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A Review of the Social Determinants of Health - Income Inequality and Education Inequality: Why Place Matters in U.S. Teenage Pregnancy Rates

Monica Taylor

Faculty-Healthcare Administration/ Business, Colorado State University-Global Campus, 7800 East Orchard Road, Suite 200, Greenwood Village, Colorado-80111, USA

Corresponding author:
Monica Taylor, PhD, MPH

monica.taylor-jones@csuglobal.edu

Faculty-Healthcare Administration/ Business, Colorado State University-Global Campus, 7800 East Orchard Road, Suite 200, Greenwood Village, Colorado-80111, USA.

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Abstract

The Social Determinants of Health (SDoH) frames health outcomes and health behaviors according to geography. In low income communities, safety is compromised, food deserts are prevalent and gaps in educational achievement persist among the most vulnerable members in society, including disenfranchised teenagers. The purpose of this study is to examine the links between critical social determinants and teen pregnancy. This paper considers the association between racial disparities and teenage pregnancy, albeit in the context of the SDoH as race alone does not afford incisive acumen on the dynamics within disenfranchised communities that perpetuate unhealthy behaviors. Additional considerations of the physical and social conditions in the built environment present a more progressive solution to eliminate teen pregnancy rates in the U.S. Policymakers can eliminate teenage pregnancy rates by channelling critical material resources to create sustainable, equitable and livable areas where low income teens can thrive.

Keywords: Teen pregnancy; Adolescent births; Income inequality; Social determinants of health; Educational attainment

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Background

Teenage pregnancy crisis in the USA and Worldwide

Adolescent pregnancy remains both an international and national concern. Worldwide, adolescents account for 16 out of 300 million births [1]. One million births occur in girls under the age of 15 [2]. Globally, pregnancy is the second leading cause of mortality among adolescents between the ages of 15 and 19 and annually, three million teenagers in this age group undergo unsafe abortions [2,3]. Low and middle income countries have the highest rates of adolescent pregnancies. In addition, 23% of adolescent births result in disease or disability. When comparing teenage pregnancy among nations, U.S. teens have higher pregnancy rates compared to other developed nations [4]. U.S. teens are more than twice as likely to give birth, compared to their Canadian counterparts and ten times more likely to experience unexpected pregnancies compared to teens in Switzerland and parallel to our Russian counterparts, the rate is at 25% [5].

The U.S. teen pregnancy rates are among the highest compared to other industrialized and developing nations and these rates have been on the decline considerably. Disparities in adolescent pregnancies were most prominent among racial and ethnic groups, with Hispanics and blacks almost doubling the teen pregnancy rates of whites in 2014 (Pew Research Center, 2017). However, the greatest decreases in adolescent births over the past few decades occurred among Hispanics (by 50%), followed by Asian/Pacific Islander (48%) and Blacks (44%). It is important to note that these failing teen pregnancy rates occurred as a result of less pregnancies and not increased abortions. In addition, studies show that U.S. teens demonstrated increased contraceptive use during sexual intercourse.

Teen birth rates in the U.S. demonstrated evidence of a decline from 1991 through 2015. According to the National Vital Statistics System (2016), teen birth rates dropped 8% among 15-19 years old from 2014 to 2015; Teenage births between the ages of 15-17 years and 18-19 years also dropped during the same year from 9.9% and 40.7% respectively. Among racial and ethnic groups

ages 15-19 in the same year, Hispanics, Blacks, Whites American Indian/Alaskan Natives and Asians all showed significant declines at 34.9%, 31.8%, 16%, 25.7%, and 6.9% respectively. Across the U.S., teen birth rates decreased in 43 states including D.C. However, geographic disparities in teen pregnancy vary according to regions. In 2014, Massachusetts had a 10.6 adolescent birth rate compared to 39.5 in Arkansas.

Overall, teen birth rates are the highest in southern and south-western regions in the U.S. compared to the north-eastern states [6]. For example, in 2012, New Hampshire had the lowest adolescent birth rate among teens between the ages of 15-19, at 13.8 per 1,000 compared to New Mexico's rate of 47.5 per 1,000. In 2012, the following states had adolescent birth rates lower than the U.S. rate: New York, Vermont, New Hampshire, Connecticut, Wisconsin, California, Oregon, Pennsylvania, Illinois, Florida and Minnesota. Consequently, states with birth rates higher than the U.S. average included New Mexico, Texas, Louisiana, Mississippi, Alabama, Oklahoma, Kentucky, and West Virginia. Counties in the South and South-western states had a cluster of higher birth rates. However, some of these counties are housed in states with overall low birth rates, but have concentrated poverty in rural counties.

