

EFFECTIVENESS OF INTERVENTIONS TO PROMOTE CESSATION OF SMOKELESS TOBACCO CONSUMPTION IN PREGNANCY AND TO IDENTIFY THE OUTCOME OF LABOUR AMONG ANTENATAL MOTHERS

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ABSTRACT

Aim of the study: To determine the effectiveness of interventions to promote cessation of smokeless tobacco consumption in pregnancy and to identify the outcome of labour.

Background: Smokeless tobacco generates health disparities among different socioeconomic groups and between genders but besides risk of health hazards as in men, women face health consequences that are unique to them, including those related to pregnancy. Tobacco consumption problems are mainly associated with lifestyle and socio-economic conditions of people. Cessation is difficult, as it is for smoking tobacco.

Design: One group pre test post test design.

Methods: Non probability convenience sampling technique was used. A total of 30 samples were selected for the study. Data was collected using structured interview questionnaire and Modified Fagerstrom questionnaire was used to assess the level of dependence on smokeless tobacco among antenatal mothers. The outcome of labour was assessed using a checklist during the time of delivery. Descriptive and inferential statistics were used for data analysis

Result: The findings of the study revealed that in the pretest, the mean score of dependence was 10.07 ± 4.35 and the post test mean score of dependence was 6.07 ± 2.80 . The calculated paired 't' value was 10.043 which was found to be statistically highly significant at $p < 0.001$ level. This indicates that after the administration of interventions, dependence was considerably reduced and it was found effective. Regarding mode of delivery, among 30 antenatal mothers majority, 19(63.33%) had normal vaginal delivery and considering the type of birth, majority 25(83.33%) had term birth.

Conclusions: The present study findings revealed that the interventions were effective in promoting cessation of smokeless tobacco consumption in pregnant women and the outcome of labour was mostly normal except for a case or two.

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INTRODUCTION

The World Health Organization (2015) reported that in many cultures, particularly in South East Asia, smokeless tobacco use is more socially acceptable than smoking, and it is usually

easy to practice without detection. These uses include chewing, sniffing, placing the product between the teeth and gum, or application to the skin. India is the second largest consumer of tobacco. In India, tobacco consumption, mainly in the nonsmoking and application forms, is culturally accepted

even among women. Hence, smokeless forms of tobacco use by women that includes in pregnancy are widely prevalent. Cessation is difficult, as it is for smoking tobacco. The United Nations Children's Fund reported adverse pregnancy outcomes due to tobacco consumption such as low birth weight (LBW) accounts for 15% of infants born in this world and 45% of newborns being LBW in South-east Asia and Eastern Mediterranean.

Background

The use of smokeless tobacco in women is more prevalent in developing countries and also becoming increasingly common among young girls globally. It is found to be strongly associated with poverty, low educational attainment, poor social support and psychological illness. Smokeless tobacco intake in pregnancy remains to be one of the few preventable factors associated with complications in pregnancy, still birth, low birthweight, preterm birth and has serious long-term health implications for women and babies. There is an absolute need for promotion of practical interventions to tackle cessation of smokeless tobacco in pregnancy. It was reported by the Global Adult Tobacco Survey that among the North Eastern states of India, Nagaland tops the second position with 57% and females accounting for prevalence of 37% in smokeless tobacco form. Lack of awareness of harm especially in pregnancy, ingrained cultural attitudes and lack of support for cessation maintains smokeless tobacco use in the community. There is a need to collate the successful evidence based interventions in curbing smokeless tobacco use. Nair, S., et al., (2015) in Mumbai conducted a study on use of smokeless tobacco by Indian women during pregnancy and reproductive years using a mixed methods approach, which included a structured survey with 409 daily smokeless tobacco users and in-depth interviews with 42 women. Participants for the survey were selected using a systematic sampling procedure and it was found that 64% of the women surveyed used only one type of smokeless tobacco, 36% used more than one type, poly smokeless tobacco users chewed or rubbed 50% more tobacco as compared to single users. They concluded that tobacco control policies and programs must focus specifically on both social context and use patterns to address smokeless tobacco use among women of reproductive age with special attention to poly smokeless tobacco users, an understudied and vulnerable population.

