

RESEARCH COMMUNICATION

Tobacco Related Habits among First Degree Relatives of Patients Undergoing Surgery for Advanced Head and Neck Malignancies in India

PG Balagopal¹, NA George¹, A Venugopal², A Mathew³, M Iqbal Ahamed¹, P Sebastian¹

Abstract

This prospective study records the tobacco related habits among the relatives of patients with advanced head and neck cancers who underwent both surgery and chemotherapy as part of their treatment from September 2009 to March 2010. A total of 200 relatives were interviewed (148 males and 52 females). 198 (99%) were aware of the fact that tobacco use can lead to cancer and 168 (84%) had any one of the habits. Smoking alone was reported in 36 (18%) individuals, pan chewing alone in 66 (33%) and multiple habits in 64 (32%). Alcohol and tobacco chewing alone was reported in one case each. There were change in habits following diagnosis of head and neck cancers among the relatives, 33 (16.5%) stopped their habits and smoking was reduced by 25% in 72 (36%) and by 50% in 63 (31.2%) individuals. However, 135 continued the habit even after the diagnosis of cancer in their relatives. Of note, 15 out of the 33 who quit the habit did it because of health advice given to them during the hospital visit.

Keywords: Tobacco - habits - relatives - cancer

Asian Pacific J Cancer Prev, 12, 217-20

Introduction

The usage of tobacco is an activity practiced by some 1.1 billion people and up to 1/3rd of the adult population of the world. In India thirty per cent of the population 15 years or older—47% men and 14% of women—either smoke or chewed tobacco, which translates to almost 195 million people—154 million men and 41 million women (Rani, 2003).

The WHO report it to be the leading preventable cause of death world wide and estimates that it currently causes 5.4 million deaths per year (WHO Report, 2008). Tobacco use leads most commonly to disease affecting the heart and lungs with smoking being a major risk factor for heart attacks, strokes, chronic obstructive pulmonary disease (COPD), emphysema, cancers of lung, head & neck and several other cancers. World Health Organization (WHO) estimates that tobacco caused 100 million deaths over the course of 20th century (WHO Report, 2008). As of 2004, the WHO reports that of the 58.8 million deaths to occur globally, 5.4 million are tobacco-attributed (The Global Burden of Disease 2004 Update). Similarly the United States center for disease control and prevention describes tobacco use as the single most important preventable risk to human health in developed countries and important cause of premature death worldwide. U.S. Surgeon General, report that smokers experience three classic

signs of addiction: 1) they become dependent; 2) they want to quit but cannot; 3) they become tolerant, although a plateau is reached. Smokers, however, must take large doses to reach that plateau (Brautbur, 1995).

In the third world countries like India, tobacco and its products are considered as the most important cause for head and neck cancers. It is the most common and third most common cancer among males and females respectively in India. Unfortunately 72% of cancer patients attending the outpatient clinics in the Regional Cancer Centre, Thiruvananthapuram are in the advanced stage of cancer (HBCR, Annual Report, 2010). The treatment for advanced head and neck cancers involve both surgery and radiotherapy.

Surgery for head and neck cancers will result in considerable morbidity, the disfigurement to face, impaired speech, difficulty in swallowing may prevent them from social gathering. Another important factor is impaired sexual life due to halitosis or disfigurement which may lead to psychological problems. Most of the patients are likely to be worried about their ability to return to normalcy after surgery. It has been reported that oral cancer may run in families (Ankathil et al, 1996).

With this scenario, the present study aims to evaluate the tobacco related habits among the relatives of patients who underwent surgery for head and neck cancer and their attitude towards the tobacco habits after the diagnosis of

¹Division of Surgical Oncology, ²Division of Anaesthesiology, ³Division of Epidemiology and Cancer Registry, Regional Cancer Centre, Thiruvananthapuram, Kerala, India *For correspondence: drbgopal@gmail.com

cancer. The study also looked into the areas where they need more awareness and the reason for the continuation of habit if any.

Materials and Methods

The study was conducted at the Regional Cancer Centre (RCC), Thiruvananthapuram, Kerala, India to look into the pattern of tobacco related habits and the reasons for using tobacco among the first degree relatives of patients who underwent surgery for advanced head and neck malignancies. This includes cancers of tongue, buccal mucosa, gingivo buccal sulcus and underwent mandibular resection, reconstruction using pectoralis major myo cutaneous flap and radiotherapy following surgery. Any change in the tobacco related habits among them after seeing the hardships of their relatives and if they stopped the habits, reasons for the same were also collected. The study was conducted in the out patient clinic of RCC from September 2009 to March 2010. Data were collected from a total of 200 first degree relatives of patients with the help of a questionnaire. The questions included factors related to income, level of education, occupation, tobacco related habits, change in habits following diagnosis of cancer among relatives, knowledge that tobacco can cause cancer and motivation factor for stopping tobacco.

