Knowledge, Attitude and Practice Regarding Environmental Tobacco Smoke among Pregnant Women of Sunsari

Khanal VK,[1] Budhathoki SS,[1] Nath M,[2] Tamrakar D,[3] Pokharel HP,[4] Shrestha A,[1]Pokharel PK[1]

[1]School of Public Health and Community Medicine,
B P Koirala Institute of Health Sciences,
Dharan, Nepal.

[2]Ministry of Health, Nepal

[3]Community Medicine,
Kathmandu University School of Medical Sciences
Dhulikhel, Kavre, Nepal.

[4]Obstetrics and Gynecology,
B P Koirala Institute of Health Sciences,
Dharan, Nepal.

Corresponding Author

Vijay Kumar Khanal

School of Public Health and Community Medicine,

B P Koirala Institute of Health Sciences,

Dharan, Nepal.

E-mail: vijaykhanal75@gmail.com

Citation

Khanal VK, Budhathoki SS, Nath M, Tamrakar D, Pokharel HP, Shrestha A, et al. Knowledge, Attitude and Practice Regarding Environmental Tobacco Smoke among Pregnant Women of Sunsari. *Kathmandu Univ Med J.* 2018;64(4):281-4.

ABSTRACT

Background

Second hand tobacco smoke or Environmental Tobacco Smoke (ETS), contains toxic substances and carcinogens that cause serious health effects in humans. Studies show that ETS exposure during pregnancy is injurious to the mother-infant pair with long term consequences. Limited studies are found in context of ETS in pregnancy in Nepal.

Objective

To explore the knowledge about harmful effect of ETS exposure in pregnant women and to know the behavior of avoidance from exposure to ETS during pregnancy.

Method

A cross sectional study was conducted among 303 pregnant women attending antenatal clinics at the District Hospital Inaruwa and BPKIHS Dharan. A pre-tested semi-structured questionnaire was used to collect data regarding socio-demographic characteristics, knowledge, attitude and practice regarding Environmental tobacco smoke. Data was entered in Excel and analyzed in SPSS 11.5.

Result

The mean age of the respondents was 23.86±4.68 years. The proportion of primi-gravida was 53.5% and multi-gravida was 46.5%. Among the respondents, 14% were illiterate and 91% were unemployed. A similar proportion of the husbands (12%) were illiterate. Three-fourth (75%) of the respondents lived in joint family. It was found that 86% of their husbands were smokers. There were 61% of pregnant women who had heard about ETS, mainly through television (35%) and radio (30%). There was 86% of the households who had initiated some measures to prevent smoking inside the house.

Conclusion

The pregnant women in this study are aware about ETS. However a significant number of them believe that ETS is not harmful compared to active smoking. There is a need for further studies to identify interventions to avoid ETS exposure among the pregnant women.

KEY WORDS

Knowledge attitude practice, Environmental tobacco smoke in Nepal, Pregnant women

INTRODUCTION

Tobaccos are smoked by over 1.1 billion people globally. Eighty Percent of them live in developing countries. One in ten deaths among the adults worldwide, occurs due to smoking which comprises about 5 million deaths every year.[1]

Smoking is associated with an increased risk of developing and dying from cancers, cardiovascular disease(CVD), chronic obstructive pulmonary disease (COPD), as well as with increased risk of adverse reproductive outcomes.[2]

Second hand tobacco smoke or Environmental Tobacco Smoke (ETS) is mainly a combination of side stream smoke released from the burning end of a cigarette and partly exhaled mainstream smoke. Studies show that side stream smoke actually contains higher concentrations of certain toxic chemicals, including several cancer-causing compared to mainstream smoke.[3-5]

Exposure to ETS in pregnant women is a serious concern, as it affects the mother-infant pair and has long-term consequences for children even during adulthood.[6,7] Literature show that ETS exposure is one of the most hazardous environmental exposures in human, specifically during the intrauterine period.[8] ETS exposure is associated with high fetal complications.[9]

The prevalence of tobacco smoking in the Nepalese population ranges from 20% to 70%.[10] Taking into consideration the high prevalence of smoking in our country, very little is known about the existing knowledge regarding the effect of ETS in the general population, especially among the pregnant women. We also do not know the household practice to avoid smoking inside the house. This study was therefore conducted with a view of exploring the knowledge about harmful effect of ETS exposure and practices to avoid exposure to smoke by pregnant women.

