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Influence of Socio-Cultural Factors on Smoking while Pregnant

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Abstract

The inequalities in health and healthcare exist worldwide. The health of any individual is strongly affected by social factors at personal, family, community, and national levels. Smoking has been identified as the single biggest cause of inequality in morbidity and mortality between rich and poor people in many countries.

Smoking cessation has been a major public health focus in recent years. While smoking was formerly perceived as glamorous and popular, modern medicine has linked it to a variety of diseases and issues. Unfortunately, the habit is highly addictive and there are a lot of challenges.

This study is a descriptive assessment of the influence of socio-cultural factors on smoking during pregnancy, also, while focusing on the current surge of second-hand smoking and its health effects during pregnancy.

Keyword: Disparities, Healthcare, Pregnancy, Smoking, Socio-Cultural Factors.

1. Introduction

Currently about a billion adults use tobacco every day, and 15,000 die from tobacco-related diseases every day [1]. Cigarette smoking has been identified as the single most important source of preventable morbidity and premature mortality in each of the reports of the U.S. Surgeon General produced since 1964 [2]. According to Abdullah & Husten, [2], the rapid rise in smoking in many countries will have devastating consequences; by 2030 even the developing world is expected to have 7 million deaths annually from tobacco use. Many smokers express a desire to quit, but they often fail because they are addicted to nicotine in tobacco.

Maternal smoking during pregnancy poses a significant threat to the unborn child. As there is no safe lower limit of cigarette use during pregnancy, the World Health Organization (WHO) advises pregnant women to abstain from all cigarette use **[3].** Women are more likely to stop smoking during pregnancy than at other times, yet some continue smoking despite the extensive information available on the dangers that smoking poses to their fetus. This review focuses on these factors that act as enablers of the smoking habit, even during a critical period of survival for the mother and her unborn child.

Research provides evidence that social determinants are associated with tobacco use behavior. In general, social determinants associated with inequality such as education and wealth were correlated with increased tobacco use [4]. In this paper, we would review the influence of socio-cultural factors on smoking while pregnant, however, tobacco use itself causes social inequalities in our societies. In disadvantaged sections of society, expenditure on tobacco use often replaces expenditure on other essential items and services for the woman's family. In the long term, these families suffer serious morbidity and mortality due to tobacco use which accentuates determinants further. One of the two health parameters included in Millennium Development Goals (MDGs) strongly related to tobacco use is maternal and child health issues [5].

2. Methods

Academic literature for reviews and primary research articles published between 2000 to 2020 that examined the subject matter were searched. One article was published four years prior. Thus, this descriptive review of literature is based on empirical original papers derived from samples of pregnant women with smoking habits and or histories. Eligible studies were identified from searches of Web of Knowledge, MEDLINE, Science Direct, Google Scholar

3. Review - Discussions

It is clear from research that social norms discouraging smoking during pregnancy today may lead women to fail to disclose their true smoking status. More so, smoking is becoming increasingly common among young women in other countries and not only in the United States, such as in Eastern Europe and the Mediterranean area. In all, smoking will continue to be one of the most important preventable risk factors for poor pregnancy outcomes.

3.1 Smoking Behaviors, Concerns and Effects

Maternal smoking during pregnancy poses a significant threat to the unborn child. As there is no safe lower limit of cigarette use during pregnancy, the World Health Organization (WHO) advises pregnant women to abstain from all cigarette use **[3].** Women are more likely to stop smoking during pregnancy than at other times, yet some continue smoking despite the extensive information available on the dangers that smoking poses to their fetus.

3.1.1 Characteristics of Pregnant and Non-Pregnant Smokers

Some women continue smoking during pregnancy despite the extensive information available on the dangers smoking poses to their fetus. According to a study done by Smedberg, Lupattelli, Mårdby. et al., **[6]** in Europe, it was found that women who lived in Eastern Europe, without a spouse/partner, with a low education level and unplanned pregnancy, who did not take folic acid, and consumed alcohol during

