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A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING EFFECTS OF PASSIVE SMOKING ON PREGNANCY AMONG ANTENATAL MOTHERS VISITING ANTENATAL OPD IN SELECTED HOSPITALS, BANGALORE

Kavya H C

ABSTRACT

Pregnancy is a unique, exciting and often joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. The growing fetus depends entirely on its mother's healthy body for all needs. Consequently, pregnant women must take steps to remain as healthy and well-nourished as they possibly can. Pregnant women should take many health care and lifestyle considerations into account. Hence provision of information and adequate knowledge may help the mothers to adopt and maintain healthy practices and life styles which will help the mother to bring forth a healthy baby.

KEYWORDS :

INTRODUCTION

The life of a mother is the life of a child: The two blossoms of a single branch…. Where one affect another suffers…. --- Karen maczen miller.

Passive smoking is defined as the involuntary inhaling of smoke from other people's cigarettes, cigars, or pipes.

Second-hand smoke contains more than 4,000 chemical compounds, including at least 250 constituents that are toxic to the central nervous system, immune system, the heart and the liver and cause eye, skin and respiratory problems. Two of these constituents are carbon monoxide, which reduces the oxygen-carrying capacity of blood, and nitrogen oxides, which affect respiratory function. An analysis of experiments funded by a tobacco company during 2 the 1980s has shown that particulate matter in inhaled fresh side stream smoke is three to four times as toxic per gram compared with main stream cigarette smoke[1]

Tobacco smoke consists of more than 7,000 chemicals, including hundreds that are toxic (Center for Disease Control and Prevention, 2022a). In pregnancy, the substances, particularly carbon monoxide, tar, cadmium, and nicotine (McDonnell & Regan, 2019), formaldehyde, and nitrogen oxides (Bernardini et al., 2022) in tobacco smoke harm the fetus (McDonnell & Regan, 2019) [2]. Various adverse fetal outcomes include low birth weight (Bernardini et al., 2022), congenital anomalies (Zhao et al., 2020), mental and behavioral problems (Tongmuangtunyatep et al., 2019), cardiovascular diseases, cancer, respiratory tract diseases, and metabolic diseases (World Health Organization, 2023)[3].

Tobacco smoke exposure (TSE) is a worldwide health problem and it is considered a risk factor for pregnant women's and children's health, particularly for respiratory morbidity during the first year of life. Few significant birth cohort studies on the effect of prenatal TSE via passive and active maternal smoking on the development of severe bronchiolitis in early childhood have been carried out worldwide.

In 2004, 40% of children, 33% of male non-smokers and 35% of female non-smokers were exposed to second-hand smoke. Worldwide, more than 600 000 deaths per year are caused by second-hand smoke. The largest numbers of deaths, with 281,000 per year, occur in women. Worldwide, the rates of smoking among men and women show a considerable contrast, with women's rates projected to decrease to 6.6% by 2025, whereas men's smoking rates remain high at 34.3% (World Health Organization, 2023)[3]

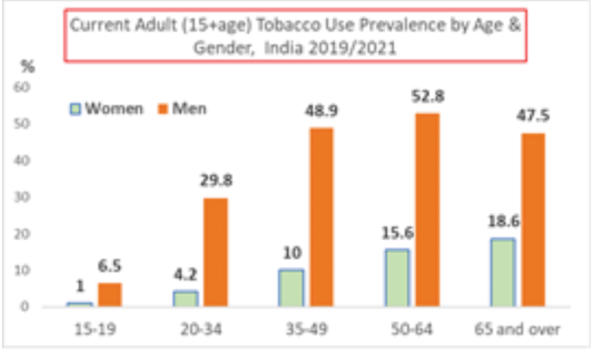
Need For The Study

Even if you don't smoke when you're pregnant, Just being around smokers, Can increase the risk of harming your future baby ---- George Howard Exposure to passive smoking and active smoking are responsible for numerous adverse pregnancy outcomes for women and their infants. High rates of second-hand smoke exposure were reported among both smoking and non-smoking women. Both smoking and non-smoking women who are exposed to second hand smoking had significantly higher levels of postnatal depressive and anxiety symptoms[4]

Passive maternal smoking in late pregnancy was associated with continuously measured birth weight. Active and passive smoking in late pregnancy are associated with adverse effects on weight and gestational age at birth. Smoking in early pregnancy only, seems not to affect foetal growth adversely. Health care strategies for pregnant women should be aimed at quitting smoking completely rather than reducing the number of cigarettes[5]

In India about 40% of Indian adults are exposed to second hand tobacco smoking at home. Among them 41% male and 39% female in India are exposed to second hand smoking at home, 32% of Indian male and 19% female are exposed to second hand smoke at work[6]

One in every three adults in Karnataka state is a tobacco user….. Global adult tobacco survey for Karnataka (2009-10) says that 28.2% of people aged above 15 in Karnataka are tobacco users, among them 39.8% male and 16.3% female are tobacco users. GATS results suggest that those exposed to passive smoking too is high in Karnataka, with 44.3% of adults at home and 372% in public places exposed to it. Over 92% of adults believe that smoking and consuming tobacco through non-smoking means causes serious health risks[7]



Results of the Global Adult Tobacco Survey in Kerala, India found that 42 % of adults were exposed to second hand smoke (SHS) inside the home. Formative research carried out in rural Kerala suggests that exposure may be much higher. Numerous studies have called for research and intervention on SHS exposure among women and children as an important component of maternal and child health activities.

