

Awareness of smoking among patients with Ischemic Heart Disease (IHD) attending medical clinics in Teaching Hospital Karapitiya.

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Abstract— Smoking is classified as a major etiological factor of IHD and one of the leading causes of hospital deaths in Sri Lanka. The knowledge and attitudes of general public regarding smoking and its relationship to IHD are important in reducing this disease burden. This study assessed the knowledge, attitudes and the patterns of smoking among the patients with IHD.

A cross sectional study was conducted using adult patients with IHD attending medical clinics in Teaching Hospital Karapitiya. Data were collected using an interviewer administered questionnaire.

The total sample was 200 (52% males). Out of them 90% was aware that smoking causes IHD and 80% knew that risk of IHD can be reduced by quitting smoking. The mean knowledge regarding smoking and IHD was 5.9 ± 3.8 out of the total score of 14. Nearly 93% opposed public smoking and 36% were past smokers while 11% of the total sample were current smokers.

Overall knowledge on the relationship between smoking and IHD was average among the study participants. However, further educational programmes should be conducted to encourage them to stop smoking. The sample not being the representative of the general population as a whole was the limitation of the study.

Key Words Smoking, Myocardial ischemia

I. INTRODUCTION

Smoking is defined as the action or habit of inhaling and exhaling the smoke of tobacco or a drug. Tobacco is the most common substance used in smoking worldwide. Exposure to smoke in a passive way is referred to as passive smoking. It is estimated that there are 1.22 billion smokers all around the world and 1 billion of them live in developing economies (WHO/WPRO Smoking Statistics, 2002). Rates of smoking have declined in the developed world. But in the developing world, tobacco consumption is rising by 3.4% per year as of 2002 (Dube, S.R. et al). Overall the prevalence of smoking in Sri Lanka in 2010 was 18.3% and the prevalence in urban and rural populations was 17.2%, and 18.5%, respectively (Katulanda, P. et al, 2011).

Short-term health consequences of smoking include respiratory and non-respiratory effects and the main long-term health consequence is addiction. In adults, cigarette smoking mainly causes heart disease and stroke (World Health Organization, 2013). IHD is considered as a

major killer among non-communicable diseases. The etiology of IHD is multifactorial. However there are modifiable risk factors and non-modifiable risk factors for IHD. Smoking is one of the leading modifiable risk factors for cardiovascular disease (Kumar, P. & Clark, M., 1998).

Diseases of the heart and circulatory system are the main causes of death in the United Kingdom (UK) and account to one in three of all deaths per year. The main forms of cardiovascular diseases are IHD and stroke. Almost half (45%) of all deaths occur due to cardiovascular diseases are from IHD and over a quarter (28%) are from stroke. IHD by itself is the most common cause of death in UK.

Smoking is estimated to increase the risk of IHD by 2 to 4 times compared with non-smokers. (Centres for disease control and prevention, 2013). Average of 46,000 non-smokers die as a result of IHD due to passive smoking. In Sri Lanka IHD is identified as a leading cause of hospital deaths. Further statistics also showed that there is a gradual increase of hospital deaths due to IHD. (Annual Health Bulletin, Sri Lanka, 2008)

Tobacco smoke contains harmful substances like nicotine, carbon monoxide and aromatic hydrocarbon and are absorbed into the circulatory system. Nicotine encourages the release of catecholamine whereas other substances damage the arterial endothelium and boost atherogenesis. Substances like aromatic compounds and free radicals reduce the endothelial synthesis of nitric oxide, causing impaired endothelium-dependent relaxation of arteries which causes dysfunction of endothelium. Further, these effects promote leucocyte adhesion to the surface of the endothelium, monocyte adhesion and migration into the sub intimal space and increase oxidation of low density lipoprotein (LDL). Prolonged stimulation of intimal cells by oxidized LDL leads to the development of atherosclerosis. The other effects of smoking include increase plasma fibrinogen concentration and alter the activity of platelets which intern that facilitate atherosclerosis. (Powell, J.T, 1998).

Though various studies have been conducted on this topic elsewhere, the studies done in Sri Lanka are comparatively less.

Following are the objectives of the study.

General Objective:

To evaluate the knowledge and attitudes on smoking among patients with IHD attending Medical clinics in Teaching Hospital, Karapitiya.

Specific Objectives:

1. To assess the knowledge and the relationship between smoking and IHD.
2. To evaluate the attitudes toward smoking among patients with IHD.
3. To compare the knowledge and attitudes according to the socio – demographic characteristics such as gender, age, ethnicity, religion, education level and economic level.
4. To assess the pattern of smoking among patients with IHD.

II. METHODOLOGY

The data were collected from 200 patients with IHD attending to medical clinics in Teaching Hospital, Karapitiya. Both male and female were taken in to the study and patients who couldn't answer the questions due to medical reasons, patients who were working in the medical field and foreigners were not included in the study. The study was conducted over 4 weeks (20 days). Ten patients were selected by non-probability convenient sampling method each day from different clinics.