Results

Among the total of 200 relatives of head and neck cancer patients the mean age was 42.3 years (SD=1.8 years) in males and 38.7 years (SD=2.5 years) in females. There were 148 males (74%) and 52 females (26%), 47 had (23.5%) graduate education, 84 (42%) had high school education, 56 (28%) had primary school education, 13 (6.5%) were illiterates, 39 (19.5%) were professional, 41 (20.5%) were skilled workers, 54 (27%) were semi skilled workers and 66 (33%) were unskilled workers. Among the total of 200 relatives of patients, 84% had any one of the habits. Smoking alone was reported in 36(18%) individuals, pan chewing alone in 66 (33%), multiple habits in 64 (32%) relatives. Alcohol and tobacco chewing alone was reported in one case each. The habit developed out of peer pressure in 96 (48 %), developed in 72 (36%) from family members who used to smoke, 32 (16%) reported no habits. 23 out of 32 non smokers had education high school and above, 8 had primary school education and one was illiterate. The change in habits following diagnosis of head and neck cancers among the relatives, 33(16.5%) stopped habits. Smoking was reduced by 25% in 72 (36%), reduced by 50% in 63 (31.2%) individuals. A total of 198 of the relatives interviewed were aware of the fact that tobacco can cause cancer, 168 were tobacco users out of which 135 continued the habit even after the diagnosis of cancer in their relatives, 33 (16.5%) quit smoking after the diagnosis of cancer in their relatives and 15 out of 33 who quit the habit did it because of health advice given to them during the hospital visit.

Table 1. Distribution of Demographic Variables and Tobacco Habits Among Relatives of Head and Neck Cancer Patients Reported at Regional Cancer Centre, Thiruvananthapuram

Variables	Number	Percentage
Gender		
Male	148	74
Female	52	26
Occupation		
Unskilled	66	33
Semi-Skilled	54	27
Skilled	41	20.5
Professional	39	19.5
Education Status		
Graduation and above	47	23.5
High School and above	84	42
Primary School	56	28
Income Category		
F(<Rs.500)	99	49.5
M(Rs.501-1500)	51	25.5
O(Rs.>1500)	50	25
Habits		
Smoking	36	18
Pan chewing	66	33
Alcohol	1	0.5
Tobacco Chewing	1	0.5
Multilink Tobacco Habits	64	32
No Habits	32	16
Habit Status		
Stopped	32	16.5
Non Tobacco Users	32	16
Reduced by 25%	72	36
Reduced by 50%	63	31.5
How the habit was started		
Peer Pressure	96	48
Family members who were tobacco users	72	36
No habit	32	16

Discussion

In the present study, it was observed that 84% of relatives of head and neck cancer patients who reported at RCC had any of the habits. Majority of relatives continued the habit, with a slight reduction in the frequency. A total of 135 continued tobacco in spite of seeing the hardships of their relatives and knowing that tobacco can cause cancer. Most of the relatives are having mixed habits which also increase the risk of cancer, 131 relatives had school education and were aware of the fact that tobacco can cause cancer.

Smoke contains several carcinogenic pyrolytic products that bind to DNA and cause many genetic mutations. There are over 19 known chemical carcinogens in cigarette smoke. Tobacco also contains nicotine, which is a highly addictive psychoactive chemical. When tobacco is smoked, nicotine causes physical and psychological dependency.

Majority of smokers begin habits during adolescence or early adult hood. It has elements of risk taking and rebellion which often appeal to young people. The presence of singers, high status models, players and peers also encourage smoking because of this the attempt by parents, school teachers and health professionals at

preventing people from smoking are often unsuccessful. Factors which have been consistently associated with adolescent smoking include family smoking behavior and attitudes (Distefan et al., 1998).

Children of smoking parents are more likely to smoke than children with non-smoking parents. In a study it was found that parental smoking cessation was associated with less adolescent smoking except when the other parent currently smoked. Current study tested the relation of adolescent smoking to rules regulating where adults are allowed to smoke in home. Encouraging parents to quit may be an effective method for reducing adolescent smoking, through decreased uptake and increased cessation. The earlier parents quit, less likely their children will become smokers (Farkas et al., 1999). Results showed that restrictive home smoking policies were associated with lower likelihood of trying smoking for both middle and high school students. Many anti smoking organizations claim that teenagers begin their smoking habits due to peer pressure and cultural influence portrayed by friends.

