

Effectiveness of brief counseling (5As): Antenatal tobacco cessation support program among pregnant women availing antenatal care

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ABSTRACT

Introduction: It is likely that a pregnant woman is more motivated and receptive to accepting healthy habits and practices if talked about the benefits to the fetus. When explained about the harmful effects of tobacco on the health of the baby, the mother can be encouraged to modify her tobacco consumption habits and work toward quitting tobacco. **Aim:** Our aim was to study the effectiveness of brief counseling (5As)—Antenatal Tobacco Cessation Support Program among pregnant women availing antenatal care (ANC). **Methodology:** A quasi-randomized study design was used to conduct the study. The participants were identified by screening during ANC visits, and women consuming tobacco were subjected to detailed history taking and very brief counseling with the help of 5A's framework. **Results:** We found that Mishri was the commonest form of tobacco consumed by these women. Around 93.33% of the women consume Mishri, followed by 6.66% of women consuming chewing tobacco. The method of brief counseling made an impact in the cessation of tobacco consumption in 13.37% of the study subjects. **Conclusion:** We conclude that the use of brief counseling and motivational interviewing is feasible in most settings without inhibiting the other important aspects of ANC or disrupting the patient flow.

Keywords: Antenatal care, brief counseling, tobacco cessation

Introduction

The tobacco epidemic is one of the biggest public health threats, killing more than 8 million people a year around the world.^[1-3] At the primary care level, this is one of the very important issues. It is a known fact that consumption of tobacco during pregnancy can affect not only the mother but the growing baby as well. It can cause problems for the mother, the baby, and adverse perinatal

health outcomes.^[4] Tobacco use by women even before pregnancy has been proven to cause adverse effects on their general health and reproductive health, which can prove to be potentially fatal for a woman of reproductive age. Consuming tobacco during pregnancy may lead to adverse perinatal outcomes and harm the health of the baby, such as low birth weight, intrauterine growth restriction, antepartum hemorrhage, postpartum hemorrhage, stillbirth, etc.^[5-7] Other observations include an increased risk of sudden infant death and episodes of apnea.

It is likely that a pregnant female is more motivated and receptive to accepting healthy habits and practices if talked about the benefits to the fetus. When explained about the

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harmful effects of tobacco on the health of the baby at primary care with the intention of counseling, the mother can be encouraged to modify her tobacco consumption habits and work toward quitting tobacco and this will help beneficial for both mother and baby.^[8] Our aim was to study the effectiveness of brief counseling (5As)—Antenatal Tobacco Cessation Support Program among pregnant women availing antenatal care (ANC) at a rural tertiary care hospital in Maharashtra.

Methodology

The study was carried out at the ANC clinic and TRCC clinic of Pravara Rural Hospital, Loni. The study was approved by institutional ethics committee and registered at Clinical Trials Registry, India. A quasi-randomized study design was used to conduct the study. The study was conducted over a period of six months. Pregnant women consuming tobacco, who were visiting ANC clinic at our hospital, were included in our study. The sample size as calculated by using OpenEpi software, with confidence interval of 80%, is 60.

Inclusion criteria

1. Pregnant women aged above 18 years
2. Women attending ANC clinic
3. Women consuming any tobacco products
4. Those who gave written informed consent for participating in the study.

Exclusion criteria

1. Women less than 18 years of age
2. Pregnant women not regularly taking follow-up at ANC
3. Women not consuming tobacco during pregnancy
4. Women not willing to participate.

The study was conducted after obtaining permission from Institutional Ethics Committee. Ethical approval was obtained from the Ethical Committee of PIMS (DU). Permission was sought from the hospital to interview the subject and conduct a brief counseling session for each subject. Written informed consent was taken in the language the respondent/relatives understand, that is, Marathi/Hindi which was signed/thumb printed by the respondent/relatives.

