research showing the detrimental impacts of immigration policies on health care access, utilization and outcomes for a growing proportion of the US population.³¹

Community and Institutional Levels

Community levels of influence include neighborhoods, social/health services, transportation, social norms, etc. Examples include worksite health and safety protocols, or the availability of health education programs and services in schools. It also includes relationships among organizations, institutions, and informal networks that are shaped by resource allocation. Institutional level factors include organizational characteristics and formal (and informal) rules and regulations that can influence the level of collaboration and sharing of a common mission to improve the lives of adolescents, regardless of the roles each organization plays in the community. Policies at the macro-level, in turn, influence community and institutional factors which further exacerbate or ameliorate disparities in mental and sexual health care access and services, so this section focuses again on the impacts of poverty, racism and health care at the local level.

Adolescents who attend school in low-income communities have been shown to have lower levels of overall educational attainment and less sexual health knowledge than their more economically well-off peers.³² Relatedly, under-resourced schools and as a result, low educational attainment, are detrimental for adolescents’ sexual health knowledge and are associated with negative sexual health outcomes for youth.³³ On the other hand, school-connectedness (sense of being cared for, supported, and belonging) and opportunities for meaningful participation and contribution serve as protective factors for adolescents in reducing risky sexual behaviors and in promoting mental health over time.^{34,35}

In addition, national health care policies impact who has access to reproductive and mental health services at the local level. For example, while Title X is a federal policy that provides funding for a range of reproductive health services, including contraception, resources remain limited. Implementation varies by state which in turn, impacts communities and access to care. In a comparison of two states, 27.4% of North Carolina’s population had poor access to contraception which is substantially less than Texas, where over 50% report poor access and live in regions classified as a contraception “desert.”³⁶

Race intersects these issues with racism embedded in macro-level policies as mentioned previously, permeating through many communities and institutions, effecting quality of services available. For example, Blacks/African Americans have less access to contraception due to uneven distribution of resources, regardless of access to local pharmacies.³⁰

Interpersonal Level

As noted above, the interpersonal level includes factors in the immediate environment that directly impact the adolescent, including parents, siblings, teachers and school peers. Numerous studies have shown that strong, warm parent-child relationships that are low in conflict and where there is adequate supervision and monitoring promotes healthy adolescent development. It also protects youth from mental health and substance use disorders, as well as reducing risky sexual behavior, including unprotected intercourse and adolescent pregnancy.^{37,38} In contrast, families facing a variety of economic and inter-personal difficulties create more challenging environments which have been shown to have longer term diverse health outcomes. In a large study of 48,526 adults in the U.S., individuals with a childhood ACEs score of four or greater, had significantly higher odds for binge or heavy drinking, smoking, risky HIV behavior, diabetes, myocardial infarction, coronary heart disease, stroke, depression, disability due to health, and the need to use special equipment due to disability.³⁹

Relationships with sexual partners has also been shown to have both positive and adverse effects on pregnancy risk, as well as psychological adjustments to a pregnancy or parenting. For example, partnership dynamics, power imbalances, communication styles and intimate partner violence (that involves physical, emotional, and/or sexual abuse) all

influence sexual decision-making. Relationship factors have also been shown to increase the risk of contraceptive coercion, unintended pregnancy, sexually transmitted infections (STIs) and adverse mental health outcomes (e.g., anxiety, depression and post-traumatic stress disorder).^{40,41} The lived experiences of special populations of adolescents also need consideration. For instance, LGBTQ+/sexual minority youth are at increased risk for childhood maltreatment and bullying which are associated with both increased risk of risky sexual behavior and poor mental health.⁴² Interactions, preferably positive ones, between the adolescent's caregivers, peers, siblings and teachers also influence the psychological impact of teen pregnancy.