pregnancy were the most likely to smoke before pregnancy. Smedberg, Lupattelli, Mårdby., et al.,[6] add that women who lived in Eastern or Western Europe, without a spouse/partner, with a low education level and health literacy, being a housewife, having previous children and unplanned pregnancy, and who did not take folic acid were the most likely to continue smoking during pregnancy. More so, women who smoked more than 10 cigarettes per day during pregnancy were the most likely to be living in Eastern Europe and to have a low education level. Hence, it can be summed that women with fewer resources are more likely not only to smoke before pregnancy but also to continue smoking during pregnancy. These high-risk women are characterized as living alone, having high school or less as highest education level, having low health literacy, being a housewife, having previous children, having unplanned pregnancy, and no use of folic acid. These researchers' findings indicated that focus on smoking cessation is important in antenatal care and prenatal care as many women smoke before pregnancy and continue to do so in pregnancy.

According to CDC report of 2007 **[7],** when compared with nonsmokers, women who smoked around the time of their pregnancy were more likely to be younger (<25 years old), be non-Hispanic white, have 12 or fewer years of education, be unmarried, have an annual income of less than $15,000, be underweight, have an unintended pregnancy, be first-time mothers, initiate prenatal care later, be Medicaid-enrolled, and receive assistance from the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) during pregnancy.

3.1.2 Associated Behaviors that Increase Smoking Risk

Inequalities in health and healthcare exist worldwide. The health of any individual is strongly affected by social factors at personal, family, community, and national levels. According to Kaufman, and Nichter, **[8]** during the last century, the tobacco industry has made various types of appeals to women, including touting cigarettes to curb hunger and achieve thinness, as "torches of freedom" representing emancipation from male

domination, and as vehicles for attracting women. Documents of the RJ Reynolds (RJR) and Philip Morris (PM) tobacco companies are a particularly rich source of industry information on target marketing to young adult women, because the company has spent the last few decades conducting research and devising strategies to compete and determine who sells very well among this population segment. It is noted that 56.6% of women smokers aged 18–25 years, and 55.6% of girls aged 12–17 years, reported that the brand they used most often in the past month was Marlboro **[9a].** So called "women's brands", such as Capri and Virginia Slims, however, account for only 5–10% of the cigarette market, with the vast majority female smokers choosing gender neutral brands such as Marlboro. Among young adult smokers, the "less educated, working-class smokers are becoming more important **[10].**

3.2. Socio-Cultural Factors Related to Smoking

During the past two decades, the public health community's attention has been drawn increasingly to the social determinants of health (SDH), the socio-cultural factors apart from medical care that can be influenced by social policies and shape health in powerful ways [11]. The World Health Organization's Commission on the Social Determinants of Health has defined SDH as "the conditions in which people are born, grow, live, work and age" and "the fundamental drivers of these conditions." Braveman and Gottlieb **[11]** state that the term "social determinants" often evokes factors such as health-related features of neighborhoods (e g., walkability, recreational areas, and accessibility of healthful foods), which can influence health-related behaviors.

Socioeconomic inequality and its impact on health is a global public health concern. Smoking has been identified as the single biggest cause of inequality in morbidity and mortality between rich and poor people in many countries **[4].** Studies have shown association of tobacco use with socio-cultural factors such as age, education, gender, occupation, ethnicity, and place of residence. Palipudi etal [4] state that monitoring of tobacco epidemic will be necessary to increase the effectiveness of existing

public health strategies and for development of tailored interventions, particularly targeting young people and women to stop using tobacco use and discourage initiation to reduce tobacco-related disparities.

Cigarette smoking follows a social class gradient in the USA and most developed countries. Beginning in youth, smoking initiation is positively correlated with being un-educated and from a poor household. Among adults, prevalence of cigarette smoking is associated with lower educational attainment, working class occupations, and lower income levels. Thus, cigarette smoking is clearly associated with social disadvantage as defined by educational attainment, income, and occupational class **[12].** An RJ Reynolds (RJR) 1985 report entitled "Less educated, Today's trend, Tomorrow's market???" discussed the growing number of young adult smokers without college degrees. Furthermore, the report cited evidence indicating that "since the onset of the anti-smoking campaigns, people with higher educational aspirations have been increasingly less likely to smoke", and that it would take about 20 years for this trend to have an impact on the market.