Eysenck (1980), a psychologist, has developed a personality profile for the typical smoker. Extraversion is the trait that is most associated with smoking and smokers tend to be sociable, impulsive, risk taking and excitement seeking individuals. Although the personality and social factors may make people likely to smoke the actual habit is a function of operant conditioning. During early staging smoking provides pleasurable sensations and thus serves as a source of positive enforcement. After an individual symptoms and negative reinforcement become the key motivations. Because they are engaging in an activity that has negative effects on health, people who smoke tend to rationalize their behavior. In other words they develop convincing if not necessarily logical reasons why smoking is acceptable for them to do. For example a smoker could justify his or her behavior by concluding that everyone dies and so cigarettes do not actually change anything. Or a person could believe that smoking relieves stress or has other benefits that justify its risks. These types of beliefs prevent anxiety and keep people smoking. Some smokers argue that the depressant effect of smoking allows them to claim their nerves often allowing for increased concentration. However according to the Imperial College, London," Nicotine seems to provide both a stimulant and depressant effect and it is likely that the effect it has at any time is determined by the mood of the user, the environment, and the circumstances of use. Studies have suggested that low doses have a depressant effect while higher doses have stimulant effect. The economic impact of smoking is also a matter of concern. Siahpush and colleagues (Siahpush et al., 2003) examine the relation between smoking and financial stress and find smoking is a significant predictor of financial stress. Finally, Browning (Browning, 1987) shows that spending on smoking among people in Great Britain did not fall dramatically during the key ages when children were born. It is suggested that smokers do not make significant changes in their spending habits when major new expenses are incurred.

The anti smoking argument suggests that the health care burden is increased because smokers get chronic

illness younger and at a higher rate than the general population. Rates of smoking have leveled off or declined in the developed world. Smoking rates in the United States have dropped by half from 1965 to 2006, falling from 42% to 20.8% in adults (Rock et al., 2007). In the developing world, tobacco consumption is rising by 3.4% per year. When the market for tobacco reduced in the West, the industry looked to India and China for 'emerging markets'. In the developing world, however, tobacco consumption is rising by 3.4% per year as of 2002 (WHO/WPRO-Smoking Statistics 2002).

Between 1970 and 1995 per capita cigarette consumption in poorer developing countries increased by 67% while it dropped by 10% in the richer developed world. Eighty percent of smokers now live in less developed countries. By 2030 the world health organization (WHO) forecasts that 10 million people a year will die of smoking –related illness, making it the single biggest cause of death worldwide, the largest increase to be among women. WHO forecasts the 21st century's death rate from smoking to be ten times the 20th century's rate (Washingtonian magazine, December). The World Health Organization estimates that tobacco caused 5.4 million deaths in 2004 and 100 million deaths over the course of the 20th century. Similarly the United States Centers for Disease control and Prevention describes tobacco use as the single most important preventable risk to human health in developed countries and an important cause of premature death worldwide.

In conclusion it was observed that even though the society is aware that tobacco can cause cancer, people continue with their tobacco related habits even after the occurrence of cancer in their close relative. This is mainly because of the lack of awareness among the relatives. Novel approaches to the health education and tobacco cessation efforts to be devised effectively to convey the message that tobacco use is harmful to health.

References

- Ankathil R, Bhattathiri VN, Francis JV, et al (1996). Mutagen sensitivity as a predisposing factor in familial oral cancer. *Int J Cancer Pred Oncol*, **69**, 265-7.
- Brautbur, N (1995). Direct Effects of Nicotine on the Brain: Evidence for Chemical Addiction. *Arch Environmental Health*, **50**, 263-6.
- Browning M (1987). Eating, drinking, smoking, and testing the lifecycle hypothesis. *Quart J Economics*, **102**, 329-46.
- Distefan, JM, Gilpin, et al (1998). Parental influences predict smoking in the United States, 1989–1993. *J of Adolescent Health*, **22**, 466-74.
- Eysenck HJ (1980). The causes and effects of smoking. Beverly Hills, California: Sage. ?, ?, ?-?.
- Farkas AJ, Distefan JM, Choi WS, Gilpin EA, Pierce JP (1999). Does parental smoking cessation discourage adolescent smoking?. *Prev Med*, **28**, 213-8.
- Hospital Based Cancer Registry report (2010). Regional Cancer Centre, Thiruvananthapuram, India,.
- Rani M, Bonu S, Jha P, Nguyen S, Jamjoum L (2003). Tobacco use in India: prevalence and predictors of smoking and chewing in a national cross sectional household survey. *Tobacco Control*, **12**, 4.

PG Balagopal et al

- The Global Burden of Disease 2004 Update (2008). *WHO*, **8**, ?-?.
- WHO Report on the Global tobacco epidemic, (2008) (foreword and summary). World Health Organization, 8.
- Rock VJ, Malarcher A, Kahende JW, et al (2007). Cigarette Smoking Among Adults, United States Centers for Disease Control and Prevention.
- Siahpush M, Borland R, Scollo M (2003). Smoking and financial stress. *Tobacco Control*, **12**, 60–6.
- WHO/WPRO-Smoking Statistics 28 May (2002).