Individual Levels

There are several individual factors, including personal predispositions, such as intelligence, affectionate disposition, being easy to sooth, responsive to others, and a positive temperament, that have been shown to influence psychological adjustment in the face of adversity (such as becoming an EPT).^{43,44} Of course, these too, are shaped by the other levels of influence. One example of an individual biological factor is the association between early pubertal timing and earlier age of sexual debut among adolescents.⁴⁵ Conversely, later onset of menarche has been associated with not becoming a teen parent.⁴⁶ However, there is a bi-directional relationship between the environment and these biological/individual factors. Thus, while individual factors play an important role, protective factors across multiple levels of influence and across time are associated with and predict resilience.^{47–50} In turn, as EPT are supported, the families that they create through their own childbearing hold promise of assuring that future generations have improved trajectories.

The Complementary Nature of the Socio-ecological Model within a Life Course Perspective

In addition to the socio-economic model, a life course perspective⁵¹ provides a framework to understand how factors, particularly risk and protective factors in early life, contribute to shaping the knowledge, attitudes and behaviors that in turn influence outcomes later in life and from one generation to the next – including risk of teen pregnancy and adjustments to the role of an EPT.^{52,53} Adopting a life course perspective requires that the stability of the teenager's own mental health environment, for example, the teen's mother's level of depression, be considered as a risk factor for the teen, influencing parenting behaviors and the environment in which the teen is raised, as well as her own child (grand-child). These factors are exacerbated by poverty, structural racism and limited opportunities.⁵⁴ Each level of environmental influence does not function independently; rather, they are interconnected and assert influence upon one another throughout the life course. Early influences, whether they be positive or negative, can shape the life course trajectory of individual's developmental and health out-

comes. In addition, intergenerational exposure and social transmission of risk also influence outcomes over time. It also considers how and why good or poor health persists in certain groups and is “transmitted” across generations.⁵⁵ For example, ACEs (which are linked with social determinants of health) have been strongly associated with poor mental health including anxiety, depression, post-traumatic stress disorder [PTSD]. ACEs and the intergenerational impact on the teenager's household also increase the risk of early unprotected sexual behavior and mistimed pregnancy and associated mental health outcomes.^{56,57}

Implications for Addressing Social Determinants in Shaping Effective Interventions for EPT and Mental Health

The emotional and mental health support for EPT warrants special attention. While EPT experience stress and challenges in both navigating the developmental tasks of adolescents and the simultaneous adjustments to pregnancy and parenting, the psychological impacts can be exacerbated or ameliorated by an interaction of risk and protective factors at multiple levels of environmental influence. This has important implications for interventions which should be targeted at each of these various levels. It is imperative that social determinants of health be addressed through a life course lens⁵⁸ to promote equity and healthy adolescent development.¹⁵ For instance, given the association between lower educational achievement, high unemployment and poverty and higher teen pregnancy rates,⁵⁹ it is critical to develop and evaluate policies aimed at closing educational gaps (e.g., dropout rates). Furthermore, it is important to examine whether existing policies increase access to higher education as well as alternative vocational training for EPT that, in turn, can promote economic stability and equity.⁶⁰ There are many other “upstream” levels of policy influences that are needed, such as enhancing the capacity of systems to support the comprehensive health and mental health needs of EPT,⁶¹ as well as efforts to support the teen before she becomes an EPT. This is critical as the current systems of care does not have adequate capacity to meet the mental health needs of most adolescents,⁶² let alone EPT. Developing new models of care, for example, through the increased use and reimbursement of mental telehealth services, as well as increasing system capacity, including professional training, are needed to extend and leverage the types of youth-centered reproductive and mental health services that are made available, accessible, and culturally and developmentally appropriate for diverse adolescents.⁶³ It also needs to include integrating a multi/transdisciplinary approach in service delivery to increase the capacity and range of services that can be offered to teenagers across the lifespan, including earlier family-focused interventions. Stigma is a barrier to both adolescent reproductive and mental health care services which is shaped by institutional policies and practices, as well as cultural norms.⁶⁴ EPT experience stigma associated with being a young mother which further causes stress and poor mental health outcomes.^{60,65} Thus, efforts to reduce stigma are needed at all levels.

