

Systematic literature review on breastfeeding and postpartum smoking cessation

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ABSTRACT

Background: A large risk exists as women begin to relapse to smoking cigarettes postpartum. A risk factor that contributes to relapse is not breastfeeding or early termination of breastfeeding. However, there is no systematic review to summarize existing literature on the relationship between breastfeeding and postpartum smoking relapse.

Methods: We conducted a systematic review of existing literature to define the relationship between breastfeeding and postpartum smoking relapse. A comprehensive search was done through PubMed in order to review existing articles. Keywords that were used to search included: breastfe*, maternal, relapse, recurrence, smok*, nicotine, and cigarette.

Results: This preliminary review included the findings of 18 eligible out of 143 articles. There are a total of 10,175 participants from the United States, Canada, Italy, Spain, Europe and Poland. The existing literature fairly consistently showed that there was an inverse dose-response association between the duration of breastfeeding to the risk of postpartum smoking relapse. Longer breastfeeding was associated with lower risk of smoking relapse.

Conclusion: No breastfeeding or early termination of breastfeeding can increase the risk of postpartum smoking relapse. Effective breastfeeding intervention may help to reduce risk of postpartum smoking relapse.

BACKGROUND AND SIGNIFICANCE

Proper breastfeeding practices are effective ways for reducing childhood morbidity.

Postpartum smoking contributes to child health problems.

Mothers who breastfeed are less likely to smoke or relapse to smoking.

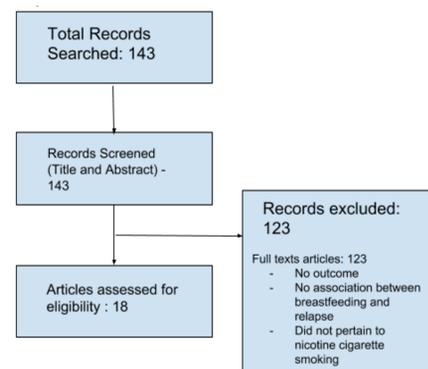


OBJECTIVES

- Specific Aim 1:** To quantify the association between breastfeeding and postpartum smoking relapse
- Specific Aim 2:** To adopt an intervention that can maintain abstinence for ex-smoking women postpartum.

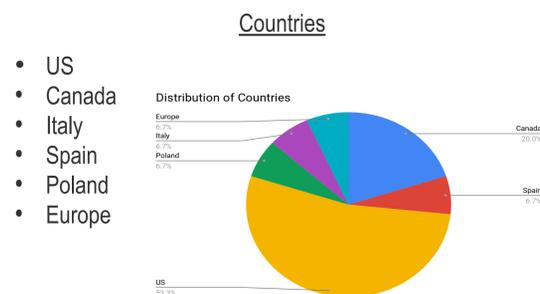
METHODS

- A comprehensive search is done through PubMed.
- Keywords used to search: breastfe*[title/abstract] OR feed[title/abstract] OR maternal[title/abstract] AND (smok*[title/abstract] OR nicotine OR cigarette) AND (relapse[title/abstract] OR recurrence[title/abstract])



RESULTS

- Sample**
 - There are 10,175 participants (mothers)



Different studies used different ways to measure breastfeeding, and smoking cessation and relapse. Some studies involved intervention, some evaluated factors that affected pregnant women during and after pregnancy, and others evaluated the smoking pattern of women before, during and after pregnancy to see how these factors affect the relationship between breastfeeding and smoking relapse. Refer to **Table 1**.