The primary effects of maternal smoking on offspring lung

function and health are decreases in forced expiratory flows, decreased passive respiratory compliance, increased hospitalization for respiratory infections, and an increased prevalence of childhood wheeze and asthma. Nicotine appears to be the responsible component of tobacco smoke that affects lung development. Worldwide, more than 600 000 deaths per year are caused by second-hand smoke. The largest number of deaths, with 281,000 per year, occurs in women. 165,000 children younger than 5 years die from exposure to second-hand smoke, two-thirds of them in Africa and south Asia. Second-hand smoke was estimated to cause 603,000 deaths and 10.9 million DALYs in the year 2004, corresponding to 1.0% of deaths and 0.7% of DALYs. 379,000 of these deaths are from ischemic heart disease, 165,000 deaths from lower respiratory infections in children under 5 years, 36,800 from asthma and 21,400 from lung cancer[8]

Infants born to passive smokers weighed a mean of 55 g lighter than those born to non-passive smokers (2890 kg vs. 2945 kg). In fact, passive smoking explained 15.5% of the variation in birth weight. This study was the 1st ever reported on the effects of passive maternal smoking on birth weight from a population in which women rarely smoke. Based on these results, the researchers recommend that parents should avoid exposure to tobacco smoke during pregnancy[9]

A prospective study was conducted to investigate the effect of passive smoking on birth weight of infants. The study group comprised of 868 singleton live births occurring during January to December 2001 at Security Forces Hospital, Riyadh, and Kingdom of Saudi Arabia. Out of the 868 women, 440 were passive smokers and 428 not exposed to tobacco smoke constituted the control group. Passive smokers were relatively younger with low parity and income. Passive smoking was significantly associated with a decrease in birth weight after adjusting for other factors (P=0.015) and an increase in the incidence of small for gestation age infants .Passive maternal smoking was associated with a decrease in birth weight and an increase in small for gestation age infants[10]

Embryonic development is highly sensitive to xenobiotic toxicity and in utero exposure to environmental toxins affects physiological responses of the progeny. In the United States, the prevalence of allergic asthma (AA) is inexplicably rising and in utero exposure to cigarette smoke increases the risk of AA and Broncho pulmonary dysplasia (BPD) in children. There is a report that gestational exposure to side stream cigarette smoke (SS), or second-hand smoke, promoted nicotinic acetylcholine receptor-dependent exacerbation of AA and BPD[11]

Therefore, prevention of pregnant women from prenatal passive smoking, especially at home, is crucial for nurses and healthcare professionals.

Objectives of the Study

- To assess the existing knowledge of antenatal mothers regarding the effects of passive smoking on pregnancy.
- To evaluate the effectiveness of structured teaching programme by comparing pre-test and post-test knowledge scores.
- To find out the association between both pre-test knowledge of antenatal mothers regarding effects of passive smoking on pregnancy with selected socio-demographic variables.

Hypothesis

H1: There will be significant difference between the pre-test knowledge scores of antenatal mothers regarding effects of passive smoking on pregnancy.

H2: There will be significant association between the knowledge regarding effects of passive smoking on pregnancy among antenatal mothers and selected socio-demographic variables.

Conceptual Frame Work:

The investigator adopted Ludwig von Bertalanffy's General system theory. The GENERAL SYSTEM THEORY is concerned with changes due to interaction between the various factors (variables) in a situation. This theory provides a way to understand the many influence on the whole and the possible input of change of any part of whole.

Materials and Method of the Study:

Research Approach: Quantitative approach

Study Design: Pre experimental design: one group pre-test-post-test design

Sampling Technique: non – probability convenient sampling technique

Sample Size: 60 antenatal mothers of selected hospital at Bangalore

Tool: the instrument used for data collection was self-structured knowledge questionnaire

RESULTS

Section – I: Section -I comprised of demographic variables which are age, religion, type of family, educational status, occupational status, place of residence, place of exposure to smoking, member smoking in the family, any previous knowledge regarding passive smoking

Section II: The structured teaching programme on knowledge regarding effects of passive smoking on pregnancy among antenatal mothers consisted of 30 items. Each item has 3 options with one correct answer. The score for correct response to each item was "one" and incorrect response was "zero". Thus for 30 items maximum obtainable score was 30 and minimum was zero. To interpret the level of knowledge, the scores were distributed as follows

The study findings revealed that the knowledge of antenatal mothers was determined with the mean of 12.00 and with the standard deviation 2.10 before administering STP. The mean score percentage was computed and it was found to be 30.50% .After administering STP, the sample subjects had an increased knowledge on effects of passive smoking on pregnancy. The mean was 20.20 and with the standard deviation 2.75. The mean score percentage was computed and it was found to be 67 %.

CONCLUSION

Passive smoking or exposure to second-hand smoke (SHS) in homes, public places, including workplace, poses major medical problems. Owing to this fact there is a strong need to raise workers' awareness of smoking-related hazards through educational programs and to develop and implement legislation aimed at eliminating SHS exposure. It has been proved that exposure to tobacco smoke during pregnancy may lead to, e.g., preterm delivery and low birth weight, sudden infant death syndrome, lung function impairment, asthma and acute respiratory infections.

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