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Research Article

**EFFECT OF SMOKING ON PREGNANCY COURSE AND  
OUTCOME: A PROSPECTIVE COHORT**<sup>1</sup>Dr. Huma Majeed, <sup>2</sup>Muhammad Shahzad Munir, <sup>3</sup>Dr Muhammad Asim Akram<sup>1</sup>Fatima Jinnah Medical College for women, Lahore, Pakistan<sup>2</sup>Shahida Islam Teaching Hospital Bahawalpur<sup>3</sup>Demonstrator at Mohtarma Benazir Bhutto Shaheed Medical College Mirpur AJK**Abstract:**

**Objective:** To look for hazards of smoking during pregnancy on pregnancy outcome. **Methods:** It is a prospective cohort study, conducted at gynecology department, Nishtar hospital, Multan, Pakistan. Pregnant mothers were asked about smoking status, course of pregnancy, pregnancy outcome, age, parity, hypertension, age, mode of delivery, any complication during pregnancy. Similar variables were inquired about in non smokers. **Results:** Total 70 patients were studied and they were between 18 to 45 years of age. There were 45 smokers, 60% of total, 2 pack year. 12 with 4 pack years, 16.9%, 4(5.6%) with 6 pack years and 11(15.5%) with 10 pack years. 18 were primi-gravida and 52 were multi-gravida, 25.4% and 73.7% respectively. 8 were hypertensive (11.3%), 69 were anemic (97.2%), 31 had complicated pregnancy course 43.7% while 39 had normal pregnancy course (59.9%). The complications associated with 43.7% of study population were breech presentation in 4, pelvic pain in 9, abruption placenta in 2, placenta previa in 5, PV bleeding in 3, preterm labor in 9, while one patient with pre-eclampsia, transverse fetal position and low apgar score. 43 patients underwent cesarian delivery while remaining delivered through vagina. 15.5% fetus were aborted, one died while 58 remained alive. Among non-smoker population, 35(50%) were anemic, postpartum 24(34%), pre-eclamptic 7(10%), 16(22%) PIH, 24(34%) delivered through cesarian section, abortions in 2%. **Conclusion:** smoking increases risk of anemia and cesarian delivery and on neonatal outcome it has adverse effects like more abortion ratio, more neonatal deaths.

**Key Words:** smoking, mothers, neonate, pregnancy, health, hazards.**Corresponding author:****Dr. Huma Majeed,**

Fatima Jinnah Medical College for Women,

Lahore, Pakistan

QR code



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**INTRODUCTION:**

Smoking leads to several complications in neonates. The complications associated with nicotine smoking vary in time period, a few like low apgar score, prematurity, congenital lung diseases are short term complications which appear shortly after birth but long terms neonatal complications are also quite common[1].

The effects of smoking on pregnancy course have not been widely given consideration for study. This study aims to find effects of smoking both on pregnancy course as well as neonate. Early exposure of neonate to smoking results in increased neonatal mortality and morbidity.

The long term behavioral changes were studied in 2014 surgeon's general report in which behavioral changes in children born to smoker mothers were focused on [2].

**METHODS:**

It is a prospective cohort study, conducted at gynecology department, Nishtar hospital, Multan, Pakistan. Pregnant mothers were asked about smoking status, course of pregnancy, pregnancy outcome, age, parity, hypertension, age, mode of delivery, any complication during pregnancy. Similar variables were inquired about in non smokers. The attending physician was held responsible for taking detailed history from the patient after informed

written consent. Patients were regularly followed up and close monitoring of pregnancy course and fetus was done on each follow up visit. Frequency and percentages of all collected data variables was determined. SPSS was used for statistical analysis.

**RESULTS:**

Total 70 patients were studied and they were between 18 to 45 years of age. There were 45 smokers, 60% of total, 2 pack year. 12 with 4 pack years, 16.9%, 4(5.6%) with 6 pack years and 11(15.5%) with 10 pack years. 18 were primi-gravida and 52 were multi-gravida, 25.4% and 73.7% respectively. 8 were hypertensive (11.3%), 69 were anemic (97.2%), 31 had complicated pregnancy course 43.7% while 39 had normal pregnancy course (59.9%). The complications associated with 43.7% of study population were breech presentation in 4, pelvic pain in 9, abruption placenta in 2, placenta previa in 5, PV bleeding in 3, preterm labor in 9, while one patient with pre-eclampsia, transverse fetal position and low apgar score. 43 patients underwent cesarian delivery while remaining delivered through vagina. 15.5% fetus were aborted, one died while 58 remained alive. Among non-smoker population, 35(50%) were anemic, postpartum 24(34%), pre-eclamptic 7(10%), 16(22%) PIH, 24(34%) delivered through cesarian section, abortions in 2%.