Ethical clearance was obtained from the Ethical Review Committee of the Faculty of Medicine, University of Ruhuna before data collection. The data were collected using pretested, structured, interviewer-administered, self-developed questionnaire. There were both open and close ended questions. Verbal consent was taken from the participants after a complete explanation of the study. Participation was without compulsion and the subjects were given the right to avoid the participation at any time.

Data analysis was done using Microsoft Excel 2007 and statistical package for social sciences (SPSS) 17.0 Edition. Descriptive statistics were used to describe the characteristics of the population and to summarize data. Chi-square (X²) test was used to find the associations between variables.

III. RESULTS

The study sample included 104(52%) males. Demographic data of the study sample are shown in table 1.

In this study 90% of the participants were aware that the smoking causes IHD. When considering the contents of the smoke 51.1 % were not able to name a single content in the smoke (nicotine, carbon dioxide and carbon monoxide) while 17.8% could name at least a single item and 15% could name two or more contents of the smoke.

Table 1: Personal data of participants

Data category	Number of Subjects	Percentage %
<i>A. Gender</i>		
Male	104	52
Female	96	48
<i>B. Age (years)</i>		
18-27	02	1.0
28-37	06	3.0
38-47	35	17.5
48-57	53	26.5
58-67	51	25.5
> 68	53	26.5
<i>C. Ethnicity</i>		
Sinhala	188	94.0
Tamil	02	1.0
Muslims	10	5.0
<i>D. Educational Level</i>		
No Schooling	06	3.0
Up to Grade 5	34	17.0
Grade 5-9	85	42.5
Up to O/L	50	25.0
Up to A/L	22	11.0
Diploma	03	01.5
Undergraduate	00	0.0
Post Graduate	00	0.0
<i>E. Physical Activity Level</i>		
Heavy	50	25.0
Medium	44	22.0
Low	47	23.5
Sedentary	59	29.5

The following questions were asked to assess the knowledge regarding the contribution of smoking towards atherosclerosis.

1. Smoking increases the speed of lipid deposition inside the vessels of the heart (Coronary arteries).
2. Smoking increases the tendency to form a clot in the coronary arteries.
3. Smoking damages vessel walls of coronary arteries.

Majority of the participants (54.4%) could not mention a single reason listed above. About 10.6% of them had heard and could mention one reason while 16.1% had heard about two and 18.9% mentioned all the three reasons above. Regarding the risk reduction on quitting smoking 79.5% accepted that IHD risk can be reduced by quitting while 3% did not. However 17.5% were totally unaware of that.

Only 48.5% of the subjects had some kind of knowledge on passive smoking. Eighty nine percent of the participants knew that smoking is banned in public areas while 11% had never heard about that. However, majority of the participants (93.5%), agreed with the government act implemented to ban smoking in public.

Most (87.5%) of the participants accepted that they did not feel comfortable in being close by a person who was smoking. However 5% had no idea of it. Attention was also paid regarding the actions taken by each individual when they were near a person who was smoking. Majority (61.5%) stated that they would move away from the smoker while 11.5% stated that they would explain the smoker about the bad consequences of smoking.

Almost all the participants (98%) opposed smoking in front of children. Ninety one percent of the participants did not agree with the idea that smoking would give a kind of outstanding personality. Attitudes of the participants regarding the government regulations against smoking were also checked. There were 29.5% participants who said that the rules are not sufficient while 35.5% said that they are sufficient but they lack proper implementation. However, 7% were happy about the prevailing regulations while 28% had no idea on this.

In the study population all the active smokers were males. Of the males, 69 % (n= 72) have smoked at any given time in their life and 21 % were still smoking. From the smokers at any given time in their life nearly 40% had smoked for more than 11 years. Fifty eight percent of them used only one substance from four substances inquired in the questionnaire (Cigarettes, Cigars, Pipes and Beedies). Twenty five percent had used two substances while 16.7% had used three of them. In this study 36.1% of the smokers had smoked less than 5 times a day and 27.8% had smoked only occasionally. According to the data 50% of the active smokers used to smoke during their leisure time while 28% smoked while they were involved in other activities and 6.94% said that they smoked after being stimulated by the tobacco smoke.

Forty eight percent of the study sample were females and none of them were smokers. Only 41.7% of the females were aware of passive smoking and 53.1% of the females thought that they have been severely exposed to it. Out of them 4.2% were exposed to passive smoking by the influence of their family members. However, 18.8% of the females would stay in the same place with a smoker without considering passive smoking. On the other hand majority (68.8%) of them believed it is better to move away from the smokers. Moreover 12.5% of the women agreed with the idea of explaining the bad effects of smoking to the smokers. Of the female participants 82.3% knew that smoking causes IHD and majority (91.6%) of them believed that there is no positive impact of smoking upon the personality development. It was noted that 42% of the subjects thought that they were not exposed to passive smoking.

IV. DISCUSSION

Smoking has become one of the biggest threats to the wellbeing of the human. The role that it plays as a causative factor of IHD is huge. The knowledge and the attitudes of people regarding IHD and its relationship with smoking is a key element in reducing the numbers of IHD patients as well as in primordial and primary prevention of it. According to the statistics of Sri Lanka, IHD has become one of the leading causes of hospital deaths. Thus the main focus of this study was to explore the level of knowledge and attitudes on smoking and its relation to IHD among patients who were diagnosed with IHD.