Racial composition is inconsequential in rural counties. Rural areas have higher adolescent births compared to urban and suburban counties. In fact, adolescents in rural counties between the ages of 15-19 years old, had birth rates nearly one third greater than the U.S. average. While the nation experienced significant decreases in teen birth rates between 1990 to 2010, adolescents in rural counties showed the slowest decline compared to their urban and suburban counterparts at 32%, 49% and 40%, respectively [7].

The contextual factors that impact global teenage pregnancy rates mirror the issues at the national level. According to the World Health Organization [2,3], the teenage global dilemma occurred among uneducated girls who are likely to experience poverty and who live in rural areas. Similar to the U.S., vulnerable communities experienced higher pregnancy rates, and this includes children in poorer households and in families on welfare. This rate doubles among teens who reside in foster care.

Why Place Matters

Social determinants of health, adolescent pregnancy and disenfranchised communities

The social determinants of health (SDoH) describe those factors within the social, economic and built environment which allow members in society to achieve equitable opportunities for optimal health. These SDoH includes sufficient access to material resources including income, housing, health insurance, healthy foods and safe communities and education. In the absence of these resources, the opportunity for health and well-being is diminished. This includes optimal health relative to sexuality. While all determinants are relevant, scientist identified the longstanding impact of inadequate income on health outcomes in measurements of life expectancy and disparities in mortality and morbidity. In examining diverse ways to measure income, albeit socioeconomic status, neighbourhood level income inequality, underemployment, or low education levels, teen births demonstrated a strong association on all levels [8].

Engaging in sexual behaviour is inherently an individual's choice. Social factors impact adolescent choices at the personal, family and community level [9]. In addition, individual choices are framed in the context of the physical and social environment and choices vary according to the community in which one resides. Therefore, the absence or presence of the SDoH can shape teen development from childhood, to puberty and early adulthood [9]. More specifically, in the adolescent stage, new patterns in brain development result in new patterns in behavioural choices. Hence, the structural factors within the environment in the context of such choices become significant in adolescent development. Access to healthcare and health insurance coverage had positive impact teen pregnancy rates [10]. Since the 1990s, school based health care centers that offer primary care services reduced fertility rates in 15-18 year olds by 5%. The impact is greater among African American and Latino teenagers. Wealth, income inequality and access to education are also critical SDoH that augment adolescent growth and adolescent health. This does not neglect the role of family, school systems and peers. Therefore, the approach to eliminate disparities in teen pregnancy rates should be addressed by increasing the availability of key SDoH, particularly in disenfranchised communities.

A SDoH approach to teen pregnancy identifies underlying factors beyond the scope of individual behaviors and examines the role of the built environment [11]. For example, studies show that living in an urban, high risk community doubles the risk of adolescent pregnancy, particularly among teens diagnosed with a psychological disorder [12]. Adolescents with such disorders are likely to engage in early initiation of sexual intercourse, have multiple partners and unprotected sex. Living in high risk neighbourhoods impacts their choices to adopt negative or positive behaviour's. In urban teens, engaging in high risk behaviour's appears as a reasonable, yet normative choice to cope with environmental stressors. For example, social norms in these environments include repeat pregnancies, having adolescent peers with children, and partner violence.

Adolescent teens in remote, rural areas in the U.S. face additional challenges than their urban counterparts with respect to access to the SDoH (National Conferences of State Legislatures, 2015). Rural teens are less likely to report using contraceptives during sexual encounters compared to urban teens. With much higher fertility and birth rates, the consequences of cyclical poverty and poorer health are greater. They experience much lower educational attainment which decreases the likelihood of economic advancement. Consequently, rural communities lack adequate transportation, which impact access to healthcare facilities and causes pregnant adolescent teens to become more susceptible to a range of healthcare issues.