Table 1: Effect of pack years on pregnancy outcome.

| Pack year | Abortions | Alive     | Neonatal deaths |
|-----------|-----------|-----------|-----------------|
| 1 to 2    | 4(5.7%)   | 39(55.7%) | 0               |
| 3 to 4    | 2(2.9%)   | 10(14.3%) | 0               |
| 5 to 6    | 1(1.4%)   | 3(4.3%)   | 0               |
| 9 to 10   | 4(5.7%)   | 6(8.6%)   | 1(1.4%)         |

Table 2: Unstable pregnancy percentages.

| Complications                               | Number(percentages) |
|---|---------------------|
| Breech lye                                  | 2(2.8%)             |
| Breech delivery                             | 1(1.4%)             |
| Preterm labor and breech                    | 1(1.4%)             |
| Transverse lye                              | 1(1.4%)             |
| Generalized weakness                        | 2(2.8%)             |
| Preterm labor                               | 2(2.8%)             |
| Chronic pelvic pain                         | 4(5.6%)             |
| Acute pelvic pain                           | 1(1.4%)             |
| Chronic pelvic pain and placental abruption | 1(1.4%)             |
| Placenta previa grade 3 and PV bleeding     | 1(1.4%)             |
| Placenta previa grade 2 with PV bleeding    | 1(1.4%)             |
| Placenta previa                             | 5(16%)              |
| Low apgar                                   | 1(1.4%)             |
| Pre eclampsia                               | 1(1.4%)             |

**DISCUSSION:**

In light of common smoking practice these days it is necessary to study the harmful effects of smoking on mothers and newborns so that by interactive awareness sessions the preventable cause of neonatal mortality and morbidity be reduced.

In a population based cohort study conducted in 2018 the intrauterine exposure to cigarette smoke and its effect on lung development and respiratory disorders were studied, the respiratory disorders were more commonly seen in patients born to smokers [3].

The asthma management protocols in pregnant were studied in order to test the safety window of recommended drugs and results were in favor of using similar protocols in pregnant and non-pregnant[4,5]. Effect of smoking on ADHD in children was studied by Marceau K, et al. [6]

Impact of maternal lifestyle and nutritional status on embryonic growth was studied by Van Dijk et al. the study concluded healthy lifestyle and good nutrition leaving a positive impact on neonatal health [7]. Maternal counseling and awareness among expecting and eligible couples is necessary to avoid injurious effects on neonatal and maternal health.

**CONCLUSION:**

Smoking increases risk of anemia and cesarian delivery and on neonatal outcome it has adverse effects like more abortion ratio, more neonatal deaths.

**REFERENCES:**

- 1- Khan LA, et al. Effect of smoking on mother and newborn baby's health. *International Journal of Advanced Biotechnology and Research* 2018; 9(3): 198-204.
- 2- Berlin I, et al. Maternal smoking during pregnancy and negative health outcomes in the offspring. *Nicotine and Tobacco Research* 2018; 20(6): 663-664.
- 3- Wainstock T, et al. 730: Prenatal maternal smoking and offspring respiratory morbidity: results of a population based cohort study. *American Journal of Obstetrics and Gynecology* 2018; 218(1): 438-439.
- 4- Galappathy P, et al. Obstetric outcomes and effects on babies born to women treated with epilepsy during pregnancy in a resource limited settings: a comparative cohort study. *BMC Pregnancy and Child Health* 2018; 18:230.
- 5- Marceau K, et al. Within family effects of smoking during pregnancy on ADHD: the importance of phenotype. *Journal of Abnormal Child Psychology* 2018; 46(4): 685-699.
- 6- Van Dijk MR, et al. Maternal lifestyle impairs embryonic growth: the Rotterdam periconception cohort. *Reproductive Sciences* 2017.
- 7- Conte T, et al. Asthma and pregnancy: a review of management strategies with an emphasis on medication safety and outcome. *Canadian Journal of Respiratory, Critical Care and Sleep Medicine* 2018.