A cross sectional study was conducted in Kerala, 2006 to assess the knowledge and attitudes of a rural community towards harmful effects of tobacco use. The above study has shown that, 96.6% of the subjects knew that tobacco use is harmful for health and however 22.5% of the subjects knew that it causes cardiovascular diseases (Tiwari et al, 2006). This shows that our study population had a better understanding about the relationship between smoking and IHD. This highlights the better standard of health education in Sri Lanka. However 10% of the study population who didn't know the fact that smoking causes IHD is also significant and should be taken in to consideration when addressing this issue. A hospital based cross sectional study was conducted in a tertiary care hospital in New Delhi, India. This was based on standardized questionnaires given for the selected participants in waiting areas in the emergency room. It was focused on assessing their knowledge on modifiable risk factors of IHD including smoking. In that study 68% of the population identified that the smoking is a risk factor for the IHD.

Determining the attitudes of the public towards the people who smoke nearby is helpful in deciding whether to stay there or walk away. Another research had been done for the purpose of studying reactions and perceptions that the people have on others' smoking in their social presence. This had been done using an administrating questionnaire among smokers, ex-smokers and non-smokers. Ex-smokers and non-smokers reported a disrupting effect upon their interactions with others when others smoked. Smokers reported to have no effect. However nobody is reported to have a positive effect on interactions by others' smoking.

Smoking in front of children motivates them to smoke. A study was done in Maori, Pacific Islander, New Zealand, Europe and Asia to assess parent attitudes and practices in relation to smoking uptake in children. According to the study most of the parents believed that smoking in front of children can persuade the children to smoke. (Glover, M. et al, 2006)

A Sri Lankan study on the prevalence and consumption of tobacco and alcohol is done among males in Colombo

and Polonnaruwa districts and found that the prevalence of current smoking in urban areas (29.9%) was higher than in rural areas (24.4%) and the mean number of cigarettes smoked in urban areas (49.2/week) was higher than in rural areas (43.2/week)(Silva, V. et al, 2009).

When considering the knowledge on the harmful contents in tobacco smoke, nearly half of the study population was unaware about the common harmful contents of tobacco smoke. This signifies the importance of making people aware of these harmful contents. Nearly 80% of the study population knew that quitting smoking reduces the risk of IHD, but there were 17.5% who had no idea on this important point. It is interesting that 6.5% who knew that quitting smoking could reduce the risk of IHD was still smoking. It shows that there is a problem in changing the attitudes among them. So it is the responsibility of the public medical teams to address this issue with sufficient awareness campaigns. Around half of the study population knew that passive smoking is as important as active smoking in causing IHD. When considering the overall knowledge on the smoking and its relationship to IHD 46% had a poor knowledge, while 33% had an average knowledge and 21% had a good knowledge. There was significant difference in gender with the overall knowledge. As almost all of the smokers were males they had a better knowledge than females. Accordingly, one can suggest that if the females were also given a better knowledge regarding the impact of smoking on IHD they would have contributed in reducing the rates of smoking and IHD through advising the family members.

Most of the participants were against smoking in public places. Around 90% have accepted that they feel some difficulty with passive smoking. Yet few were comfortable with that as they lacked awareness. A study conducted by American university of Beirut found that only 20% of the participants agreed to the policy on reducing smoking among university students while majority (72.7%) were against the policy. It was in contrast to the results of this study as all the young participants agreed with the government policy against smoking in public places.

Quite interestingly all most all participate were against for smoking in front of children. A research that was done in Pacific Islander, New Zealand, Europe and Asia also revealed that most of the parents disagreed to smoke in front of their children as it has a harmful effect on them. Smoking in front of children not only passes harmful contents in the air they breath but also results in addiction. Majority believed that smoking doesn't standardize personality but there were few who thought that smoking shines up personality.

It was notable that around one third of the participants had smoked somewhere in their lives and few of them continued to smoke despite having IHD. The majority of the smokers have smoked more than 11 years. When

considering the frequency of smoking one third of the smokers have smoked less than 5 times per day. It may be due to the cost of cigarettes. Around one fourth of the smokers have smoked only at special occasions. Peer pressure is a major reason for people to start smoking in special occasions. (Susceptibility to IHD will be greater when smoke more than one substance than using one substance.) In fact beedi pipes have no filters in contrast to cigarettes .So the risk may be high in people who are used to consume those items.

V. CONCLUSION

Even though the IHD has become a leading cause of hospital deaths, and smoking is a major causative factor for IHD, the studies conducted in Sri-Lanka regarding the relationship of IHD and smoking is comparatively less. Overall knowledge on the relationship between smoking and IHD was average in the participants of this study. Demographic data such as age and education level had a significant influence on the overall knowledge of relationship between smoking and IHD. Though the overall knowledge appears to be average further awareness campaigns should be implemented to educate the public. Nevertheless, it is indeed very challenging to change the attitudes of active smokers. The sample not being the representative of the general population as a whole was the limitation of the study.

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