Radhika, A.G., et al.,(2014) conducted a cohort study on pregnancy outcomes in smokeless tobacco users in a tertiary care hospital, Delhi to compare maternal and neonatal pregnancy outcomes in antenatal women using smokeless tobacco products with those not using tobacco products. The antenatal women using smokeless tobacco and matched controls, 92 in each group (total 184) were recruited for the study. After obtaining consent, the urinary cotinine level was measured in both groups at first contact. Antenatal, labour and postpartum events were recorded in both groups. Urinary cotinine levels were again measured at 6 months in the user group. Women using smokeless tobacco for more than 5yrs recorded higher urinary cotinine levels and neonatal weight difference was found to be 20 gms. It was concluded that smokeless tobacco products are the most common forms used by women in low and middle income countries and larger studies are required to understand their effects on pregnancy outcomes.

Aim of the study: Was to determine the effectiveness of interventions to promote cessation of smokeless tobacco consumption in pregnancy and to identify the outcome of labour.

MATERIALS AND METHODS

A one group pre test post test design was used. The population consisted of all the antenatal mothers and the sample consisted of 30 antenatal mothers at 20-28 weeks of pregnancy consuming smokeless tobacco who were selected by convenience sampling technique. Data was collected using structured interview questionnaire and Modified Fagerstrom questionnaire was used to assess the pre-test level of dependence on smokeless tobacco among antenatal mothers. Interventions were administered which consisted of handouts with informations regarding hazards of consuming smokeless tobacco during pregnancy and tips to quit using smokeless tobacco and a local eatable substitute was given. After 14 days the same Modified Fagerstrom questionnaire was administered to assess the post-test level of dependence on smokeless tobacco among the antenatal mothers. The outcome of labour was assessed using checklist during the time of delivery. Data analysis and interpretation was done by descriptive and inferential statistics.

Ethical consideration

The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study.

RESULTS

Section 1

Table 1. Frequency and percentage distribution of demographic variables

Demographic Variables	Frequency (f)	%
1. Age in years		
a) 20 – 25	11	36.67
b) 26 – 30	15	50.00
c) 31 – 35	4	13.33
d) 35 – 40	0	0.00
2. Educational status		
a) No formal education	4	13.33
b) Primary school	7	23.33
c) High school	14	46.67
d) Higher secondary or above	5	16.67
3. Occupation		
a) Housewife	27	90.00
b) Daily wages	1	3.33
c) Self-employed	2	6.67
d) Others	0	0.00
4. Family income per month		
a) <Rs.10000	11	36.67
b) Rs.10001 – 15000	9	30.00
c) Rs.15001 – 20000	7	23.33
d) >Rs.20000	3	10.00
5. Gestational age in weeks		
a) 20 to 22 weeks	4	13.33
b) 22 to 24 weeks	8	26.67
c) 24 to 26 weeks	8	26.67
d) 26 to 28 weeks	10	33.33
6. Source of information		
a) Neighbours	0	0.00
b) Friends	0	0.00
c) Parents	5	16.67
d) Media	13	43.33
e) None	12	40.00

Table 1 shows that among 30 antenatal mothers, majority, 15(50%) were in the age group of 26 – 30 years, 14(46.67%) had high school education, 27(90%) were housewives, 11(36.7%) had a family income per month of <Rs.10000, 10(33.3%) were in the gestational age of 26 to 28 weeks and 13(43.33%) received information on smokeless tobacco through media.

Section 2

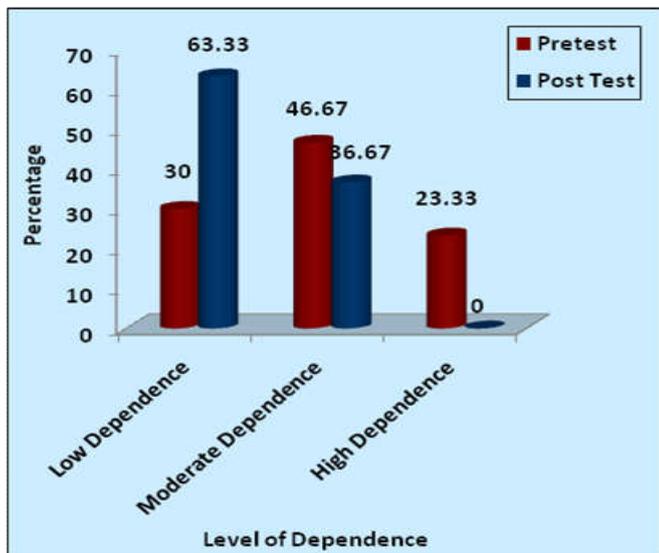


Figure 1. Pretest and post test level of dependence on smokeless tobacco among antenatal mothers

Section 3: In the pretest, the mean score of dependence was 10.07±4.35 and the post test mean score of dependence was 6.07±2.80. The calculated paired ‘t’ value was 10.043 which was found to be statistically highly significant at p<0.001 level. This clearly indicates that after the intervention to promote cessation of smokeless tobacco, dependence was considerably reduced and it was found effective in reducing the level of dependence on smokeless tobacco among antenatal mothers.