METHODS

A hospital based cross-sectional study was conducted in among 303 pregnant women attending the antenatal clinics (ANC) of district hospital, Inaruwa and B P Koirala Institute of Health sciences in Dharan. This study was conducted from Sep 2013 till Sep 2014. Sample size was calculated by taking prevalence of ETS exposure as 59 % based on the study done by Chen et al.[11] A permissible error of 10% and non-response rate 10% was taken into consideration while calculating the sample size. All pregnant women attending the ANC clinics, altogether 303 pregnant women were enrolled in the study. Pregnant women who came for ANC checkup in outpatient department of BPKIHS and district hospital Inaruwa were approached.

Information was collected regarding socio-demographic characteristics of the respondents and the family, smoking practices, knowledge, attitude and practice regarding ETS at home was collected using a pre-tested semi structured questionnaire.Verbal Informed consent was taken from all the respondents prior to the face to face interview. Collected data was entered into Microsoft excel and completeness of data was checked then transferred to SPSS version 11.5. Descriptive statistics was used to calculate frequency, percentage, mean and standard deviation. Ethical clearance was taken from the Institutional Review Committee of BP Koirala Institute of Health Sciences, Dharan.

RESULTS

All together 303 pregnant women were interviewed. The mean age of the respondents was 23.86±4.68 years. Most of the respondents (45%) were between age group 20-24years. The socio-demographic characteristics of the respondents can be found in table 1.

Table 1. Socio- demographic characteristics of the respondents (n=303)

Socio-demographic Characteristics		Frequency	Percentage
Respondent's Age	15-19	42	14
	20-24	138	45
	25-29	78	26
	30-34	39	13
	35-39	6	2
Respondent's Education	Illiterate	42	14
	Primary	18	6
	Secondary and above	243	80
Husband's Education	Illiterate	12	4
	Primary	24	8
	Secondary and above	267	88
Respondent's Occupation	Homemaker	276	91
	professional	18	6
	Clerical work	6	2
	Unskilled worker	3	1
Family type	Nuclear	75	25
	Joint	228	75

More than half (55%) of the respondents were in third trimester while only 3% of respondents were in first trimester. About the gravid status 53% of respondents were primigravida while 43% were multi gravida.

Almost all (97%) of the pregnant women in this study reported themselves as non-smokers. However, 86% of respondent's husbands were smoker and 35% reported smoking by other members in the family. (Table2)

Two-third (61%) of the respondents had heard about ETS and 87% of these respondents believe that it is harmful for health. There were 5% of the respondents who reported they had no idea about its effect on health.

Table 2. Smoking status of the respondents and the family (n=303)

Characteristics		Frequency	Percentage
Smoking status of respondents	Non smoker	294	97
	Smoker	9	3
Smoking status of husband	Non-smoker	42	14
	Smoker	261	86
Smoking status of others family members	Non-smoker	198	65
	smoker	105	35

Table 3. Knowledge about effects of ETS, anti-tobacco law and house household practice to avoid ETS (n=303)

Characteristics		Frequency	Percentage
Heard about environmental tobacco smoke	Yes	185	61
	No	118	39
Knowledge regarding effect of ETS (n=185)	It is not harmful	15	8
	It is harmful	161	87
	Don't know	9	5
Knowledge regarding effect of ETS with active smoking(n=162)	Less harmful than active smoking	38	23
	Equally harmful than active smoking	11	7
	More harmful than active smoking	113	70
Practice to avoid ETS exposure (n= 162)	Do nothing	23	14
	Ask them not to smoke	79	49
	Quietly move away from that place	60	37
Knowledge about anti-tobacco law in country	yes	176	58
	Never heard	127	42
Source of information regarding anti-tobacco law among respondents*	Television	105	35
	Radio	90	30
	Newspaper	78	26
	Friends	51	17
	Husband	9	3
	Others	21	7

*Multiple responses

Among the 162 respondents who reported that ETS was harmful to health, 77% reported ETS to be either equally harmful or more harmful compared to active smoking. For smoke avoidance, half of the respondents (49%) ask the smokers not to smoke, while others either move away (37%) or remained exposed (14%) to ETS. (Table-3)

Almost half (43%) of the respondents had continuous exposure of passive smoking while 3% were directly exposed to environmental tobacco smoke while 54 % of respondents had no any exposure of ETS in their household setting.