The participants were identified by screening during ANC visits and women consuming tobacco were subjected to detailed history taking and very brief counseling. Thereafter, the candidates willing to quit were referred to the TRCC Clinic for Brief Advice with the help of 5A's framework. Those not willing to quit were subjected to health education and given information regarding cessation. In our study, 60 pregnant women participated after screening 700 women. They were also provided with adequate follow-up contact details. Follow-up was done to assess any behavioral change regarding tobacco consumption.

Results

In our study, 50% of the mothers were in the range of 20–25 years while 20% in 26–30 years, 13% were more than 30 years while 17% were less than 20 years.

In our study, 63% of the mothers were housemakers, 34% were farmers while only 3% were labor.

In our study, 53% of mothers had less than a high school education, 20% were HSC, 17% were graduates while 10% were uneducated.

In our study, 50% of the mothers were married for less than 5 years, 30% for 5–10 years while 20% were for more than 10 years.

Discussion

Brief counseling of patients at the primary care level, during their ANC visits leads to higher impact on cessation of addictions. This may happen due to patients are more motivated and cautious during this time, for the betterment of their babies. Our study aimed to find out the prevalence of tobacco consumption among rural women availing ANC at a tertiary care hospital in rural Maharashtra. Out of nearly 700 women interviewed, 60 women were found to be consuming tobacco when asked. This shows that nearly 8.57% of the female population visiting the above-stated tertiary care hospital for antenatal check-ups were found to be addicted to tobacco. In our study, 50% of the mothers were in the range of 20–25 years while 20% in 26–30 years, 13% were more than 30 years while 17% were less than 20 years [Table 1]. 63% mothers were housemakers, 34% were farmers while only 3% were labor [Table 2]. In our study, 53% of the mothers had less than high school education, 20% were HSC, 17% were graduates while 10% were uneducated [Table 3]. 50% of the mothers were married for less than 5 years, 30% for 5–10 years while 20% were for more than 10 years [Table 4].

Each 10% of the mothers visited ANC at first, second, and third while 17% at fourth visit while 33% at fifth or more ANC visits referred to TRCC centre [Table 5]. We found that Mishri was

Table 1: Age wise distribution of mothers

Age (Years)	Number of mothers (n=60)	Percentage
<20 years	10	17
20-25	30	50
26-30	12	20
>30	8	13

Table 2: Occupation wise distribution of mothers

Occupation	Number of mothers (n=60)	Percentage
Farmer	20	34
Homemaker	38	63
Labor	2	3

the commonest form of tobacco consumed by these women. Around 93.33% of the women consume Mishri, followed by 6.66% of women consuming chewing tobacco [Table 6]. 64% of the mothers had frequency once daily, in 23% were twice daily while in 13% was more than two times per day [Table 7]. Duration wise addition was distributed, 27% less than 5 years, 27% in 5–10 years, while in 46% was more than 10 years [Table 8].

Table 3: Education wise distribution of mothers

Education	Number of mothers (n=60)	Percentage
<Less than higher secondary school	32	53
Higher secondary school	12	20
Graduation	10	17
Uneducated	6	10

Table 4: Duration of marriage wise distribution of mothers

Duration of marriage (In years)	Number of mothers (n=60)	Percentage
<5	30	50
5-10	18	30
>10	12	20

Table 5: Current ANC visit number wise distribution of mothers

Current ANC visit number	Number of mothers (n=60)	Percentage
First	6	10
Second	6	10
Third	18	30
Fourth	10	17
Fifth or more	20	33

Table 6: Tobacco addiction pattern wise distribution of mothers

Tobacco pattern	Number of mothers (n=60)	Percentage
Mishri	56	93
Tobacco chewing	4	7

Table 7: Frequency of tobacco use wise distribution of mothers

Frequency	Number of mothers (n=60)	Percentage
Once daily	38	64
Twice daily	14	23
More than twice	8	13

Table 8: Duration wise distribution of mothers

Duration (Years)	Number of mothers (n=60)	Percentage
<5	16	27
5-10	16	27
>10	28	46

The 60 women interviewed were subjected to brief counseling, following the 5As method and follow-up was taken via phone call. It was observed that post-counseling, 52 out of these 60 women, making 86% of the study subjects were still consuming tobacco. The method of brief counseling made an impact on the cessation of tobacco consumption in 13.37% of the study subjects [Table 9].