Section 4: Outcome of labour

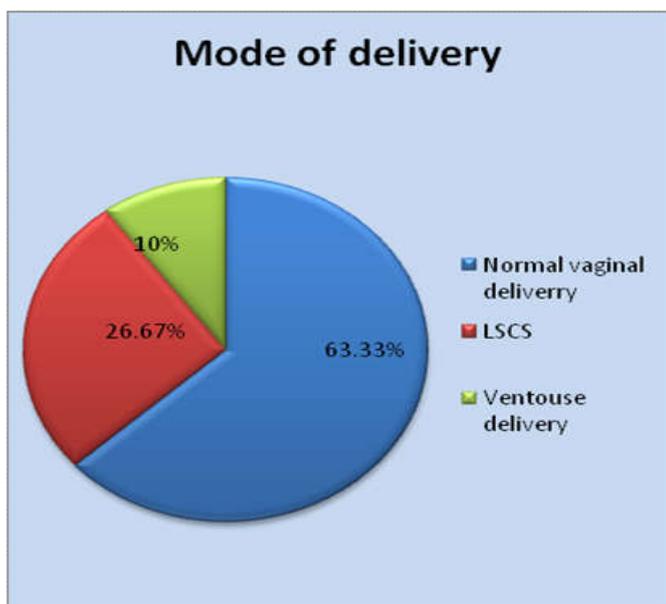


Figure 2. Mode of delivery

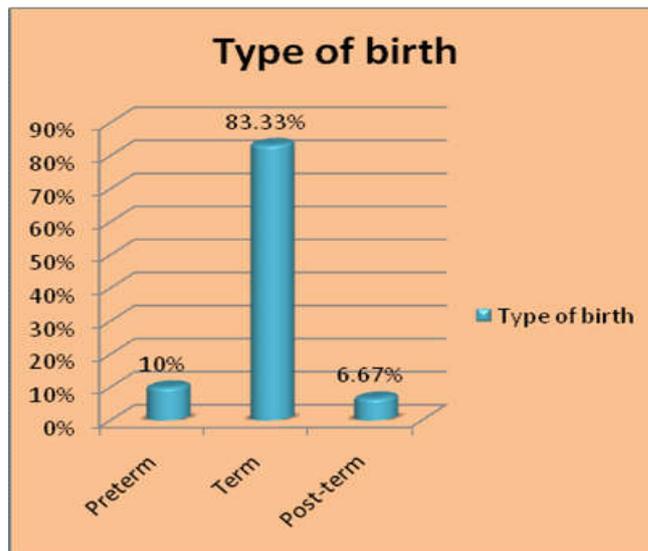


Figure 3. Type of birth

DISCUSSION

The first objective was to assess the level of dependence on smokeless tobacco among antenatal mothers: According to WHO, tobacco kills more people annually than AIDS, alcohol, other addictions and accident and added that the figure is expected to rise to 10 millions tobacco related deaths per year by 2020. Today, the challenge is to contain women’s tobacco use in low and middle income countries as the improving social and economic status has started eroding the traditional barriers to quitting tobacco use. In order to assess the level of dependence, the present study was conducted at Naga Hospital Authority Kohima among 30 antenatal mothers consuming smokeless tobacco meeting the inclusion criteria selected as sample for the study. The level of dependence on smokeless tobacco was assessed using the Modified Fagerstrom questionnaire. It was revealed that in the pretest majority 14(46.67%) had moderate dependence on smokeless tobacco among antenatal mothers, whereas in the post test after the intervention to promote cessation of smokeless tobacco, majority 19(63.33%) had low level of dependence on smokeless tobacco. A similar study was conducted by Amy K. Ferketich et., al who measured nicotine dependence for smokeless tobacco users to examine the properties of a modified Fagerström Test of Nicotine Dependence among 256 participants for a tobacco cessation intervention that involved a visit with a dentist and advice to quit tobacco intake. The modified dependence scale was administered to the participants and a saliva sample was collected to measure cotinine. It was found that after the interventions, the dependency levels were lowered.