SDoH and adolescent pregnancy: The income inequality hypothesis

Teenage pregnancy rates are higher among children who reside in disadvantaged communities that experience persistent poverty and lack economic opportunities [5]. Given this, the income inequality hypothesis adds to the discourse and explains why teenage pregnancy rates are higher in certain areas in the U.S. compared to others. The income inequality hypothesis asserts that the gap in income between the rich and the poor influences health status. The greater the inequality between the rich and the poor, the more prominent the health differences are between economic groups. This perception on the links between income inequality and teen pregnancy does not focus on the influence of poverty on health status, per se and it does not exclude health differences between wealthier groups and the middle class strata. However, what is prominent in the income inequality hypothesis is that the richest 1% benefits the most, economically, while the remaining 99% experienced income gains along a gradient. People in the lower economic strata demonstrated modest increases in their income. Poorer people had persistent declines in income since the Bush Administration, throughout the economic recession and the period of economic recovery [13]. The middle class endured wage stagnation and declining job opportunities as corporatist shifted jobs offshore.

When income is unavailable to everyone in every geographical space on nearly equal terms, then there will be some members in a given society who will habitually not participate in mainstream institutions or activities [14]. This includes unequal access to job opportunities, educational options, adequate housing and political engagement. In the absence of higher education and available income, social isolation becomes the result of non-participation, which ultimately leads to a lack of social solidarity and inferior political representation. Social trust in the ability of governments to protect the welfare of the most vulnerable members of society becomes diminished, leading to further social exclusion and isolation. Social trust is a determinant for economic growth and development and refers to the extent in which members of society can collectively participate and engage in shared goals, i.e. political objectives [15]. In advanced economies, with higher income inequality levels such as the U.S. and Europe, an individual's sense of trust is inextricably linked to their belief system, in that they have an equal opportunity to climb the economic ladder including the overall perception that they reside in a fair society. In the U.S., marked differences in income over the past 40 years unfavourably affects social trust, and increases the social gap and the downward decline in social and economic development.

Given the association between income inequality and social cohesion, this paper now focuses on the impact income inequality has on family health outcomes. More specifically, this paper examines the psychological effect it has on families who reside in regions with high income inequality levels and high teen pregnancy rates. As teenage pregnancy rates declined considerably in the U.S., along the economic gradient, persons who experienced concentrated and cyclical poverty did not benefit substantively from this progress. For example, disadvantaged teens in the south-eastern part of the U.S. lag behind and were more likely to become pregnant compared to teens in families who did not live in poverty and had higher income [16].

To comprehend the psychological effect, teenagers in lower income groups are likely to engage in greater sexual risk behaviours and their perceptions and norms about having sex, unprotected sex and giving birth may not align with mainstream society, rather their existing environment [16]. According to Kearney and Levine [5], welfare reform, generous welfare benefits, restrictive abortion policies and abstinence education had little or no effect on teenage pregnancy rates in poverty stricken communities in the U.S. However, these authors found a correlation between adolescent births and income inequality. Teens in socially and economically deprived areas, do not perceive the likelihood of achieving economic opportunity or economic mobility and are likely to choose non-marital childbearing. This trend in adolescent births is more prevalent among children in poorer families in states with higher income inequality levels. In addition, these teens have fewer abortions compared to teens in states with lower income inequality. This suggests that states with higher income inequality may have higher concentrations of poverty to explain the geographic variations in teenage pregnancies. Feelings of hopelessness and social marginalization are more prominent in these areas and result in high risk behaviors that lead to greater teen pregnancy and birth rates.

This paper argues that income inequality impacts teenage pregnancy rates. Typically, this could be demonstrated by matching teenage pregnancy rates with states that have high and low income inequality. For example, New York has the highest income inequality levels relative to other states, but have among the lowest teenage pregnancy rates. Therefore, the income inequality thesis does not appear to demonstrate validity. However, teenagers that reside in families with a low socioeconomic status, in states with high income inequality are likely to make the decision to have birth. This decision-making represents a culture and cycle of poverty, hopelessness and despair [5,17]. Coburn [18] asserts that SES and income inequality are interrelated by understanding what ones' perception of place is along the economic ladder, the extent of welfare state policies that benefit the underserved and the inadequate availability of goods and services in neoliberal, capitalistic societies. Welfare state policies in high income inequality states endorse redistributive policies that result in a decline in economic freedom [19]. Consequently, persons in the lower economic strata experience a diminutive sense of well-being and social status relative to others they perceive to have material wealth [20]. The presence of high economic inequality then correlates with adverse psychosocial effects -- resulting in a range of social problems, including higher rates of adolescent births in the U.S.