Table 1: Summary of 18 eligible studies on the association between breastfeeding and postpartum smoking relapse

| Study & Location | Study design | N | Main results | Magnitude of association |
|--------------------------|-------------------|-------|--|----------------------------------|
| Allen (2016), US | Cross-sectional | 46 | Withdrawal symptomatology was significantly influenced by breastfeeding and smoking relapse. | OR = 1.06, (95% CI = 0.62, 1.49) |
| Dilbert (2015), Canada | Cross-sectional | 1,586 | Having stopped breastfeeding was associated with higher risk of relapse. | OR= 1.22 (95% CI = 0.65–2.31) |
| Shisler (2015), US | Cohort | 258 | Breastfed >90 days smoked far less than breastfed for <90 days. | M=10.71, SD= 8.01 |
| Buczowski (2014), Poland | Qualitative study | 35 | Breastfeeding was a strong motivation for nonsmoking. | N/A |
| Simmons (2013), US | Cohort | 504 | Breastfeeding was associated with decreased risk of smoking relapse. | RR = 1.37, (95% CI = 1.09–1.70) |
| Nerin (2014), Spain | Cross-sectional | 2,044 | Breastfeeding had a protective effect on postpartum smoking | N/A |
| Lauria (2011), Italy | Cohort | 2546 | Women who were breastfeeding smoked less than non-breastfeeding women. | OR = 0.58, (95% CI = 0.42, 0.80) |
| Gyllstrom (2011), US | Cohort | 1416 | Women who breastfed were 60% less likely to resume smoking during the postpartum. | N/A |
| Kenzor (2010), US | Cohort | 251 | Breastfeeding protected against smoking relapse. | OR = 2.64 (95% CI = 1.14, 6.10) |
| D'hooghe (2010), Europe | Cohort | 170 | Women who breastfed had a lower relapse rate during the entire study period. | OR = 2.64 (95% CI = 1.14, 6.10) |
| Distantis (2011), US | Cohort | 31 | Duration of breastfeeding and days to smoking relapse were positively related. | N/A |
| Kaneko (2008), US | Cross-sectional | 908 | Breastfeeding inhibited smoking relapse. | r = 0.92 |
| Levine (2006), US | Cohort | 119 | Breastfeeding was related to decreased likelihood of smoking relapse. | OR= 2.70 |
| Ratner (1999), Canada | Cohort | 241 | Those who relapsed were more than twice as likely to wean early. | N/A |
| Edwards (2002), Canada | Cohort | 20 | Breastfeeding provided a reason for continued smoking cessation. | N/A |

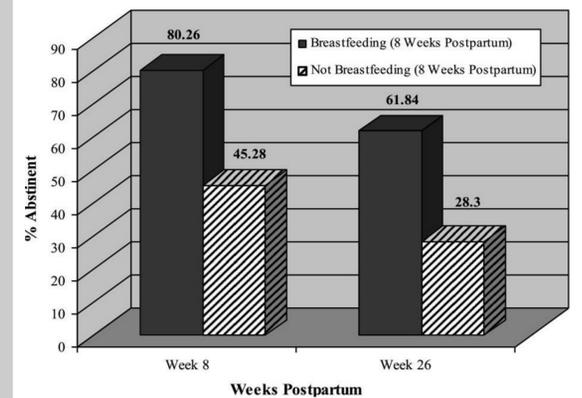


Figure 1. Exemplary data on the association between longer breastfeeding duration and higher smoking abstinence (Kenzor et al. 2010)

CONCLUSION

- Breastfeeding was a strong determinant for prolonged smoking abstinence.
- Extended duration of breastfeeding can decrease the risk of smoking relapse.
- Breastfeeding promotion may be an effective intervention when encouraging women who quit smoking during pregnancy to maintain smoking abstinence.
- Intervention to promote breastfeeding for at least 3 months can greatly decrease the risk of smoking relapse.

REFERENCES

- Kenzor, DE et al. Breast Feeding Is Associated with Postpartum Smoking Abstinence among Women Who Quit Smoking due to Pregnancy. *Nicotine & Tobacco Research* 2010, 12 (10): 983–988.

ACKNOWLEDGEMENTS

- Sponsors:** NIH CTSA Pilot Fund; UB Dept of Pediatrics; CURCA
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