Andriani N. Loukopoulou *et al.* found a significantly greater percentage of pregnant smokers quit smoking in the high-intensity group compared to the low-intensity control group (45.2% versus 21.4%; $P = 0.001$). A significant decrease in urine cotinine concentrations was documented in the experimental group (-140.74 ± 361.70 ng/mL; $P = 0.004$), with no significant decrease documented in the control group. She concluded that the high-intensity intervention tested resulted in significantly greater cessation rates.^[9]

Cathy L Melvin *et al.*^[10] concluded that data from randomized clinical trials and from the meta-analyses used to update the AHCPR clinical practice guideline on smoking cessation show that a 5–15-minute cessation counseling intervention delivered by a trained provider, in conjunction with the provision of pregnancy-specific self-help materials, can achieve a significant increase in cessation during pregnancy. Herewith we strongly recommend these evidence-based procedures be adopted by all prenatal care providers. We believe that the use of this intervention is feasible in most office or clinical settings without inhibiting other important aspects of prenatal care or disrupting the patient flow. If implemented widely, this approach has the potential to achieve an important reduction in a number of adverse maternal, infant, and pregnancy outcomes and to reduce associated, excess health-care costs. Pregnant women should be advised of the significant perinatal risks associated with tobacco use, including orofacial clefts, fetal growth restriction, placenta previa, abruptio placentae, preterm prelabor rupture of membranes, low birth weight, increased perinatal mortality, ectopic pregnancy, and decreased maternal thyroid function.^[11]

Children born to women who smoke during pregnancy are at an increased risk of respiratory infections, asthma, infantile colic, bone fractures, and childhood obesity. Pregnancy influences many women to stop smoking, and approximately 54% of women who smoke before pregnancy quit smoking directly before or during pregnancy. Smoking cessation at any point in gestation benefits the pregnant woman and her fetus.^[12] The greatest benefit is observed with cessation before 15 weeks of gestation. Although cigarettes are the most commonly used tobacco product in pregnancy, alternative forms of tobacco use, such as e-cigarettes or vaping products, hookahs, and cigars, are increasingly common. Clinicians should advise cessation of tobacco products used in any form and provide motivational feedback.^[13]

Although counseling and pregnancy-specific materials are effective cessation aids for many pregnant women, some women continue to use tobacco products. Clinicians should individualize care by offering psychosocial, behavioral, and pharmacotherapy

Table 9: Impact of brief counseling on mothers

	First counseling		Second counseling	
	Number of mothers addicted	Percentage	Number of mothers continue addiction	Percentage
ANC mothers (n=60)	60	100	52	86.70

interventions. Available cessation-aid services and resources, including digital resources, should be discussed and documented regularly at prenatal and postpartum follow-up visits.^[10]

We conducted the study at Tobacco Research and Cessation Centre, Pravara Institute of Medical Sciences, Loni. We selected 60 mothers availing ANC who were screened by interviewing about their tobacco consumption habits. These women were subjected to brief counseling and follow-up was taken via phone call to find out about their tobacco consumption habits post-counseling.

With the help of this study, we conclude that the use of brief counseling and motivational interviewing is feasible in most settings without inhibiting the other important aspects of ANC or disrupting the patient flow. Brief counseling when done by the method of 5A's mentioned earlier has proven to be a helpful intervention and has a great impact on the tobacco consumption habits of pregnant women. Women when counseled were more receptive to the information provided on tobacco consumption and its harmful effects and understood better the harm to themselves and their baby. If implemented widely, this approach has the potential to achieve an important reduction in several adverse maternal, infant, and pregnancy outcomes and to reduce associated, excess health-care costs. In primary care, this will be highly helpful to add as an important module.