The second objective was to determine the effectiveness of interventions to promote cessation of smokeless tobacco consumption in pregnancy: The tobacco problem in India is peculiar, with consumption of variety of smokeless and smoking forms. Understanding the tobacco problem, focussing more efforts on what works and investigating the impact of sociocultural diversity and cost effectiveness of various modalities of tobacco control should be a priority. There is an immense need to collate the successful evidence based interventions in tackling tobacco use. The present study reveals that in the pretest, the mean score of dependence was 10.07±4.35 and the post test mean score of dependence was

6.07±2.80. The calculated paired 't' value of $t = 10.043$ was found to be statistically highly significant at $p < 0.001$ level. This clearly indicates that after the intervention to promote cessation of smokeless tobacco, dependence was considerably reduced and it was found effective in reducing the level of dependence on smokeless tobacco among antenatal mothers.

The study was supported by a cluster-randomised controlled trial conducted by Sarkar BK to evaluate a brief community outreach intervention delivered by health workers to promote tobacco cessation among 1213 adult tobacco users. The intervention was single session quit advice (15 min) plus a single training session in yogic breathing exercise. The control condition comprised very brief quit advice (1 min) alone. Both were delivered via outreach, with contact made through household visits. The primary outcome was 6-month sustained abstinence from all tobacco, assessed 7 months post intervention delivery, biochemically verified with salivary cotinine. From this study it was found that cessation rate was found to be higher in the intervention group than in the control group and they concluded that a single session community outreach intervention can increase tobacco cessation.

The third objective was to identify the outcome of labour among antenatal mothers consuming smokeless tobacco:

There are indications that using smokeless tobacco could be as detrimental to fetal health as cigarette smoking. Studying health effects of various smokeless tobacco products is challenging since different products could have varying levels of nicotine, presence of additives, toxin levels, etc. Its usage is associated with reduced gestational age, low birth weight, still birth, a low bone-mineral density and various other health risks. The present study revealed that regarding mode of delivery, majority 19(63.33%) had normal vaginal delivery, 8(26.67%) had LSCS and only 3(10%) had ventouse delivery. Considering the type of birth, majority 25(83.33%) had term birth, 3(10%) had preterm birth and only 2(6.67%) had post-term type of birth. With regard to placental abnormalities, only 1(3.33%) had abruption placenta and none of them had congenital anomalies. With respect to birth weight majority 23(76.67%) delivered normal birth weight and 7(23.33%) delivered low birth weight babies. Analysis revealed that only 1(3.33%) had respiratory distress and 3(10%) had premature rupture of membrane (PROM). A similar study was conducted by Asha Pratinidhi et al., on use of 'Mishri', a smokeless tobacco, in pregnancy to know the effects on the fetus and the perinatal outcome among 705 pregnant women who were enrolled at 20 weeks of gestation from rural Maharashtra, India. Information related to use and giving up of Mishri, previous obstetrical history, current pregnancy, delivery and outcome during the perinatal period were recorded. It was found that the proportion of women with complications during the previous perinatal period, complaints and complications during the current pregnancy/delivery and the number of stillbirths were significantly more among Mishri users. A relative risk of abnormal delivery was 2.7 for the users and in spite of counseling, 153 women never stopped the use of

Mishri and gave birth to babies weighing on an average 169.9 gm less than babies born from the group that never used it. Babies of 28.8% who stopped/reduced consumption of Mishri by 32 weeks were significantly benefited and is of paramount importance in the developing world for primary prevention of low birth weight babies.

The fourth objective was to associate the post test level of dependence on smokeless tobacco among antenatal mothers with their labour outcome:

In the present study, it was found that there was no statistically significant association between the post test level of dependence on smokeless tobacco among antenatal mothers and their labour outcome.

Conclusion

This study was an attempt to assess the effectiveness of interventions to promote cessation of smokeless tobacco and address important health issues related to consuming smokeless tobacco in pregnancy. The study findings revealed that the interventions were effective in promoting cessation of smokeless tobacco consumption in pregnant women and the outcome of labour was mostly normal except for a case or two. More extensive studies are required to be done to understand and find out more about the effects of smokeless tobacco consumption during pregnancy on the outcome of labour.

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