We found that 98% of respondent did not have any regulations regarding in house smoking, while 2% reported having a designated area for smoking. Only 17% of the pregnant women's husband changed their smoking habit or quit smoking when they learnt that their wife was pregnant.

Table 4. Exposure to smoke among the respondents, in house regulations and habit of the husband (n=303)

Characteristics		Frequency	Percentage
Smoke exposure of women	Active smoking	9	3
	Passive smoking	129	43
	None	165	54
In house regulation	No regulation	297	98
	Designated area	6	2
Husband habit change due to pregnancy (n=261)	Changed	45	17
	Not changed	216	83

DISCUSSION

This study examined the knowledge about harmful effect of ETS exposure and behavior of avoidance during pregnancy. The finding of the study showed that prevalence of active smoking during pregnancy was 3% and passive smoking was 43% which is lower in regard to active smoking (4.9%) and higher in regard to passive smoking (33.1%) in Yoonjoung Choi's study done in Nepal but compared to the NDHS 2011, the active smokers are lesser than the national study (8.4%).[12,13] A study done by Chen et al. shows that active smoking (6%) and passive smoking (58.72%) in Taiwan and as high as 91% in Pakistan, which is higher than our results.[11,14] This may be due to cultural difference in society. The similar study done in Jordan found that 20.2% of the participants were active smokers, 42.1% were passive smokers, and 37.7% non-smokers which are higher than our study.[6] Another hospital based study done in Taipei found that 44% of pregnant women were exposed to passive smoking. Behavior regarding smoke and its avoidance is dependent also on the cultural context of the population.[15,16]

One tenth of the pregnant women in Taipei were exposed to second hand smoke (SHS) from their family members, while the contribution to SHS exposure in this study was 35%.[15] The higher contribution of SHS from their family members in this study also could be explained by the very high proportion (75%) of the pregnant women in this study is living in joint family.

our study found that 87% of respondents who had heard about ETS, had knowledge about ill effect of ETS which is higher than findings of a study conducted in China by Lee et al.[17] The percentage of the respondents reporting not being aware of ETS is also high in our study.

Women in this study seem to be quite proactive to avoid exposure to ETS. Almost half of the respondents asked people not to smoke inside the house. This is much lower

(24%) in Dominican republic where 37% avoided by quietly moving away while 14% did nothing.[18] Similar kind of study done by Blake et al. showed that 27% pregnant nonsmoker avoided ETS exposure, another study done in Taiwan showed that 78% participants adopted avoidance behavior by either asking not to smoke or moved from there which is similar to our findings.[19,20] Study suggests that women who themselves from smoking area or from smoker reduces their exposure to passive smoking.[21] Smoke free house policies are less likely to be found in houses where there are heavy smokers.[22] While population level policy interventions have been found effective in some countries, further research may be needed to identify enabling environments to promote smoke free houses in Nepal.[23]

The conclusions drawn in this study are based on a convenience sample of pregnant women in a hospital based study thus; the generalizability of the results is limited

CONCLUSION

Most of pregnant women had heard about ETS, however there is less awareness about the harmful effect of ETS exposure. There are some efforts by the pregnant women to avoid the ETS exposure in Pregnancy, however further research may be needed to identify effective interventions.

ACKNOWLEDGEMENT

We would like to thank all the respondents who participated in this study and BP Koirala Institute of Health sciences for giving us opportunity to conduct this research.