There are several innovative approaches both within the U.S.⁶⁶ and internationally¹⁶ that have been shown to be effective in supporting EPT. Many of these tackle upstream issues in addition to interventions directed at other levels in the socio-ecological model including community-wide, multicomponent approaches.⁶⁷ The Pregnancy Assistance Fund, through the federal Office of Population Affairs, is a prime example of public policy that funds several programs across 32 states including the District of Columbia and seven tribal organizations. These programs have been shown to improve several outcomes for EPT, including high school enrollment/graduation, plans to attend college and reduced rates/spacing of repeat pregnancies.

Effective clinical interventions that identify ACEs early and respond to trauma, for example, by providing trauma-informed care, can help address these adverse mental health antecedents, while also potentially changing the trajectories of poor outcomes.⁶⁸ In addition, interventions that support resilience (through parenting skills, caring relationships, opportunities to contribute, etc.) can moderate ACE experiences and help improve several health, social, educational and mental health outcomes.⁶⁹ Such approaches can take place across multiple levels of socio-ecological influence, recognizing the influences of biological and environmental factors at the individual level, while also attending to shaping policies at the macro-level that impact resources available. For example, adequate reimbursement for telehealth services at the systems level helps assure that the pool of resources available at the local community level responds to the nuanced needs of that community's young people.

There are also numerous interventions that intersect the community, institutional, interpersonal and individual levels which have been shown to improve the mental health and/or life course trajectory of EPT. Some of these approaches include evidence-based home visiting models⁷⁰ wherein case managers/home visitors are trained to recognize, screen and provide mental health support either directly or through referrals and linkages to community-based mental health services.^{71–73} Others focus on improving parenting and life skills that have the potential to improve mental health outcomes.^{74,75} Some school-based approaches^{76,77} and mentoring interventions^{78–80} have also improved several outcomes. More work is needed to ensure that a more comprehensive, holistic approach that integrates mental health is incorporated into intervention efforts. Confidentiality protections are especially critical to ensure that EPT access needed care.⁸¹ Further, COVID has placed many adolescents at greater risk for mental health issues,⁸² which has also highlighted the need to increase the capacity of mental health delivery systems to provide care via telehealth⁸³ and/or televisits in delivering case management and other types of supportive services.⁸⁴ There are also innovative approaches to leverage other types of technologies, beyond telehealth, to address the reproductive⁸⁵ and mental health⁸⁶ needs of adolescents, but there is a paucity of research in this area that pertains specifically to EPT.⁸⁷

Despite these efforts, there is a need for increasing the number and strength of community partnerships across the

public and private sectors. For instance, summer internship programs, such as for EPT, provide job training, offer linkages to health screenings and care, as well as parenting and life-skills training and support. While a few such programs exist, they are rare.⁶⁶ Nature-based therapeutic mentoring is an emerging area to promote mental health^{88–90}; however, research is needed on whether these types of programs positively impact EPT and their children. In addition, at the individual-level, there is a need to employ a positive youth development approach that engage youth as partners in the intervention process, including helping to design programs that build upon youth strengths and create supports and opportunities.^{91,92} Such efforts in schools, families, and communities help cultivate a wide array of protective factors that reduce risk and lead to healthy developmental outcomes for both the EPT and her child(ren).

Conclusion

The socio-ecological model in combination with a life course approach to mental health and EPT provides useful frameworks for reconsidering the types of upstream factors that shape the lives of adolescents and their families. Narrower views or slices of influential factors preclude the development of the type of multi-level and multi-pronged approaches that respond to social determinants of health and take into account a multi-generational life course perspective. Recognizing the influence of different environmental factors at the proximal and distal levels helps policy makers, communities, program managers, and others to recognize what may place an adolescent at greater risk of facing an unintended or mistimed pregnancy. In turn, supporting the EPT helps to maximize the likelihood that poor mental health and other adverse outcomes, as well as future cycles of poverty can be ameliorated. Across all levels of interventions, research and evaluation is essential to improve the evidence-base of not only what approaches are successful, but how they are successful and for whom. It is imperative that such evidence be used to inform future efforts. Furthermore, engaging youth across the spectrum, from non-pregnant through parenting adolescents, in shaping responsive, culturally respectful, and supportive programs across all the levels of influence in their lives will help assure that the next generation of programs are effective in achieving systemic change.

Conflict of Interest

None declared

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