

*Review Article*

Maternal Exposure To Second Hand Smoke - A Prenatal Risk Factor For Low Birth Weight Babies In Kingdom Of Saudi Arabia

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ABSTRACT

There was strong evidence from studies conducted in developed countries that second-hand smoke (SHS) exposure is detrimental to the birth weight of newborn. Birth weight is the most important determinant for the survival, health, growth and development of an infant. Low birth weight (LBW) is associated with fetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and risk of chronic diseases in later life. Smoke is considered a toxic agent to the fetus during pregnancy and an established, important and independent risk factor for LBW. Although the level of tobacco smoke exposure is lower in SHS exposure than in active smoking, the potential for biologic action is expected to be similar. The risk estimates for SHS exposure and LBW have generally been small, which is consistent with the expectation that exposure to SHS produces a smaller effect than exposure to active smoking. More studies have shown that secondhand smoke exposure among nonsmoking pregnant women decreases birth weight by 33 g and increases the risk of low birth weight. There are very limited studies especially longitudinal studies done in Kingdom of Saudi Arabia to determine the association between prenatal exposure to second hand smoke and pregnancy outcomes. Many women are involuntarily exposed to SHS because the majority of smokers in Kingdom of Saudi Arabia are males and the subsequent health implications apply not only to fetuses but also to women themselves. Therefore this editorial has aimed at informing the researchers and the health authorities about the necessity for further research in this area and also to increase the awareness among the pregnant women about the second hand smoke and its health implications.

Key words: Second Hand Smoke, Low Birth Weight, Prenatal Exposure, Passive Smoking, Saudi Arabia.

INTRODUCTION

Second-hand smoke, also called passive, involuntary or environmental tobacco smoke, is the combination of smoke coming directly from a burning tobacco product and the smoke exhaled by a smoker.

[1] Globally, about 35% of female nonsmokers are involuntary smokers and are exposed to secondhand tobacco smoke. [2]

Secondhand smoke (SHS) has been identified as a human carcinogen by the International Agency for Research on Cancer. [3] The number of deaths due to exposure to SHS is estimated to be approximately 600,000 each year worldwide. [4]

Smoking during pregnancy causes severe metabolic, biochemical changes and

adaptive response in fetuses leading to increased incidence of maternal and fetal complications: preterm labor, premature rupture of membranes, extrauterine gravidity (GEU), placental complications, spontaneous abortions, intrauterine fetal death, sudden newborn death syndrome, low neonatal birth weight, low Apgar scores, intrauterine fetal growth retardation and long-term chronic complications. [5-10]

Secondhand smoke also involves exposure to the same range of tobacco smoke toxins experienced by active smokers, although at lower levels, it is likely that exposure to secondhand smoke also causes some or all of these complications but with lower levels of relative risk. Therefore, secondhand smoke exposure to the mother during pregnancy may also have important health effects on fetal health. After a systematic review and meta-analysis, Leonardi-Bee J et al reported that secondhand smoke exposure in nonsmoking pregnant women decreases birth weight by 33 g and increases the risk of low birth weight (<2500 g). [11]

There are very few studies that reports about second hand smoke exposure during pregnancy in the Arab World but even those studies have a limitation of either the small number of participants, [12] or the difference in culture and social norms between geographical areas which limit generalization of results. [13]

One study from Kingdom of Saudi Arabia showed that more than 30% of Saudi pregnant women were exposed to SHS, with evidence of adverse effects on the newborn's weight. [14] Similarly another study by Hayfaa A Wahabi et al in Kingdom of Saudi Arabia showed that Mothers exposed to second hand smoke constituted 31% of the cohort. The mean birth weight of infants of exposed mothers was significantly lower by 35gm. [15]

CONCLUSION

Since most of the available evidence on the risk from second hand smoke is from western countries. The second hand smoke exposure among prenatal mothers in Saudi Arabia is rapidly increasing and Low birth weight is also a major public health issue. Therefore there is need for further research focusing on maternal exposure to second hand smoke and the pregnancy outcomes. It is also important to invest efforts on educating women on the risks of second hand smoke to their unborn child.

Conflicts of interest

The author has no conflicts of interest related to the content in this editorial.

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