REFERENCES

1. World Health Organisation. Tobaccor Free Initiative. 2014.
2. Ventura S, BE H, Matthew T, Chandra A. Trends and variations in smoking during pregnancy and low birth weight: Evidence from the birth certificate: 1990-2000. Pediatrics. 2003;111(1176).
3. World Health Organization. WHO World report on the global tobacco epidemic 2011. Geneva; 2011.
4. Guerin MR. The chemistry of Environmental Tobacco Smoke: composition and measurment. 2006.
5. US Environmental Protection Agency. Respiratory health effects of passive smoking: Lung cancer and other disorders. Washington DC; 1992.
6. Amasha HA, Jaradeh MS. Effect of Active and Passive smoking during pregnancy on its outcomes. Heal Sci J. 2012;6(2):335-52.
7. Husgafvel-Pursiainen K. Genotoxicity of environmental tobacco smoke: a review. Mutat Res. 2004;567(2–3):427-45.
8. Dejmek J, Solansky I, Podrazilova K, Sram RJ. The exposure of nonsmoking and smoking mothers to environmental tobacco smoke during different gestational phases and fetal growth. Environ Health Perspect. 2002;110(6):601-6.
9. Eftekhar M, Pourmasumi S, Sabeti P, Mirhosseini F. Relation of Second Hand Smoker and Effect on Pregnancy Outcome and Newborns Parameters. Women's Heal Gynecol. 2016;2:22.
10. Pandey MR, Neupane RP, Gautam A. Epidemiological study of tobacco smoking behavior among adults in a rural community of the hill region of Nepal with special reference to attitude and beliefs. Int J Epidemiol. 1998;17:535-41.
11. Chen C, Lee P, Chou Y, Kuo S, Hsu Y. Avoidance of Environmental Tobacco Smoke among Pregnant Taiwanese Women: Knowledge, Self-Efficacy, and Behavior. J Women's Heal. 2007;6(16):869-78.
12. Choi Y. Secondhand smoke among pregnant women in developing countries: comparative analysis using Demographic and Health Surveys in 28 countries. Vol. 1, Statewide Agricultural Land Use Baseline 2015. 2015.
13. Ministry of Health and Population [Nepal], New Era, ICF International. Nepal Demographic Health Survey. Kathmandu; 2011.
14. Bloch M, Althabe F, Onyamboko M, Kaseba-Sata C, Castilla EE, Freire S, et al. Tobacco use and secondhand smoke exposure during pregnancy: An investigative survey of women in 9 developing nations. Res Pract. 2008;98(10):1833-40.
15. Lin CL. The effect on perinatal morbidity and mortality for pregnant women or their spouse with smoking. Final report. Taipei; 2004.
16. Christopoulou R, Lillard DR. Is Smoking Behavior Culturally Determined? Evidence from British Immigrants. J Econ Behav Organ. 2015;110:78-90.
17. Lee AH. A pilot intervention for pregnant women in Sichuan, China on passive smoking. Patient Educ Couns. 2008;71(3):396-401.
18. Torres E, de monegro ZQ, French L, Swanson DP, Guido J, Ossip DJ. Tobacco use and exposure to secondhand smoke among pregnant women in the Dominican Republic: An exploratory look into attitudes, beliefs, perceptions, and practices. Nicotine Tob Res. 2011;13(12):1220-7.
19. Blake SM, Murray KD, El-khorazaty MN, Gantz MG, Kiely M, Best D, et al. Environmental Tobacco Smoke Avoidance Among Pregnant African-American Nonsmokers. Am J Prev Med. 2009;36(3):225-34.
20. Lai M-C, Chou F-S, Yang Y-J, Wang C-C, Lee M-C. Tobacco use and environmental smoke exposure among Taiwanese pregnant smokers and recent quitters : Risk perception , attitude , and avoidance behavior. Int J Environ Res Public Health. 2013;10:4104-16.
21. Gharaibeh H, Haddad L, Alzyoud S, El-shahawy O, Baker NA, Umlauf M. Knowledge, attitudes, and behavior in avoiding secondhand smoke exposure among non-smoking employed women with higher education in Jordan. Int J Environ Res Public Health. 2011;8:4207-19.
22. Ossip DJ, Chang Y, Nabi-burza E, Winickoff JP. Strict Smoke-free Home Policies Among Smoking Parents in Pediatric Settings. Acad Paediatr. 2014;13(6):517-23.
23. Thomson G, Wilson N, Howden-Chapman P. Population level policy options for increasing the prevalence of smokefree homes. J Epidemiol Community Health. 2006;60(4):298-304.