



---

## LETTER TO EDITOR

### Paternal Smoking Associated with Increased Risk of Miscarriage

Syed Zawahir Hassa<sup>1</sup>, Chantal Saberian<sup>1</sup>, Sadaf Karrar Khan<sup>2</sup>, Osama Salam<sup>3</sup>

1. Internal Medicine Department, Dow University of Health Sciences, Karachi, Pakistan

2. Research fellow in Medicine Department, Maharashtra University of Health Science, Maharashtra, India

3. Internal Medicine Department, Dow University of Health Sciences, Karachi, Pakistan

\*Corresponding Author: Syed Zawahir Hassanchantal Saberian, Email: [DRZAWAHIR@GMAIL.COM](mailto:DRZAWAHIR@GMAIL.COM)

---

#### ARTICLE INFO

Received: 2018-11-07

Accepted: 2018-11-23

Published: 2019-02-30

Volume: 4

Issue: 1

---

Conflicts of interest: None

Funding: None

---

---

#### ABSTRACT

---

#### DEAR EDITOR

Several studies have established an association between maternal smoking and increased risk for adverse pregnancy outcomes such as increased incidences of miscarriage, placental complications, certain birth defects and preterm delivery. Although, considerable attention has been paid to maternal smoking as a risk factor for miscarriage, a little consideration towards the influence of paternal smoking and increased risk for adverse pregnancy outcomes is given nowadays.

Quite recently, a few publications have documented the role of paternal tobacco exposure effects on miscarriage risk. A prospective study, published in the American Journal of Epidemiology has reported an independent association between paternal smoking and early miscarriage.<sup>1</sup> Venners et al also observed an 80% increase in the risk of early miscarriage in women whose partners smoke heavily ( $\geq 20$

cigarettes/day) (1). This result was determined taking into consideration that tobacco constitutes may damage the chromosomes in sperm.<sup>1</sup> In contrast, other studies have speculated that paternal tobacco consumption is associated with the morphological changes of sperm, decreased sperm density, decreased sperm motility, and a reduction in semen volume, which could affect the male fertility (2).

Another Prospective cohort study reported by Meeker et al. also supports the hypothesis that if both the parents are used to smoking there may be an increased risk of spontaneous abortion parents. A possible explanation for this is that woman who smokes may be more likely to continue the habit of smoking during pregnancy if her partner also smokes which in this case would lead to an increase fetal exposure to tobacco smoke constitutes from both direct exposure from the mother and passive exposure from the father (3).

The presence of maternal and paternal smoking effect in pregnancy is significant and has serious health implications. It is important to optimize all factors associated with healthy pregnancy environment. Hence, there is a clear need for evidence-based health promotion activities to target interventions at decreasing the smoking habit among pregnant women and their partners to improve pregnancy outcomes. Moreover, further research should be conducted to ascertain that paternal smoking may be associated with increased risk of miscarriage that might encourage more men to quit smoking.

#### **ACKNOWLEDGMENTS**

NONE

#### **AUTHOR CONTRIBUTIONS**

All authors equally contributed in this study.

#### **CONFLICT OF INTEREST**

None

#### **REFERENCES**

1. Venners SA, Wang X, Chen C, Wang L, Chen D, Guang W, et al. Paternal smoking and pregnancy loss: a prospective study using a biomarker of pregnancy. *American Journal of Epidemiology*. 2004;159(10):993-1001.
2. Zinaman MJ, Brown CC, Selevan SG, Clegg ED. Semen quality and human fertility: a prospective study with healthy couples. *Journal of Andrology*. 2000;21(1):145-153.
3. Meeker J, Missmer S, Cramer D, Hauser R. Maternal exposure to second-hand tobacco smoke and pregnancy outcome among couples undergoing assisted reproduction. *Human Reproduction*. 2006;22(2):337-345.