3.2.1 Factors that Support Smoking Among Women

The US Department of Health and Human Services (US DHHS) report of 2001 [9] states that among young adults, a focus on women is important, because the prevalence of smoking among women has been declining more slowly than among men, significantly narrowing the gender gap in recent decades. Considering the tobacco industry's efforts, alongside the persistent and growing disparities in cigarette smoking by social class, and the narrowing of differences in smoking by gender, it is concluded that additional tobacco control resources ought to be directed toward working class and non-working-class women. In worksite-based smoking cessation efforts, emphasis should be placed on reaching workers who are in lower status jobs and thus more likely to smoke, such as manufacturing, construction, and service workers. Others in the US have reported on interventions for low-income women through health clinics, and

Women, Infants, and Children (WIC) nutrition program, thus, gender sensitive approaches to tobacco control policy, some of which highlight the importance of social class. Like most behaviors, tobacco use or nonuse results from a complex mix of influences that range from factors that are directly tied to tobacco use (e.g., beliefs about the consequences of smoking) to those that appear to have little to do with tobacco use (e.g., parenting styles and school characteristics).

3.2.1.1 Societal Factors. These factors include family, peer, demographics/race, advertising, economic and availability; access to care/patient/provider relationships. Other social influences are the characteristics, beliefs, attitudes, and behaviors of the persons who make up the more intimate support system of these women, such as family and friends **[9b].**

3.2.1.2 Cultural Factors. The cultural influences include smoking among traditional populations and associated beliefs. Other cultural influences include the practices and norms of the broader social environment of adolescents, such as the community, neighborhood, and school **[9b].**

3.2.1.3 Personal Factors. Personal influences include individual biological characteristics, personality traits, affective states, and behavioral skills [9b].

3.3. Socio-Cultural Factors Related to Smoking that Influence Pregnant Women

Cigarette smoking is the health behavior that has the single largest impact on health inequalities. As today, one of the key indices of health in every country is pregnant women's mortality which directly or indirectly results from pregnancy and its complications. Pregnancy and delivery are not diseases; however, they have potential risks which can be reduced through interventions like health care **[3b].** Many studies have stated a correlation between dimensions of mothers' lifestyle (nutrition, smoking, and exercising) during pregnancy and unfavorable outcomes like premature delivery **[13,14,15].** In the initial discussions, lifestyle was primarily focused on nutrition, physical activity, smoking, and alcohol use. A revised definition of lifestyle must account the effect

of social conditions and processes such as social-economic status and social relations on the lifestyle besides factors affecting nutrition, physical activity, and alcohol use **[16].**

The widening socioeconomic gap in smoking during pregnancy remains a challenge in the delivery of antenatal care services. Women at risk include immigrants, lone or unmarried mothers, and young women, who remain as a major challenge to the tobacco interventions in the country **[17].** Both low socioeconomic and immigrant status are associated with the risks of less benefit to public health interventions, which in turn contribute to the widening health gap, and smoking has been identified as an important factor behind these inequalities. Most times smoking status at first antenatal care visit is categorized and assessed as follows: 1) non-smoker, 2) smoke one to nine cigarettes per day, and 3) smoke ten or more cigarettes per day. For example, a woman who smoked at least one cigarette per day at the time of her first antenatal visit was classified as a smoker [17].

Smoking and other behaviors detrimental to health must be seen within a social context. Individuals are not 'free choosing actors' and their behavior is determined, at least in part, by their social and environmental circumstances [18]. Smoking may act as the 'proximal' cause, directly harming the fetus, but is itself caused by factors in the social and environmental circumstances. The complexity of the relationship between social and environmental circumstances, health related behaviors, and adverse outcomes cannot be resolved by the search for single causative agents. Mothers know that smoking can harm themselves and their babies and the vast majority want to give up. Their choice is limited by their social circumstances, and failure to recognize this has ensured the failure of health promotion initiatives aimed at smoking reduction during pregnancy [18]. Smoking, particularly among women, has been increasingly associated with material deprivation, more so, smoking in pregnancy. Logan and Spencer add that women smoking during pregnancy tend to be the least educated, the least likely to own their own home, and the most likely to have lower incomes. The lower the income of the mother,

the more likely she is to smoke more and the less likely she is to give up during pregnancy. Adverse pregnancy and childhood outcomes are also strongly correlated with measures of poor social and environmental circumstances, and it is changes in social and environmental circumstances, rather than medical advances or changes in behavior, have been the main determinants of health improvements in developed countries in the last century **[18].**