Conclusion

We conclude that the use of brief counseling and motivational interviewing is feasible in most settings without inhibiting the other important aspects of ANC or disrupting the patient flow in the set up of ANC in India and other Asian countries.

Study limitations

1. The sample size was small, the reason being two-fold. First, limited duration of the study allowed the inclusion of 60 study subjects after screening 700 women.
2. Follow-up was required up to the postnatal period, which proved to be a long-term event and was beyond the scope of the time duration of the study project.

Abbreviations

ANC: Antenatal care

TRCC: Tobacco Research and cessation center.

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This research work was completed as research project for fellowship in Tobacco cessation and counseling by first author and we received funding for it from CHRE, UK (Center for Health, Research and Education, UK).

Conflicts of interest

There are no conflicts of interest.

References

1. WHO Tobacco fact sheets - 2021. Available from: <https://www.who.int/news-room/fact-sheets/detail/tobacco>.
2. Siddiqi K, Shah S, Abbas SM, Vidyasagaran A, Jawad M, Dogar O, Sheikh A. Global burden of disease due to smokeless tobacco consumption in adults: Analysis of data from 113 countries. *BMC Med* 2015;13:194.
3. Sinha DN, Suliankatchi RA, Gupta PC, Thamarangsi T, Agarwal N, Parascandola M, *et al.* Global burden of all-cause and cause-specific mortality due to smokeless tobacco use: Systematic review and meta-analysis. *Tob Control* 2018;27:35-42.
4. Pratinidhi A, Gandham S, Shrotri A, Patil A, Pardeshi S. Use of 'Mishri' a smokeless form of tobacco during pregnancy and its perinatal outcome. *Indian J Community Med* 2010;35:14-8.
5. Thomas S, Lee H. Tobacco use prevention and cessation programme for pregnant women accessing antenatal care in urban public health facilities in Southern India. *Eur J Public Health* 2022;32(Suppl 3):ckac129.258.
6. Thomson R, Cooper S, Waldron J, Mamuzo E, McDaid L, Emery J, *et al.* Smoking cessation support for pregnant women provided by english stop smoking services and national health service trusts: A survey. *Int J Environ Res Public Health* 2022;19:1634. doi: 10.3390/ijerph19031634.
7. England LJ, Kim SY, Tomar SL, Ray CS, Gupta PC, Eissenberg T, *et al.* Non-cigarette tobacco use among women and adverse pregnancy outcomes. *Acta Obstet Gynecol Scand* 2010;89:454-64.
8. Tobacco control to improve child health and development: Thematic brief. World Health Organisation, 2021. Available from: <https://www.who.int/publications/i/item/9789240022218>.
9. Loukopoulou AN, Vardavas CI, Farmakides G, Rosolymos C, Chrelia C, Tzatzarakis M, *et al.* Counselling for smoking cessation during pregnancy reduces tobacco-specific nitrosamine (NNAL) concentrations: A randomized controlled trial. *Eur J Midwifery*. 2018 Nov 14;2:14.
10. Melvin CL, Dolan-Mullen P, Windsor RA, Whiteside HP Jr, Goldenberg RL. Recommended cessation counselling for pregnant women who smoke: A review of the evidence. *Tob Control* 2000;9(Suppl 3):III80-4.
11. Chandirasekar R, Murugan K, Muralisankar T, Uthayakumar V, Jayakumar R, Mohan K, *et al.* Genotoxic effects of tobacco use in residents of hilly areas and foot hills of Western Ghats, Southern India. *Sci Rep* 2019;9:14898.
12. Gupta R, Gupta S, Sharma S, Sinha DN, Mehrotra R. Risk of coronary heart disease among smokeless tobacco users: Results of systematic review and meta-analysis of global data. *Nicotine Tob Res* 2019;21:25-31.
13. Malhotra J, Malvezzi M, Negri E, La Vecchia C, Boffetta P. Risk factors for lung cancer worldwide. *Eur Respir J* 2016;48:889-902.