SDoH and adolescent pregnancy: Education and income inequality

The literature undoubtedly shows that less educated teens are more likely to get pregnant. Thirty percent of pregnant teens

(and teen parents) eventually drop out of high school and less than two percent of teen parents graduate from college before the age of 30 [21,22]. The majority of teen parents experience poverty and receive public assistance before their child reaches three years old. Therefore, improving educational opportunities in children serves as the conduit to increasing adult human capital. Higher educational attainment results in advancements in economic opportunities and participation in societal matters. Investments in primary education increases social cohesion and social assimilation among diverse populations [23].

Diminutive or expanded education has two effects on income inequality levels: negative effect: as the growth in skilled, educated workers increase, income inequality also increases and; positive effect: as the supply in educated workers continues to rise, their demand becomes less, wages decrease and ultimately lowers income inequality between educated and less educated workers [24]. While a variation of factors contribute to the true effects of education on income inequality, what is of importance to this discourse, is the prioritization of public investments towards primary and secondary education. The degree of income inequality reflects which economic groups receive the greatest benefit from public spending. State governments committed to public spending on education, increases opportunities for poorer children to access education. Unfortunately, wealthy and middle class children have gained the most, over time, from public expenditures on education [25].

Given the links between teen pregnancy and education, an equitable investment in all communities towards primary and secondary education is a critical importance. The extant scientific literature demonstrates an association between communities and the quality of schools available in low, middle and higher income areas [26]. Educational opportunities in the U.S. are, unfortunately determined according to zip codes and shows unmistakable segregated school systems [27]. Segregation is prominent according to race and income, reflecting a large disparity in how school districts are funded relative to others and the cost of property values [28-32]. These school systems are often designated as low performing and credentialed teachers opt to not teach in such low paying districts, which further raises challenges on the quality of education students receive in these areas. The middle and affluent classes migrate to communities with greater educational resources resulting in more concentrated poverty among the poorer classes. Concentrated poverty is most pronounced in the African American and Latino communities [32-36]. These communities experience three different degrees of segregation which intensifies persistent poverty - that is, residential segregation, segregation within race and segregation from middle and higher incomes people in other racial and ethnic groups. As a result, teen pregnancies are higher, including exposure to drugs and violence [36-40].

Conclusion

Why there are variations in improvements in teen pregnancy rates in some areas in the U.S. relative to others requires an understanding of spatial distributions and income demographics. Given the evidence on the impact of social determinants, access to critical resources informs us that place matters. Place matters in teen pregnancy rates in two different ways:

1) Place on the economic scale - a person's perception of place on the socioeconomic scale becomes intrinsic and creates class tensions. Among the disenfranchised classes, economic mobility is hindered and appears unattainable. In the absence of government intervention to provide income supports to vulnerable households, feelings of hopelessness and despair are inevitable. Teens succumb to environmental influences, and take on the role of their peers, which is socially unacceptable to mainstream society. In the absence of programs and activities that alter their perception of life, engaging in high risk sexual behaviours appears normative.

2) Education opportunities - residential segregation plays a role in educational attainment. Schools systems in poorer communities are often underfunded and lack the quality of credentialed teachers available in more affluent areas. Educational resources are limited and adequately staffed. These educational attainment gaps affects student productivity and diminishes the potential availability to adult human capital resulting higher crime rates, fewer job seekers, and higher dropout rates, all of which are factors that impact teen pregnancy rates.

Given the aforementioned evidence on why place matters in U.S. teen pregnancy rates, it is of critical importance that state policymakers leverage funds towards investments in the SDoH, mainly in education and income supports to increase economic mobility among teens, especially in low income communities. State wide policy efforts should move towards greater investments, not budget cuts, in primary and secondary education to strengthen educational capacity. In addition, in economically segregated communities, increase equitable access to high quality education and leverage funding towards low income communities.

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