4. Public Health Responses

Pregnant women should be a priority population for tobacco control efforts within the US, given how common smoke exposure is within this population. Pregnant smokers are as aware of the health risks as non-smokers. Effective intervention strategies need to focus not only on the pregnant woman's smoking status but also offer help to partners, close family members and friends. Interventions need to address the social and psychological factors that maintain maternal smoking. CDC strives to help women around the world to be tobacco-free before, during, and after pregnancy to improve reproductive and overall health outcomes through, evaluating and promoting evidence-based interventions for prevention and cessation of tobacco use among women, analyzing and disseminating population-based surveillance and survey data, conducting and synthesizing epidemiologic studies on health effects of combustible and smokeless tobacco on reproductive and infant health, and providing technical assistance to public health organizations [7]. To reap the greatest benefit, smoke-free policies that change social norms regarding tobacco use should be paired with cessation assistance and mental health promotion among this vulnerable population.

Multiple interventions to promote smoking cessation exist and include advice and counseling, self-help materials, nicotine replacement therapy (NRT), and pharmacotherapy e.g., antidepressants including bupropion (Zyban®), and pharmacologic cessation aids such as varenicline (Chantix®). Over time, tobacco use prevention interventions have evolved, increasing in reach and effectiveness as they

moved from initially focusing on the individual to an approach that targets both populations and communities. Effective interventions for preventing youth smoking include raising tobacco prices, clean indoor air laws, and intensive mass media campaigns **[19].** Factors that can also potentially predict successful smoking cessation include level of nicotine dependence, number and duration of prior quit attempts, concomitant substance or alcohol use, partner smoking status, and employment and timing of return to work [19].

Unfortunately, the economic reality of the tobacco business has hindered public health efforts to curb the use of tobacco products. While government regulation of tobacco products is a worthy goal, capitalism, and not government regulation, most likely holds the greatest potential to rapidly alter the worldwide epidemic of tobacco caused disease. It is up to the public health community to harness the powers of capitalism to speed the development of less dangerous alternatives to the conventional cigarette.

5. Conclusion

Smoking during pregnancy is harmful to both the fetus and the woman herself. However, despite educational efforts, a substantial proportion of pregnant women continue to smoke and many women who do stop smoking during pregnancy resume smoking following childbirth. To foster successful maternal smoking cessation, public health professionals need to focus on the major determinants of smoking and cessation during and after pregnancy, and then to address these with their intervention efforts **[20].**

The socio-cultural and behavioral factors that influence smoking while pregnant include maternal age, dose, and duration of smoking or smoking history, partner's smoking habit, socioeconomic status, level of education, age to start smoking, level of addiction, parity/pregnancy history, and passive smoking. However, many other psychosocial factors, which may affect smoking status among pregnant women, remain to be identified. Evidence reviewed here suggests that a more focused, integrated approach and a more comprehensive assessment of major determinants of smoking and

cessation during pregnancy will be required as part of any future intervention effort. As Logan and Spencer, [18] earlier stated, clearly both health related behaviors and adverse health outcomes are closely linked with social and environmental circumstances. Moreover, social, and environmental circumstances do not "cause" adverse health outcomes, they are simply markers for an increased risk of some constellation of causes.

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Ethics approval: Not applicable.

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Recommendation: Though smoking while pregnant presents a health risk for a large group of entirely helpless nonsmokers: unborn children, this study is an ongoing broad debate about the growing health concerns of socioeconomic inequality and its impact on health, more so, the addictive nature of cigarette smoking. This review strengthens the need to plan population health policies aimed to implement educational programs to hopefully minimize this public health concern. Recommendations should be made to affected communities to avoid sources and enablers of smoking while pregnant.

Lesson Learned: There is overall consistency in literature about cigarette smoking as it follows a social class gradient in the USA and most developed countries. Beginning in youth, smoking initiation is positively correlated with being from a low-income household and performing poorly in school. While maternal smoking during pregnancy plays a major role on adverse postnatal outcomes, it may also cumulate negatively with exposure to socio-cultural factors.

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